

**Report By:**

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

**NATIONAL**

**TAB**

Comfort. Under control.

**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 6/7/2022**

**PROJECT**  
**05-16 CULVERS - SHELBYVILLE, IN**

1930 NORTH MORRISTOWN RD

SHELBYVILLE, IN

**Client**

Captive-Aire Region #60



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

## Table Of Contents

<b>Section</b>	<b>Page #</b>
Issue Data	3
Balance Schedule	5
Checklist Data	6
AHU/RTU	12
FAN - Exhaust	19
Kitchen Hood Type I	24
GRD Layout	26
Pictures	27





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## 05-16 CULVERS - SHELBYVILLE, IN

### Project Issue Information

**Issue Name :** HD-2 smoke capture

**Description :** Smoke capture observed as approximately 90% on the fryer hood after completing TAB. Diffusers were in location shown on drawing and had proper straight duct. To get hood to capture an end panel was mocked up on the left side of the hood.

**Created By :** National TAB

**Assigned To :** National TAB - Tyler Youells

**Status :** Closed

**Originated Date :** 05/19/2022 - Tyler Youells - National TAB

#### Project Issue File Details



FuselT3e6425ca431c4f6cbb971c  
fb4cf2e262.jpeg

#### Project Issue Response Details

- **06/07/2022 National TAB - Will Turnbough**
  - Per email from Captive Aire on 5/26, when their technician was on site they observed actual cooking and no issues were noted. No further action required at this time. Recommend monitoring.





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## 05-16 CULVERS - SHELBYVILLE, IN

### Project Issue Information

**Issue Name :** Kitchen DOAS economizer

**Description :** Per Tom with CAS the board is bad and sends a constant 10V signal to the motor preventing adjustment of the damper.

**Created By :** National TAB

**Assigned To :** National TAB - Tyler Youells

**Status :** Closed

**Originated Date :** 05/17/2022 - Tyler Youells - National TAB

#### Project Issue Response Details

- **06/07/2022 National TAB - Will Turnbough**
  - Per email from Captive Aire on 5/26, the damper issue has been resolved.



### 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	6177	4400	4356	1750	1821	28.5%	29.5%						
RTU-2	KITCHEN	6150	6216	4450	4378	1700	1838	27.6%	29.6%						
PRV-1	RESTROOMS													375	378
PRV-2	HD1 GRIDDLE											1500	1497		
PRV-3	HD2 FRYER											1500	1628		
EF-1A	MOP ROOM													75	81
<b>TOTALS</b>		12300	12393	8850	8734	3450	3659			0	0	3000	3125	450	459

#### NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3450	3659
TOTAL EXHAUST	3450	3584
<b>NET AIRFLOW</b>	<b>0</b>	<b>75</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.002
SIDE	0.0025
REAR	0.0042
<b>AVERAGE</b>	<b>0.0029</b>

#### FINAL CHECKS

- ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✔

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- MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✔

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- PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✔

NOTES:





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### 05-16 CULVERS - SHELBYVILLE, IN

#### CheckList Information

**Name :** TECH - STEP 1: INITIAL WALKTHROUGH **Status :** NotSubmitted

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

#### CheckList Item Details

##### INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design?	Yes
Perforated diffusers are installed on the cook line? (4-ways will disrupt hood capture)	Yes
All hood filters installed and accounted for?	Yes
Hoods are wired and have power?	Yes
Thermostats have power?	Yes
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	Yes, Mop sink fan is not installed, Resolved by MC and Electrician
On the cookline diffusers neck is there 18" (12" minimum) straight rigid duct run attached?	Yes

##### Notes/Comments :





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## 05-16 CULVERS - SHELBYVILLE, IN

### CheckList Information

**Name :** TECH - STEP 2: UNIT DATA AND EVAL **Status :** NotSubmitted  
**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?	No
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.)	Yes
Motors are all operating below the FLA rating?	Yes
Are belts tight?	n/a
If direct drive unit is the speed controller working.	n/a
Is gas piping installed and valves turned on?	Yes
Unit free of noticeable noise and vibration	Yes

##### EF's

Rotation is correct?	Yes
Belts are tight?	n/a
Grease cup installed on hood fan?	No
Hinge kit installed installed on hood fan?	Yes
Lean grease rated fans back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes



Flex conduit is long enough so that fan can be completely tilted back?	Yes
There is no major leakage around base of fan?	Yes
Is the motor operating below the motor FLA rating?	Yes
For restroom fan(s) is the back draft damper installed and can it fully open?	Yes
Unit free of noticeable noise and vibration?	Yes
The hood exhaust fans are installed in correct positions and are not switched?	Yes

**HOODS**

Kitchen equipment installed in proper places?	Yes
Can kitchen equipment be turned on for final smoke test?	Yes
Second stage Grease Grabber filters are installed on the griddle hood?	No

**DOCUMENTATION**

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	Yes
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**Notes/Comments :**

DOAS-2 Economizer not functional, CAS has a new control board ordered. NTAB to Manually adjust and mark damper position.





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### 05-16 CULVERS - SHELBYVILLE, IN

#### CheckList Information

**Name :** TECH - STEP 3: TEST, ADJUST AND BALANCE **Status :** NotSubmitted

**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?	Yes
Is space comfortable in all areas?	Yes
Is the space free of ventilation noise?	Yes
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	NA

**Notes/Comments :**





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### 05-16 CULVERS - SHELBYVILLE, IN

#### CheckList Information

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

#### CheckList Item Details

##### FINAL TESTS

##### HOOD CAPTURE TEST

List equipment turned on for testing	Griddle and Fryers were on
List smoke candle type used	45 sec smokes
Smoke test capture - Perimeter of hood	HOOD1 100%, HOOD 2 100%
Smoke test capture - Top of cooking surface	HOOD1 -100%, HOOD-2 90%. Hood 2 has some smoke loss out of the left side. NTAB increased exhaust rate to 110% of design and verified that diffusers were not causing a draft creating the smoke loss. The only solution was to hold up a mock end-panel that brought smoke capture to 100%.

##### WITNESS

Date test was completed	05/19/2022
TAB tech name / Firm	Tyler/NTAB
Site super name / Firm	Troy/Mccon
Owner representative name / Firm (if Applicable)	n/a
Building pressure at front & back doors (All Systems On)	YES, 0.0029" AVG

##### 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?	No



**PRODIGY SETTINGS FOR RTU'S**

Parameter 65 set to 0	No
Parameter 78 set to 0	No
Parameter 105 set to 6	No
Parameter 156 set to 70 (Dining unit only)	No
Parameter 156 set to 65 (Kitchen Unit Only)	No
Parameter 170 set to 75 (Dining Unit Only)	No
Parameter 170 set to 70 (Kitchen Unit Only)	No
Parameter 131 set to the same % as OA minimum position?	No
Parameter 117 set to the same % as OA minimum position?	No

**Notes/Comments :**

CAS WILL INPUT THERMOSTAT SCHEDULES ON THEIR RETURN TRIP



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

System/Unit: AHU/RTU



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Asset: RTU1

AREA:DINING

Unit Data		
	Design	Actual
MFG	LENNOX	CAPTIVE AIRE
Serial Num	-	5146053
Model Num	LGH-180-H4B	CASRTU3-1.400-24-20T
Type	-	DOAS
Configuration	-	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16X25X2
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	TECO
Frame	-	215T
Horsepower	-	10
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208/230	230
Rated Amperage	-	24.3

Drive Data		
	Design	Actual

Test Data		
	Design	Actual
SF CFM	6150	6177
SF RPM	-	1638
RA CFM	4400	4356
OA CFM	1750	1821
RL Voltage	-	210 AVG
RL Amperage	-	20.8 AVG
SF Rotation	-	CCW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	3.5V
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.83"
Fan Suction SP	-	-2.58"
Fan Discharge SP	-	0.60"
Total ESP	-	1.43"
Fan Total SP	-	3.18"

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

Completed By: Tyler Youells

Notes: INCREASED OA BY +50CFM. TO OBTAIN POSITIVE BUILDING PRESSURE.



