

**Report By:**

National TAB  
1329 E. KEMPER ROAD  
SUITE 4210  
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**Report: Alara Preliminary TAB Report**

**Function: Test, Adjust, & Balance**

**Date: 04/18/2024**

# PROJECT

## CAS-Alara\_1235000601

Madison Square Development

Cincinnati, OH 45227

### Client

C&T DESIGN

4025 PORT UNION RD.

FAIRFIELD, OH 45014

# National TAB

Project: CAS-Alara\_1235000601

## Table Of Contents

Section	Page #
AHU/RTU	3
Circuit Setter	33
FAN - Exhaust	34
FAN - Supply	37
Kitchen Hood Type I	43
Issue Data	46

# National TAB

Project: CAS-Alara\_1235000601

System/Unit: AHU/RTU



Asset: AHU-1

AREA:MEZZANINE

Unit Data		
	Design	Actual
<b>MFG</b>	CARRIER	CARRIER
<b>Serial Num</b>	-	23U00008804
<b>Model Num</b>	42DHA22	42DHA20
<b>Configuration</b>	-	HORIZONTAL
<b>Num PreFilter 1</b>	-	2
<b>PreFilter Size 1</b>	-	22"X22"X1"

Test Data		
	Design	Actual
<b>SF CFM</b>	2000	2045
<b>RA CFM</b>	1660	2045
<b>OA CFM</b>	340	0
<b>RL Voltage</b>	460	481
<b>RL Amperage</b>	2.4	2.0
<b>OA Damper Position</b>	-	[1]

Motor Data		
	Design	Actual
<b>Phase</b>	3	3
<b>Rated Voltage</b>	460	480
<b>Rated Amperage</b>	2.4	2.4

Performance Data		
	Design	Actual
<b>Fan Suction SP</b>	-	0.56"
<b>Fan Discharge SP</b>	-	0.33"
<b>Fan Total SP</b>	-	0.89"

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-1/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
1-1	MEZZANINE	CD-1	10	400				185	46.3
1-2	MEZZANINE	CD-1	10	400				529	132.3
1-3	MEZZANINE	CD-1	10	400				352	88.0
1-4	MEZZANINE	CD-1	10	400				451	112.8
1-5	MEZZANINE	CD-1	10	400				464	116.0
Total				2000		0	0	1981	99.05%

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Project: CAS-Alara\_1235000601

System/Unit: AHU/RTU



Asset: AHU-2

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008802
Model Num	42DHA22	42DHA16
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	1600	1611
RA CFM	1300	1611
OA CFM	300	0
RL Voltage	460	481
RL Amperage	2.4	2.0
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.59"
Fan Discharge SP	-	0.33"
Fan Total SP	-	0.92"

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-2/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
2-1	MEZZANINE	CD-1	10	400				608	152.0
2-2	MEZZANINE	CD-1	10	400				667	166.8
2-3	MEZZANINE	CD-1	10	400				288	72.0
2-4	MEZZANINE	CD-1	10	400				88	22.0
Total				1600		0	0	1651	103.19%

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Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-3

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008805
Model Num	42DHA22	42DHA20
Configuration	-	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	2000	1978
RA CFM	1660	1978
OA CFM	340	0
RL Voltage	460	481
RL Amperage	2.4	2.0
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.57"
Fan Discharge SP	-	0.39"
Fan Total SP	-	0.96"

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Notes:  
MISSING DIFFUSER 3-4. AIR DISTRIBUTED TO REMAINING AIR DEVICES.

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## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-3/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
3-1	MEZZANINE	CD-1	10	325		292		292	89.8
3-2	MEZZANINE	CD-1	10	325		410		410	126.2
3-3	MEZZANINE	CD-1	10	325		412		412	126.8
3-4	MEZZANINE	CD-1	10	325					-
3-5	MEZZANINE	CD-1	6	350		476		476	136.0
3-6	MEZZANINE	CD-2	6	25		23		23	92.0
3-7	MEZZANINE	CD-2	6	50		51		51	102.0
3-8	MEZZANINE	SD-2	6	50		54		54	108.0
3-9	MEZZANINE	SD-2	6	50		53		53	106.0
3-10	MEZZANINE	CD-2	6	75		91		91	121.3
3-11	MEZZANINE	SD-2	6	50		45		45	90.0
3-12	MEZZANINE	SD-2	6	50		46		46	92.0
Total				2000		1953	0	1953	97.65%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-4

AREA:MEZZANINE

Unit Data		
	Design	Actual
<b>MFG</b>	CARRIER	CARRIER
<b>Serial Num</b>	-	23U00008806
<b>Model Num</b>	42DHA22	42DHA20
<b>Configuration</b>	-	HORIZONTAL
<b>Num PreFilter 1</b>	-	2
<b>PreFilter Size 1</b>	-	22"x22"x1"

Motor Data		
	Design	Actual
<b>Horsepower</b>	-	1
<b>Phase</b>	3	3
<b>Rated Voltage</b>	460	480
<b>Rated Amperage</b>	2.4	1.75

Test Data		
	Design	Actual
<b>SF CFM</b>	2000	2620
<b>RA CFM</b>	1650	2620
<b>OA CFM</b>	350	0
<b>RL Voltage</b>	460	NOT ACCESSIBLE
<b>RL Amperage</b>	1.75	NOT ACCESSIBLE

Performance Data		
	Design	Actual
<b>Fan Suction SP</b>	-	NOT ACCESSIBLE
<b>Fan Discharge SP</b>	-	NOT ACCESSIBLE
<b>Total ESP</b>	1.0	NOT ACCESSIBLE

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## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-4/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
4-1		CD-1	12	400		531		531	132.8
4-2		CD-1	12	400		480		480	120.0
4-3		CD-1	12	400		545		545	136.3
4-4		CD-1	12	400		520		520	130.0
4-5		CD-1	12	400		544		544	136.0
Total				2000		2620	0	2620	131%

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Project: CAS-Alara\_1235000601

System/Unit: AHU/RTU



Asset: AHU-5

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008803
Model Num	42DHA22	42DHA16
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	460
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	1600	1578
RA CFM	1160	1578
OA CFM	440	0
RL Voltage	460	480
RL Amperage	2.4	2.0
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.50"
Fan Discharge SP	-	0.31"
Fan Total SP	-	0.81"

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-5/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
5-1	MEZZANINE	CD-1	10	400					-
5-2	MEZZANINE	CD-1	10	400					-
5-3	MEZZANINE	CD-1	10	400					-
5-4	MEZZANINE	CD-1	10	400					-
Total				1600		0	0	0	0%

# National TAB

Project: CAS-Alara\_1235000601

System/Unit: AHU/RTU



Asset: AHU-6

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008807
Model Num	42DHA22	42DHA20
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.4	2.4

Test Data		
	Design	Actual
SF CFM	2000	1945
RA CFM	1600	1945
OA CFM	400	0
RL Voltage	460	481
RL Amperage	2.4	2.2
OA Damper Position	-	[1]

Performance Data		
	Design	Actual
Fan Suction SP	-	0.56"
Fan Discharge SP	-	0.37"
Fan Total SP	-	0.93"

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-6/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
6-1	MEZZANINE	CD-1	10	500		502		502	100.4
6-2	MEZZANINE	CD-1	10	500		637		637	127.4
6-3	MEZZANINE	CD-1	10	500		661		661	132.2
6-4	MEZZANINE	CD-1	10	500		623		623	124.6
Total				2000		2423	0	2423	121.15%

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Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-7

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008808
Model Num	42DHA22	42DHA22
Configuration	-	HORIZONTAL
Num PreFilter 1	-	2
PreFilter Size 1	-	20.25"X21.75"X4"

Motor Data		
	Design	Actual
Horsepower	-	1.5
Phase	3	3
Rated Voltage	460	480
Rated Amperage	2.8	2.2

Test Data		
	Design	Actual
SF CFM	2400	1438
RA CFM	1920	1438
OA CFM	480	0
RL Voltage	480	503/497/502
RL Amperage	2.2	1.3/1.1/1.3

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.26"
Fan Discharge SP	-	0.43"
Total ESP	1.0	0.69

Completed By: Gabe Merk on 04/18/2024

Notes:

AHU DESIGNED FOR 2200 CFM  
DIFFUSER TOTAL IS 2400 CFM  
INITIAL READINGS WITHOUT RETURN GRILLES  
FINAL READINGS WITH RETURN GRILLES. FACE DAMPERS OPENED 100%  
DUCTWORK ABOVE HARD CEILING WITH NO ACCESS.