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Project:05-16 CULVERS - SHELBYVILLE, IN

## AHU/RTU



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### Diffuser Supply (GRD)

#### RTU1/DINING

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
SGRD1	ENTRY VESTIBULE	SD3	8"	150	1	240	180
	<b>FINAL CFM</b>	<b>% to design</b>					
	154	102.7					
SGRD2	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	MENS RR	SD4	8"	150	1	252	143
	<b>FINAL CFM</b>	<b>% to design</b>					
	140	93.3					
SGRD3	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	WOMENS RR	SD4	8"	150	1	179	146
	<b>FINAL CFM</b>	<b>% to design</b>					
	158	105.3					
SGRD4	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	HALL	SD1	12"	450	1	230	456
	<b>FINAL CFM</b>	<b>% to design</b>					
	477	106.0					
SGRD5	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	75	144
	<b>FINAL CFM</b>	<b>% to design</b>					
	155	103.3					
SGRD6	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	89	160
	<b>FINAL CFM</b>	<b>% to design</b>					
	164	109.3					
SGRD7	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	49	121
	<b>FINAL CFM</b>	<b>% to design</b>					
	136	90.7					
SGRD8	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	52	146
	<b>FINAL CFM</b>	<b>% to design</b>					
	144	96.0					
SGRD9	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	29	125
	<b>FINAL CFM</b>	<b>% to design</b>					
	135	90.0					
SGRD10	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	80	130
	<b>FINAL CFM</b>	<b>% to design</b>					
	135	90.0					
SGRD11	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	DINING	SD1	8"	150	1	72	129
	<b>FINAL CFM</b>	<b>% to design</b>					



	138	92.0					
SGRD12	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	220	106
	<b>FINAL CFM</b>	<b>% to design</b>					
	135	90.0					
SGRD13	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	213	138
	<b>FINAL CFM</b>	<b>% to design</b>					
	149	99.3					
SGRD14	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	180	174
	<b>FINAL CFM</b>	<b>% to design</b>					
	154	102.7					
SGRD15	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	270	165
	<b>FINAL CFM</b>	<b>% to design</b>					
	137	91.3					
SGRD16	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	220	177
	<b>FINAL CFM</b>	<b>% to design</b>					
	153	102.0					
SGRD17	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	190	159
	<b>FINAL CFM</b>	<b>% to design</b>					
	165	110.0					
SGRD18	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	188	155
	<b>FINAL CFM</b>	<b>% to design</b>					
	142	94.7					
SGRD19	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DINING	SD1	8"	150	1	230	167
	<b>FINAL CFM</b>	<b>% to design</b>					
	143	95.3					
SGRD20	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DRINKS & CONDITM ENTS	SD1	10"	300	1	445	313
	<b>FINAL CFM</b>	<b>% to design</b>					
	313	104.3					
SGRD21	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	ENTRY	SD1	8"	150	1	71	145
	<b>FINAL CFM</b>	<b>% to design</b>					
	154	102.7					
SGRD22	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	CUSTOMER ORDER AREA	SD1	12"	450	1	220	480
	<b>FINAL CFM</b>	<b>% to design</b>					
	486	108.0					
SGRD23	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	CUSTOMER SERVIC E	SD1	10"	350	1	251	343
	<b>FINAL CFM</b>	<b>% to design</b>					
	323	92.3					
SGRD24	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	CUSTOMER SERVIC E	SD1	10"	350	1	261	373
	<b>FINAL CFM</b>	<b>% to design</b>					
	376	107.4					
SGRD25	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>



	CUSTOMER SERVICE	SD1	10"	350	1	220	331
	<b>FINAL CFM</b>	<b>% to design</b>					
	330	94.3					
SGRD26	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	CUSTOMER SERVICE	SD1	10"	350	1	264	342
	<b>FINAL CFM</b>	<b>% to design</b>					
	353	100.9					
SGRD27	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DRIVE THRU	SD1	12"	500	1	612	507
	<b>FINAL CFM</b>	<b>% to design</b>					
	520	104.0					
SGRD28	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	OFFICE	SD1	10"	200	1	280	211
	<b>FINAL CFM</b>	<b>% to design</b>					
	205	102.5					

Completed By: Tyler Youells on

Asset	Notes
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# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

System/Unit: AHU/RTU



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Asset: RTU2

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	LENNOX	CAPTIVE AIRE
Serial Num	-	5146053
Model Num	LGH-210-H4B	CASRTU3-1.400-24-20T
Type	-	DOAS
Configuration	-	VERTICAL
Num OA Filters 1	-	4
OA Filter Size 1	-	16X25X2
Num Final Filter 1	-	8
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	Actual
Motor MFG	-	TECO
Frame	-	215T
Horsepower	-	10
Motor Rpm	-	1755
Phase	3	3
Rated Voltage	208/230	230
Rated Amperage	-	24.3

Drive Data		
	Design	Actual

Test Data		
	Design	Actual
SF CFM	6150	6216
SF RPM	-	1638
RA CFM	4450	4378
OA CFM	1700	1838
RL Voltage	-	209 AVG
RL Amperage	-	20.9 AVG
SF Rotation	-	CCW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	MARKED
Min OA Damper Type	-	ECONOMIZER

Performance Data		
	Design	Actual
MA Plenum SP	-	-1.02
Fan Suction SP	-	-2.67"
Fan Discharge SP	-	0.58"
Total ESP	-	1.60"
Fan Total SP	-	3.25"

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

Completed By: Tyler Youells

Notes:



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Project:05-16 CULVERS - SHELBYVILLE, IN

## AHU/RTU



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### Diffuser Supply (GRD)

#### RTU2/KITCHEN

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
SGRD1	SUNDAE SERVICE	SD1	12"	600	1	267	
	<b>FINAL CFM</b>	<b>% to design</b>					
	542	90.3					
SGRD2	SUNDAER SERVICE	SD1	12"	600	1	303	
	<b>FINAL CFM</b>	<b>% to design</b>					
	584	97.3					
SGRD3	COOKLINE	SD5	10"	200	1	235	
	<b>FINAL CFM</b>	<b>% to design</b>					
	201	100.5					
SGRD4	COOKLINE	SD5	10"	375	1	336	
	<b>FINAL CFM</b>	<b>% to design</b>					
	373	99.5					
SGRD5	FOOD PREP	SD5	12"	400	1	119	
	<b>FINAL CFM</b>	<b>% to design</b>					
	405	101.3					
SGRD6	FOOD PREP	SD5	12"	400	1	587	
	<b>FINAL CFM</b>	<b>% to design</b>					
	414	103.5					
SGRD7	COOKLINE	SD5	10"	250	1	347	
	<b>FINAL CFM</b>	<b>% to design</b>					
	246	98.4					
SGRD8	COOKLINE	SD5	10"	275	1	475	
	<b>FINAL CFM</b>	<b>% to design</b>					
	289	105.1					
SGRD9	TOILET	SD1	6"	75	1	113	
	<b>FINAL CFM</b>	<b>% to design</b>					
	71	94.7					
SGRD10	ALCOVE	SD5	8"	125	1	306	
	<b>FINAL CFM</b>	<b>% to design</b>					
	133	106.4					
SGRD11	FOOD PREP	SD5	12"	350	1	635	
	<b>FINAL CFM</b>	<b>% to design</b>					



	379	108.3					
SGRD12	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DISHWASHING	SD5	12"	350	1	646	
	<b>FINAL CFM</b>	<b>% to design</b>					
	382	109.1					
SGRD13	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DISHWASHING	SD5	12"	350	1	239	
	<b>FINAL CFM</b>	<b>% to design</b>					
	375	107.1					
SGRD14	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	UTILITY	SD1	12"	600	1	365	
	<b>FINAL CFM</b>	<b>% to design</b>					
	584	97.3					
SGRD15	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DRY GOODS	SD1	12"	600	1	343	
	<b>FINAL CFM</b>	<b>% to design</b>					
	639	106.5					
SGRD16	<b>Location</b>	<b>Type</b>	<b>Size</b>	<b>DESIGN CFM</b>	<b>AK</b>	<b>CFM(1)</b>	<b>CFM(2)</b>
	DRY GOODS	S1D	12"	600	1	486	
	<b>FINAL CFM</b>	<b>% to design</b>					
	599	99.8					

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Asset	Notes
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# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF-A1

AREA:MOP ROOM

Unit Data		
	Design	Actual
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XCR-B80	CFA 100CA
Serial Num	-	5414570
Type	CEILING	CEILING
Configuration	VERTICAL	HORIZONTAL

Test Data		
	Design	Actual
CFM	75	81
Fan RPM	885	NA
Fan Rotation	-	CORRECT
Motor RPM	-	NA
System SetPt	-	FULL SPEED
RL Voltage	-	120.1
RL Amperage	-	0.40