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## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-7/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
7-1	GROUND FLOOR DINING	LD-1	10	400		271		228	57.0
7-2	GROUND FLOOR DINING	LD-1	10	400		208		173	43.3
7-3	GROUND FLOOR DINING	LD-1	10	400		414		421	105.3
7-4	GROUND FLOOR DINING	LD-1	10	400		99		91	22.8
7-5	GROUND FLOOR DINING	LD-1	10	400		106		122	30.5
7-6	GROUND FLOOR DINING	LD-1	10	400		265		403	100.8
Total				2400		1363	0	1438	59.92%

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Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-8

AREA:GROUND LEVEL KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008099
Model Num	42DHA22	42CEA12
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	115
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	1200	996
RA CFM	860	996
OA CFM	340	0
RL Voltage	208	124
RL Amperage	-	1.9

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.27"
Fan Discharge SP	-	0.19"
Total ESP	1.0	0.45"

Completed By: Gabe Merk on 04/18/2024

Notes:

BLOWN FUSE 2/23/24 RESOLVED 3/5/24

UNIT IN HIGH FANSPEED.

LOW AIRFLOW TO DIFFUSER 1. NO OBSTRUCTIONS, NO DAMPER.

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## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-8/GROUND LEVEL KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
8-1	GROUND LEVEL KITCHEN	CD-3	12	400		34		77	19.3
8-2	GROUND LEVEL KITCHEN	CD-3	12	400		253		456	114.0
8-3	GROUND LEVEL KITCHEN	CD-3	12	400		229		463	115.8
Total				1200		516	0	996	83%

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Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-9

AREA:GROUND LEVEL

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008100
Model Num	42DHA22	42CEA12
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	24"X24"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	1200	872
RA CFM	900	872
OA CFM	300	0
RL Voltage	208	125
RL Amperage	-	1.8

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.15"
Fan Discharge SP	-	0.23"
Total ESP	1.0	0.38"

Completed By: Gabe Merk on 04/18/2024

Notes:

MISSING PADS FOR 1' DIFFUSERS 2/23/24 resolved 3/7/24  
UNIT IN HIGH SPEED. RETURN FILTER REMOVED FOR FINAL MEASUREMENT.

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-9/GROUND LEVEL

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
9-1	GROUND LEVEL	CD-1	6	150		112		123	82.0
9-2	GROUND LEVEL	LD-1	6	100		158		91	91.0
9-3	GROUND LEVEL	CD-1	6	150		93		120	80.0
9-4	GROUND LEVEL	CD-1	6	150		113		106	70.7
9-5	GROUND LEVEL	CD-1	6	150		91		109	72.7
9-6	GROUND LEVEL	CD-1	6	150		116		121	80.7
9-7	GROUND LEVEL	CD-1		150		72		90	60.0
9-8	GROUND LEVEL	CD-1	6	150		120		130	86.7
Total				1150		875	0	890	77.39%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-10

AREA:GROUND LEVEL

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008095
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	NA
Rated Voltage	208	NA
Rated Amperage	-	NA

Test Data		
	Design	Actual
SF CFM	900	790
RA CFM	900	790
OA CFM	0	0
RL Voltage	208	125
RL Amperage	-	1.8

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.08"
Fan Discharge SP	-	0.40"
Total ESP	1.0	0.48"

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Notes:  
Diffusers installed do not match drawings. 10-3 is not sized properly to give 300cfm flow.

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-10/GROUND LEVEL

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
10-1	GROUND LEVEL		5.5"x11"	300		372		308	102.7
10-2	GROUND LEVEL		5.5"x11"	300		368		330	110.0
10-3	GROUND LEVEL		3.5"x5"	300				152	50.7
Total				900		740	0	790	87.78%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-11

AREA:MEZZANINE DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008096
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	208
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	900	771
RA CFM	500	771
OA CFM	400	0
RL Voltage	208	NOT ACCESSIBLE
RL Amperage	-	NOT ACCESSIBLE

Performance Data		
	Design	Actual
Fan Suction SP	-	NOT ACCESSIBLE
Fan Discharge SP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE

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Notes:  
Face dampers fully open.

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## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-11/MEZZANINE DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
11-1	MEZZANINE DINING	SD-1	10	300		115		225	75.0
11-2	MEZZANINE DINING	SD-1	10	300		172		316	105.3
11-3	MEZZANINE DINING	SD-1		300		136		230	76.7
Total				900		423	0	771	85.67%

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Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-12

AREA:MEZZANINE KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	2300008101
Model Num	42DHA22	42CEA12
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	1200	1075
RA CFM	760	1075
OA CFM	440	0
RL Voltage	120	120
RL Amperage	-	2.5

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.15"
Fan Discharge SP	-	0.29"
Total ESP	1.0	0.44"

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Notes:

UNIT BALANCED LOW. DIFFUSER 8 DAMPER FULLY OPEN UNABLE TO REACH DESIRED AIRFLOW. OUTDOOR AIR NOT REACHING UNIT

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Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-12/MEZZANINE KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
12-1	MEZZANINE KITCHEN	CD-3	6	150		137		146	97.3
12-2	MEZZANINE KITCHEN	CD-3	6	150		118		132	88.0
12-3	MEZZANINE KITCHEN	CD-3	6	150		146		135	90.0
12-4	MEZZANINE KITCHEN	CD-3	6	150		125		132	88.0
12-5	MEZZANINE KITCHEN	CD-3	6	150		101		137	91.3
12-6	MEZZANINE KITCHEN	CD-3	6	150		108		130	86.7
12-7	MEZZANINE KITCHEN	CD-3	6	150		55		146	97.3
12-8	MEZZANINE KITCHEN	CD-3	6	150		113		117	78.0
Total				1200		903	0	1075	89.58%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-13

AREA:MEZZANINE DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008097
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	NA
Rated Voltage	208	NA
Rated Amperage	-	NA

Test Data		
	Design	Actual
SF CFM	900	742
RA CFM	550	742
OA CFM	350	0
RL Voltage	208	125
RL Amperage	-	1.2

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.27"
Fan Discharge SP	-	0.10
Total ESP	1.0	0.37"

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## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-13/MEZZANINE DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
13-1	MEZZANINE DINING	SD-1	8	250		199		208	83.2
13-2	MEZZANINE DINING	SD-1	8	200		177		168	84.0
13-3	MEZZANINE DINING	SD-1	8	200		178		181	90.5
13-4	MEZZANINE DINING	SD-1	8	250		188		185	74.0
Total				900		742	0	742	82.44%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-14

AREA:MEZZANINE DINING

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008098
Model Num	42DHA22	42CEA10
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	20"X20"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	900	255
RA CFM	420	255
OA CFM	480	0
RL Voltage	208	125
RL Amperage	-	0.6

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.12"
Fan Discharge SP	-	0.13"
Total ESP	1.0	0.25"

Completed By: Gabe Merk on 04/18/2024

Notes:  
CONNECTED LOAD 250 CFM  
Wired for low speed only

Written By: on

# National TAB

Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-14/MEZZANINE DINING

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
14-1	MEZZANINE	CD-2	6	100		177		91	91.0
14-2	MEZZ RR	CD-2	6	50		142		55	110.0
14-3	MEZZANINE RR	CD-2	6	100		86		109	109.0
Total				250		405	0	255	102%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: AHU/RTU



Asset: AHU-15

AREA:GROUND LEVEL KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	23U00008094
Model Num	42DHA22	42CEA08
Configuration	HORIZONTAL	HORIZONTAL
Num PreFilter 1	-	1
PreFilter Size 1	-	22"X22"X1"

Motor Data		
	Design	Actual
Phase	1	1
Rated Voltage	208	120
Rated Amperage	-	N/A

Test Data		
	Design	Actual
SF CFM	625	510
RA CFM	500	510
OA CFM	125	0
RL Voltage	208	124
RL Amperage	-	0.9

Performance Data		
	Design	Actual
Fan Suction SP	-	-0.20"
Fan Discharge SP	-	0.10"
Total ESP	1.0	0.30"

Completed By: Gabe Merk on 04/18/2024

Notes:  
BLOWN FUSE 2/23/24 RESOLVED 3/7/24

Written By: on

# National TAB

Project: CAS-Alara\_1235000601

## AHU/RTU



### Diffuser Supply (GRD)

#### AHU-15/GROUND LEVEL KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
15-1	GROUND LEVEL KITCHEN	CD-3	10	300		234		210	70.0
15-2	GROUND LEVEL KITCHEN	CD-3	10	325		337		300	92.3
Total				625		571	0	510	81.6%

# National TAB

Project: CAS-Alara\_1235000601



## Circuit Setter

### HW COILS/

Asset							
Asset Name	Size	Type	Design GPM	Setting	Delta P	Final GPM	% to Design
CS-1	3/4"	AUTOFLOW	1.8	2-80psid	1.05psi		-
CS-2	3/4"	AUTOFLOW	1.6	2-80psid	Blocked By Bar		-
CS-3	3/4"	AUTOFLOW	1.8	2-80psid	0.20psi		-
CS-4	3/4"	AUTOFLOW	1.8	2-80psid	0.83psi		-
CS-5	3/4"	AUTOFLOW	2.75	2-80psid	1.08psi		-
CS-6	3/4"	AUTOFLOW	1.9	2-80psid	1.92psi		-
CS-7	1"	AUTOFLOW1"	1.63	2-80psid	0.52psi		-
CS-8	3/4"	AUTOFLOW	1.68	2-80psid	0.88psi		-
CS-9	3/4"	AUTOFLOW	1.68	2-80psid	Ports Blocked		-
CS-10	3/4"	AUTOFLOW	1.28	2-80psid	1.22psi		-
CS-11	3/4"	AUTOFLOW	1.28	2-80psid	3.0psi		-
CS-12	3/4"	AUTOFLOW	1.68	2-80psid	Ports Blocked		-
CS-13	3/4"	AUTOFLOW	1.28	2-80psid	1.22psi		-
CS-14	3/4"	AUTOFLOW	1.28	2-80psid	Ports Blocked		-
CS-15	3/4"	AUTOFLOW	0.9	2-80psid	Ports Blocked		-
Total			24.34			0	0%

### CHW COILS/

Asset							
Asset Name	Size	Type	Design GPM	Setting	Delta P	Final GPM	% to Design
CS-1							
CS-1							
CS-1							
CS-2							
CS-3							
CS-4							
CS-7							
CS-8							
CS-9							
CS-10							
CS-11							
CS-12							
CS-13							
CS-14							
CS-15							
Total			0			0	0%

Asset	Notes	Date	Written By
CS-14	Backflushed strainer, balance valve and verified control valve was open.		

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: FAN - Exhaust



Asset: EF2

AREA:ROOF

Unit Data		
	Design	Actual
<b>MFG</b>	GREENHECK	CAPTIVEAIRE
<b>Model Num</b>	CSP-A700-QD	KB25
<b>Serial Num</b>	-	5280528
<b>Type</b>	-	PCU

Test Data		
	Design	Actual
<b>CFM</b>	9843	9500
<b>RL Voltage</b>	-	499/500/506
<b>RL Amperage</b>	-	15.8/15.7/15.0
<b>Total ESP</b>	3.200	2.00"

Motor Data		
	Design	Actual
<b>Motor MFG</b>	-	MARATHON
<b>Frame</b>	-	256TC
<b>Horsepower</b>	20.00	20
<b>Motor Rpm</b>	-	3537
<b>Phase</b>	3	3
<b>Voltage (rated)</b>	460	460
<b>Amperage (rated)</b>	-	23.4
<b>Service Factor</b>	-	1.15

Completed By: Gabe Merk on 04/18/2024

Notes:  
EXH VFD set to 51Hz

Written By: on

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: FAN - Exhaust



Asset: EF-1

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	CSP-A700-QD	CSP-A700-QD
Serial Num	-	23375448
Type	INLINE	INLINE

Test Data		
	Design	Actual
CFM	425	679
RL Voltage	-	124
RL Amperage	-	2.7
Total ESP	0.7	0.35"

Motor Data		
	Design	Actual
Motor MFG	-	GREENHECK
Horsepower	149W	1/7
Motor Rpm	1100	1100
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	3.3

Completed By: Gabe Merk on 03/07/2024

Notes:

Single speed fan, no dampers.

Written By: on

# National TAB

Project: CAS-Alara\_1235000601

## FAN - Exhaust



Diffuser Ret/Exh (GRD)

### EF-1/MEZZANINE

Asset								
Asset Name	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
E1-1	EG-1	6			110	110	110	-
E1-2	EG-1	6			148	148	148	-
E1-3	EG-1	6			135	135	135	-
E1-4	EG-2	6			153	153	153	-
E1-5	EG-1	6			133	133	133	-
Total			0		679	679	679	0%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: FAN - Supply



Asset: HMUA-MPU1

AREA:MEZZANINE

Unit Data		
	Design	Actual
MFG	NOT ACCESSIBLE	CAPTIVEAIRE
Model Num	NOT ACCESSIBLE	A4-D.1000-30D
Serial Num	-	5481748

Test Data		
	Design	Actual
CFM	7910	8210
RL Voltage	-	499/496/500
RL Amperage	-	5.7/5.7/5.8
Total ESP	-	N/A

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	213/5T
Horsepower	5.00	5.0
Motor Rpm	1060	1170
Phase	3	3
Voltage (rated)	460	460
Amperage (rated)	-	6.83
Service Factor	-	1.25

Completed By: Gabe Merk on 04/18/2024

# National TAB

Project: CAS-Alara\_1235000601

## FAN - Supply



### Diffuser Supply (GRD)

#### HMUA-MPU1/MEZZANINE

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
M1-1	HD-3	DUCT	12X24	2310				1613	69.8
M1-2	HD-1	DUCT	20X20	2960				3255	110.0
M1-3	HD-2	DUCT	20X18	2640				3342	126.6
Total				7910		0	0	8210	103.79%