Motor Data		
	Design	Actual
Motor MFG	-	BROAN
Frame	-	NL
Horsepower	-	87W
Motor Rpm	900	NA
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	1.1
Service Factor	-	1

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Notes:

Asset	Notes



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: PRV1

AREA:RESTROOMS

Unit Data		
	Design	Actual
<b>MFG</b>	ACCUREX	CAPTIVE AIRE
<b>Model Num</b>	XRED - 095-D	DR12HFA
<b>Serial Num</b>	-	5146053
<b>Type</b>	DOWNBLAST	DOWNBLAST
<b>Configuration</b>	HORIZONTAL	VERTICAL

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	TELCO GREEN
<b>Frame</b>	-	NL
<b>Horsepower</b>	0.0667	0.25
<b>Motor Rpm</b>	1550	1800
<b>Phase</b>	1	1
<b>Voltage (rated)</b>	115	115
<b>Amperage (rated)</b>	-	2.9
<b>Service Factor</b>	-	1

Test Data		
	Design	Actual
<b>CFM</b>	375	378
<b>Fan RPM</b>	1479	864
<b>Fan Rotation</b>	-	CCW
<b>Motor RPM</b>	-	864
<b>System SetPt</b>	-	48%
<b>RL Voltage</b>	-	120.2
<b>RL Amperage</b>	-	0.63
<b>Total ESP</b>	0.5"	0.10"
<b>Fan Inlet SP</b>	-	-0.10"
<b>Fan Discharge SP</b>	-	ATM

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Notes:



# National TAB

Project:05-16 CULVERS - SHELBYVILLE, IN

## FAN - Exhaust



Comfort. Under control.

**Diffuser Ret/Exh (GRD)**

**PRV1/RESTROOMS**

Asset	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
EGRD1	MENS RR	EG1	8X8	150	1	215	
	<b>FINAL CFM</b>	<b>% to design</b>					
	150	100.0					
EGRD2	WOMENS RR	EG1	8X8	150	1	225	
	<b>FINAL CFM</b>	<b>% to design</b>					
	154	102.7					
EGRD3	TOILET	EG1	8X8	75	1	232	
	<b>FINAL CFM</b>	<b>% to design</b>					
	74	98.7					

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Asset	Notes



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: PRV2

AREA:HD1 GRIDDLE

Unit Data		
	Design	Actual
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XRUB-160XP-15	DU85HFA
Serial Num	-	5146053
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	Actual
CFM	1500	1497
Fan RPM	2411	1093
Fan Rotation	-	CCW
Motor RPM	-	1093
RL Voltage	-	102.2/102.7/102.4
RL Amperage	-	1.9 AVG
Suction ESP	-	-0.70"
Discharge ESP	-	ATM
Total ESP	2.337"	0.70"

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	NL
Horsepower	1.5	0.75
Motor Rpm	1725	1725
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	2.6
Service Factor	-	1.15

Drive Data		
	Design	Actual

Completed By: Tyler Youells

Notes:FAN SPEED SETPOINT: 38HZ

Asset	Notes



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: PRV3

AREA:HD2 FRYER

Unit Data		
	Design	Actual
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XRUB-140-7	DU85HFA
Serial Num	-	5146053
Type	-	UPBLAST
Configuration	-	VERTICAL

Test Data		
	Design	Actual
CFM	-	1628
Fan RPM	-	1147
Fan Rotation	-	CCW
Motor RPM	-	1147
RL Voltage	-	104.2/104.5/104.3
RL Amperage	-	2.1 AVG
Suction ESP	-	-0.72"
Discharge ESP	-	ATM
Total ESP	-	0.72"

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	NL
Horsepower	-	0.75
Motor Rpm	-	1725
Phase	-	34
Voltage (rated)	-	208
Amperage (rated)	-	2.6
Service Factor	-	1.15

Drive Data		
	Design	Actual

Completed By: Tyler Youells

Notes:FAN SPEED SETPOINT: 39.9HZ

Asset	Notes



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

## System/Unit: Kitchen Hood Type I



Comfort. Under control.