# National TAB

Project: CAS-Alara\_1235000601

## System/Unit: FAN - Supply



Asset: OAF-1

AREA:GROUND LEVEL AHU-15

Unit Data		
	Design	Actual
MFG	NOT ACCESSIBLE	NOT ACCESSIBLE
Model Num	NOT ACCESSIBLE	NOT ACCESSIBLE
Serial Num	-	NOT ACCESSIBLE

Motor Data		
	Design	Actual
Motor MFG	-	NOT ACCESSIBLE
Frame	-	NOT ACCESSIBLE
Horsepower	1.5	NOT ACCESSIBLE
Motor Rpm	1112	NOT ACCESSIBLE
Phase	3	NOT ACCESSIBLE
Voltage (rated)	460	NOT ACCESSIBLE
Amperage (rated)	-	NOT ACCESSIBLE
Service Factor	-	NOT ACCESSIBLE

Drive Data		
	Design	Actual
Motor Sheave Size	-	NOT ACCESSIBLE
Motor Bore Size	-	NOT ACCESSIBLE
Fan Sheave Size	-	NOT ACCESSIBLE
Fan Sheave Bore	-	NOT ACCESSIBLE
Belt CL Distance	-	NOT ACCESSIBLE
Num of Belts	-	NOT ACCESSIBLE
Belt Size	-	NOT ACCESSIBLE

Test Data		
	Design	Actual
CFM	3030	1390
SF RPM	1112	NOT ACCESSIBLE
RL Voltage	-	NOT ACCESSIBLE
RL Amperage	-	NOT ACCESSIBLE
Suction ESP	-	NOT ACCESSIBLE
Discharge ESP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE
Brake Horse Power	-	NOT ACCESSIBLE

Notes:

Initial CFM traversed for 930 fan was backwards. Final CFM 1390.

Written By: on

# National TAB

Project: CAS-Alara\_1235000601

## FAN - Supply



### Diffuser Supply (GRD)

#### OAF-1/GROUND LEVEL AHU-15

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SF1-1	MEZZANINE AHU-1	DUCT	10X8	340		930		1390	408.8
SF1-2	MEZZANINE AHU-3	DUCT	10X8	340					-
SF1-3	MEZZANINE AHU-6	DUCT	10X8	350					-
SF1-4	MEZZANINE AHU-13	DUCT	6	350					-
SF1-5	MEZZANINE AHU-14	DUCT	6	480					-
SF1-6	GROUND FLOOR AHU-9 RA	DUCT	6	150					-
SF1-7	GROUND FLOOR AHU-9	DUCT	6	150					-
SF1-8	GROUND FLOOR AHU-8	DUCT	8	340					-
SF1-9	GROUND FLOOR AHU-15	DUCT	6	125					-
Total				2625		930	0	1390	52.95%

# National TAB

Project: CAS-Alara\_1235000601



## System/Unit: FAN - Supply

Asset: OAF-2

AREA:MEZZANINE AHU-12

Unit Data		
	Design	Actual
MFG	NOT ACCESSIBLE	CARRIER
Model Num	NOT ACCESSIBLE	42DHA22NRGNYYYYWAJ
Serial Num	-	23U00008808

Motor Data		
	Design	Actual
Motor MFG	-	NOT ACCESSIBLE
Frame	-	NOT ACCESSIBLE
Horsepower	1.0	NOT ACCESSIBLE
Motor Rpm	1048	NOT ACCESSIBLE
Phase	3	NOT ACCESSIBLE
Voltage (rated)	460	NOT ACCESSIBLE
Amperage (rated)	-	NOT ACCESSIBLE
Service Factor	-	NOT ACCESSIBLE

Drive Data		
	Design	Actual
Motor Sheave Size	-	NOT ACCESSIBLE
Motor Bore Size	-	NOT ACCESSIBLE
Fan Sheave Size	-	NOT ACCESSIBLE
Fan Sheave Bore	-	NOT ACCESSIBLE
Belt CL Distance	-	NOT ACCESSIBLE
Num of Belts	-	NOT ACCESSIBLE
Belt Size	-	NOT ACCESSIBLE

Test Data		
	Design	Actual
CFM	2460	1714
SF RPM	1048	NOT ACCESSIBLE
RL Voltage	-	NOT ACCESSIBLE
RL Amperage	-	NOT ACCESSIBLE
Suction ESP	-	NOT ACCESSIBLE
Discharge ESP	-	NOT ACCESSIBLE
Total ESP	1.0	NOT ACCESSIBLE
Brake Horse Power	-	NOT ACCESSIBLE

Notes:

Initial traverse reading 823 fan Direction fixed final CFM 1714.

Written By: on

# National TAB

Project: CAS-Alara\_1235000601

## FAN - Supply



### Diffuser Supply (GRD)

#### OAF-2/MEZZANINE AHU-12

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SF2-1	MEZZ AHU-2	DUCT	10X8	300		823		1714	571.3
SF2-2	MEZZ AHU-5	DUCT	10X8	440					-
SF2-3	MEZZ AHU-11	DUCT	10X8	400					-
SF2-4	MEZZ AHU-7	DUCT	6	240					-
SF2-5	MEZZ AHU-7	DUCT	6	240					-
SF2-6	MEZZ AHU-4	DUCT	10X8	400					-
SF2-7	MEZZ AHU-12	DUCT	6	220					-
SF2-8	MEZZ AHU-12	DUCT	6	220					-
Total				2460		823	0	1714	69.67%

# National TAB

Project: CAS-Alara\_1235000601



## System/Unit: Kitchen Hood Type I

Asset: CHARHD-2

AREA:KITCHEN 100

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5418 SND-2	5418 SND-2
Job / Serial Num	-	5280528
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	192	192
Hood Width	54	54
Supply Plenum Type	-	PSP
Supply Plenum Width	16	16
Supply Plenum Length	192	192

Test Data Exhaust		
	Design	Actual
Filter Type	CAPRATE SOLO	CAPRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	12	12
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	19.44	19.44
Filter1 FPM	-	160
Filter2 FPM	-	154
Filter3 FPM	-	156
Filter4 FPM	-	172
Filter5 FPM	-	159
Filter6 FPM	-	141
Filter7 FPM	-	151
Filter8 FPM	-	147
Filter9 FPM	-	150
Filter10 FPM	-	168
Filter11 FPM	-	183
Filter12 FPM	-	162
Filter Ave FPM(corr)	-	258
CFM	3296	3090

Cooking Equipment		
	Design	Actual
Item 1	-	Gas stove
Item 2	-	Sink
Item 3	-	Flat top grill
Item 4	-	Char Broiler

Test Data Supply		
	Design	Actual
Total AK Area	21.33	21.33
Kv factor (Vel)	1.63	0.92
Num of Readings	-	12
Reading1 FPM	-	193
Reading2 FPM	-	198
Reading3 FPM	-	216
Reading4 FPM	-	167
Reading5 FPM	-	224
Reading6 FPM	-	151
Reading7 FPM	-	166
Reading8 FPM	-	176
Reading9 FPM	-	118
Reading10 FPM	-	152
Reading11 FPM	-	145
Reading12 FPM	-	138
Ave FPM(corr)	-	157
CFM	2640	3342

Completed By: Gabe Merk on 04/18/2024

Notes:  
TAG SAYS HOOD 1

Written By: on

# National TAB

Project: CAS-Alara\_1235000601



## System/Unit: Kitchen Hood Type I

Asset: MEZZHD-3

AREA:MEZZANINE KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5418 SND-2	5412 SND-2
Job / Serial Num	-	5280528
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	167	167
Hood Width	54	54
Supply Plenum Type	-	PSP
Supply Plenum Width	16	16
Supply Plenum Length	167	167

Test Data Supply		
	Design	Actual
Total AK Area	18.56	18.56
Kv factor (Vel)	1.63	0.92
Num of Readings	-	9
Reading1 FPM	-	94
Reading2 FPM	-	92
Reading3 FPM	-	101
Reading4 FPM	-	94
Reading5 FPM	-	85
Reading6 FPM	-	96
Reading7 FPM	-	124
Reading8 FPM	-	92
Reading9 FPM	-	72
Ave FPM(corr)	-	87
CFM	2310	1613

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	10	10
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	16.20	16.20
Filter1 FPM	-	153
Filter2 FPM	-	153
Filter3 FPM	-	173
Filter4 FPM	-	180
Filter5 FPM	-	179
Filter6 FPM	-	189
Filter7 FPM	-	180
Filter8 FPM	-	184
Filter9 FPM	-	176
Filter10 FPM	-	161
Filter Ave FPM(corr)	-	280
CFM	2867	2802

Cooking Equipment		
	Design	Actual
Item 1	-	OVEN
Item 2	-	FLAT TOP
Item 3	-	GRIDDLE
Item 4	-	GAS STOVE
Item 5	-	FRYER