Asset: HD1

AREA:GRIDDLE

Unit Data		
	Design	Actual
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XGEP-64-S	3347 BD-2
Job / Serial Num	-	5146053
Type	TYPE I LOW PROXIMITY	TYPE I LOW PROXIMITY
Hood length	64"	66"
Hood Width	23"	32"

Performance Data		
	Design	Actual
Smoke Generation Type	-	45 SEC SMOKE
Hood Capture %	-	100%
End Panels Installed (Y/N)	-	45 DEG PANELS

General		
	Design	Actual
Third Party Witness	-	TROY
Third Party Company	-	MCCON
Tech Witness	-	TYLER/NTAB

Test Data Exhaust		
	Design	Actual
Filter Type	GREASE GRABBER	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	4	4
Filter AK factor size 1	1.53	1.62
Filter Total AK Area	6.12	6.48
Filter1 FPM	-	223
Filter2 FPM	-	239
Filter3 FPM	-	228
Filter4 FPM	-	236
Filter Ave FPM(corr)	-	231
CFM	-	1497

Cooking Equipment		
	Design	Actual
Item 1	-	GRIDDLE

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Notes:

Asset	Notes



# National TAB

Project: 05-16 CULVERS - SHELBYVILLE, IN

## System/Unit: Kitchen Hood Type I



Comfort. Under control.

Asset: HD2

AREA:FRYER

Unit Data		
	Design	Actual
MFG	ACCUREX	CAPTIVE AIRE
Model Num	XXEP-83-S	3347 BD-2
Job / Serial Num	-	5146053
Type	TYPE I LOW PROXIMITY	TYPE I LOW PROXIMITY
Hood length	83"	84"
Hood Width	23"	33"

Performance Data		
	Design	Actual
Smoke Generation Type	-	45 SEC SMOKE
Hood Capture %	-	90%
End Panels Installed (Y/N)	-	CORNER PANELS

General		
	Design	Actual
Third Party Witness	-	TROY
Third Party Company	-	MCCON
Tech Witness	-	TYLER/NTAB

Test Data Exhaust		
	Design	Actual
Filter Type	XTRACTOR	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	5	5
Filter AK factor size 1	1.53	1.62
Filter Total AK Area	7.65	8.1
Filter1 FPM	-	204
Filter2 FPM	-	199
Filter3 FPM	-	213
Filter4 FPM	-	197
Filter5 FPM	-	194
Filter Ave FPM(corr)	-	201
CFM	-	1628