Completed By: Gabe Merk on 04/18/2024

# National TAB

Project: CAS-Alara\_1235000601



## System/Unit: Kitchen Hood Type I

Asset: PREPHD-1

AREA:KITCHEN 100

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5418 SND-2	5418 SND-2
Job / Serial Num	-	5280528
Type	TYPE I CANOPY	TYPE 1 CANOPY
Hood length	192	192
Hood Width	54	54
Supply Plenum Type	-	PSP
Supply Plenum Width	16	16
Supply Plenum Length	192	192

Test Data Supply		
	Design	Actual
Total AK Area	21.33	21.33
Kv factor (Vel)	1.63	0.92
Num of Readings	-	12
Reading1 FPM	-	129
Reading2 FPM	-	131
Reading3 FPM	-	153
Reading4 FPM	-	128
Reading5 FPM	-	190
Reading6 FPM	-	173
Reading7 FPM	-	114
Reading8 FPM	-	178
Reading9 FPM	-	185
Reading10 FPM	-	210
Reading11 FPM	-	185
Reading12 FPM	-	214
Ave FPM(corr)	-	153
CFM	2960	3255

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16X16	16X16
Filter Qty 1	12	9
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	19.44	14.58
Filter1 FPM	-	255
Filter2 FPM	-	262
Filter3 FPM	-	261
Filter4 FPM	-	247
Filter5 FPM	-	235
Filter6 FPM	-	225
Filter7 FPM	-	235
Filter8 FPM	-	236
Filter9 FPM	-	BLANK
Filter10 FPM	-	BLANK
Filter11 FPM	-	BLANK
Filter12 FPM	-	271
Filter Ave FPM(corr)	-	401
CFM	3680	3608

Cooking Equipment		
	Design	Actual
Item 1	-	Fryer
Item 2	-	Prep table
Item 3	-	Flat top grill
Item 4	-	Prep table

Completed By: Gabe Merk on 04/18/2024

Notes:  
TAG SAYS HOOD 3

Written By: on

## Issue List

- AHU-2
- AHU-5
- OAF-1

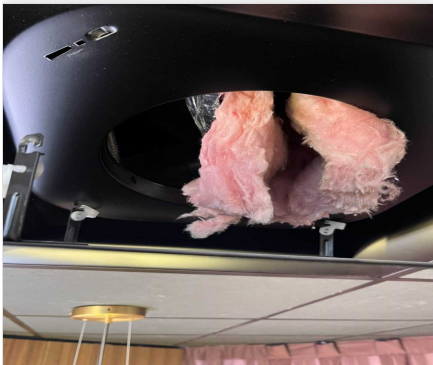


CAS-Alara\_1235000601

**Project Issue Information**

**Issue Name :** AHU-2  
**Description :** Ductwork not attached to diffuser 2-4.  
**Created By :** National TAB                      **Assigned To :** National TAB - Joe Hertenstein  
**Status :** Open  
**Priority :**    **Asset Tag :**  
**Originated Date :** 04/18/2024 - Gabe Merk - National TAB

Project Issue File Details



305B8851\_C38C\_4340\_AD..  
04/18/2024



CAS-Alara\_1235000601

**Project Issue Information**

**Issue Name :** AHU-5  
**Description :** AHU-5 not running. Disconnect and breaker are on. Unable to measure diffuser readings.  
**Created By :** National TAB                      **Assigned To :** National TAB - Joe Hertenstein  
**Status :** Open  
**Priority :**    **Asset Tag :**  
**Originated Date :** 04/18/2024 - Gabe Merk - National TAB

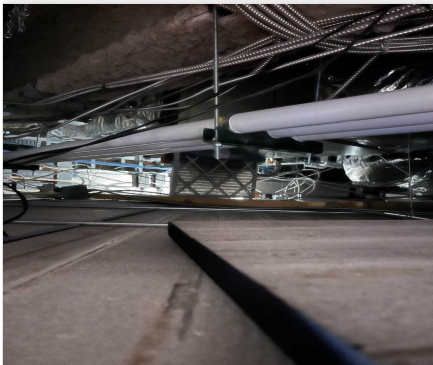


CAS-Alara\_1235000601

**Project Issue Information**

**Issue Name :** OAF-1  
**Description :** Filter no longer sits in housing.  
**Created By :** National TAB                      **Assigned To :** National TAB - Joe Hertenstein  
**Status :** Open  
**Priority :**    **Asset Tag :**  
**Originated Date :** 04/18/2024 - Gabe Merk - National TAB

Project Issue File Details



2AD83678\_50F0\_4BC7\_BC..  
04/18/2024