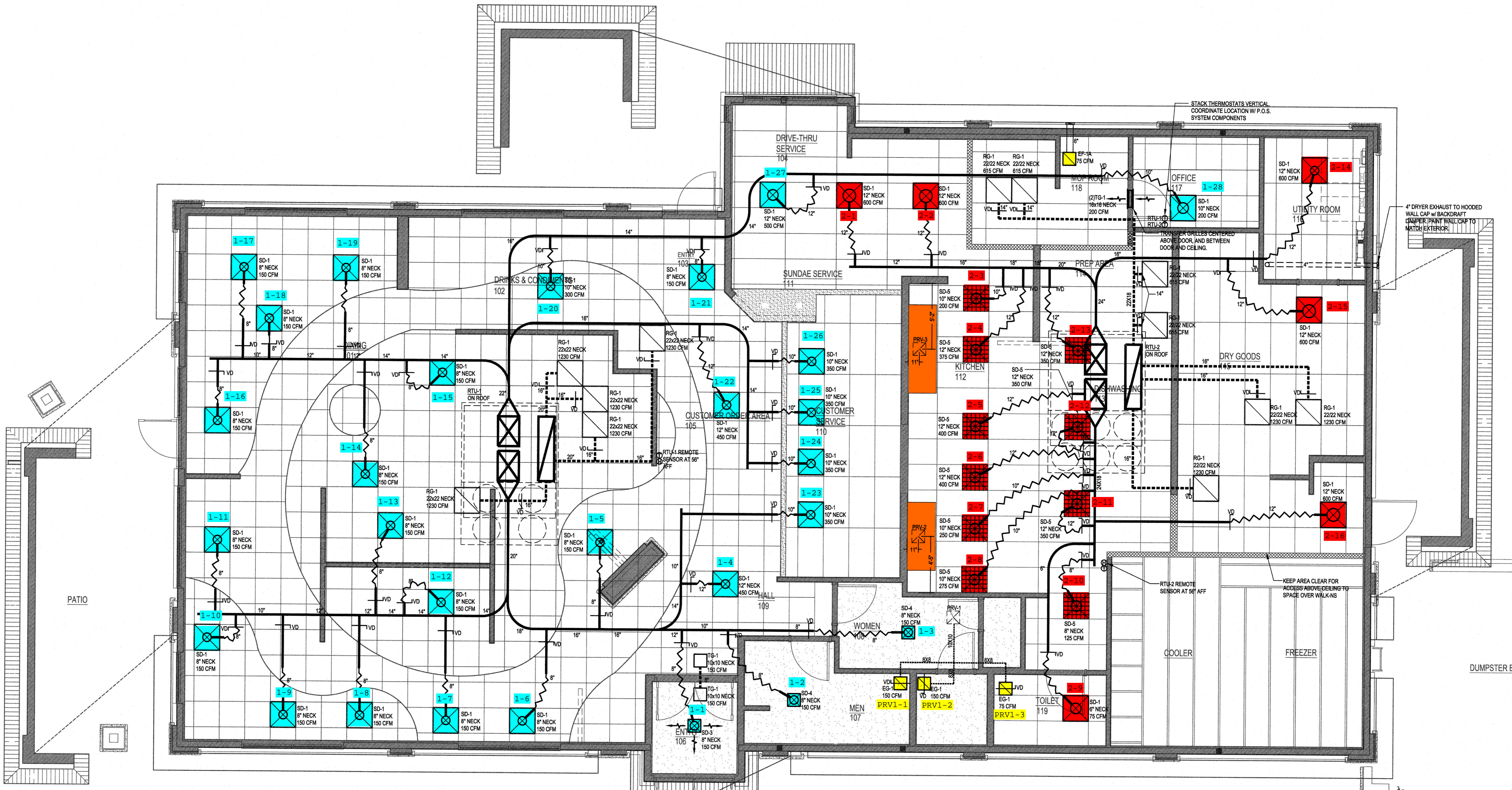
Cooking Equipment		
	Design	Actual
Item 1	-	4 BAT FRYERS

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Notes: THERE IS SMOKE ESCAPING TO THE LEFT SIDE, NTAB VERIFIED ALL DIFFUSERS WERE CORRECT FLOW, ALL EQUIPMENT IS IN PLACE AND ON. INCREASED FAN TO 110% OF DESIGN. PUTTING A MOCK END PANEL INCREASED HOOD CAPTURE TO 100%.

Asset	Notes





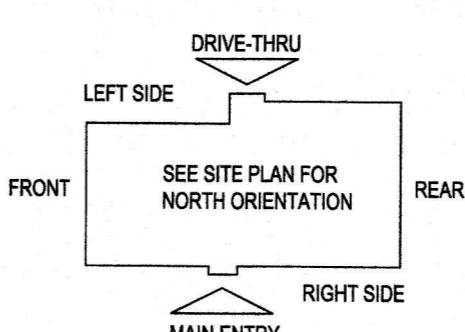
STACK THERMOSTATS VERTICAL  
COORDINATE LOCATION W/ P.O.S.  
SYSTEM COMPONENTS

4" DRYER EXHAUST TO HOODED  
WALL CAP W/ BACKDRAFT  
DAMPER. PAINT WALL CAP TO  
MATCH EXTERIOR.

TRANSFER GRILLES CENTERED  
ABOVE DOOR, AND BETWEEN  
DOOR AND CEILING.

KEEP AREA CLEAR FOR  
ACCESS ABOVE CEILING TO  
SPACE OVER WALK-INS

**E5 HVAC PLAN**  
SCALE: 1/4" = 1'-0"



NOTE: ALL DUCTWORK TO BE LOCATED IN TRUSS SPACE WHERE POSSIBLE.  
SEE FRAMING PLAN.



**STOREFRONT**



**DOAS-1**



**DOAS-2**



**MARKED DAMPER POSITION**





**PRV-1**  
Serves restroom



**PRV-2**  
Serves Griddle hood



**PRV-3**  
Serves Fryer hood



**HD-1**



**HD-2**





**HD-2 MOCKED END PANEL**



**EF-1**

