

Report By:

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

NATIONAL

TAB

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**Report: FINAL TAB REPORT
Function: Test, Adjust, & Balance
Date: 8/15/2022**

**PROJECT
05-09 NIKE LIVE - CARY, NC**

4 FENTON ST

CARY, NC

Client

Construction One

101 E. Town St

Suite 401

Columbus, OH 43215

National TAB

Project: 05-09 NIKE LIVE - CARY, 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.

FCU's w/ Diffusers

Each of the FCU'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 FCU 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.

Variable Air Volume (VAV) Terminals

The VAV's were calibrated in a call for max cooling and the correction factors are reported on the individual asset. While in a call for full cooling, the individual air devices were then balanced within design tolerance. The VAVs were then stroked to minimum cool and the airflow values reported. The VAV was then stroked to heating and the airflow values reported. It was verified that there was a sufficient temp rise on each VAV.

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

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.



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CheckList Information

Name : Summary of Issues **Status :** NotSubmitted
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB

CheckList Item Details

Summary of Issues - Details of each are provided in the subsequent detailed issues

EF1 Duct is not complete. Not connected to the room grille	Resolution:
FCU1 EMS controls not communicating: OA damper not set	Resolution:
FCU1 GRD#2 is connected to the Supply fan and should be connected to FCU1	Resolution:
FCU2 EMS controls not communicating: OA damper not set	Resolution:
FCU2 - VAV is not able to be controlled via EMS controls	Resolution:
FCU3 EMS controls not communicating: OA damper not set	Resolution:
FCU 4 EMS controls not communicating: OA damper not set	Resolution:
FCU 4 is running in high speed - Unit total is low	Resolution:
FCU 5 EMS controls not communicating: OA damper not set	Resolution:
FCU 5 is running in high speed - Unit total is low	Resolution:
SF1 EMS controls are not communicating or reporting fan operation correctly	Resolution:
SF1 fan was manually shut off due to severe fan wheel grinding on housing	Resolution:

Notes/Comments :



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Project Issue Information

Issue Name : EF1

Description : 1.EF1-1 DUCTWORK IS NOT FINISHED OR RUN TO GRILL. UNABLE TO BALANCE THIS GRILL OR FAN TILL DUCTWORK IS COMPLETED.

Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details



ef1_1_cary_.jpg



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Project Issue Information

Issue Name : FCU1

Description : 1. EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2. SGRD2 IS CONNECT TO THE SF1 DUCTWORK. IT SHOULD BE CONNECTED TO THE FCU1 SUPPLY DUCT.

Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details



oa_fcu1.jpg



sgrd2_cary_.jpg



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Project Issue Information

Issue Name : FCU2

Description : 1. EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2. CONFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CONTROL/CALIBRATE THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN CONFORT CONTROL SYSTEM AND THE MECH.

Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB



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Project Issue Information

Issue Name : FCU3

Description : EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS.

Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB



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Project Issue Information

Issue Name : FCU4

Description : 1.FCU4 EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2.FCU4 FAN IS RUNNING IN HIGH SPEED. TO PLACE FAN INTO HIGH-SPEED WIRE TAPES WERE ADJUSTED VIA CARRIER TECH SUPPORT OVER THE PHONE AND EMS PLACED UNIT INTO FULL COOLING MODE. UNIT TOTAL IS LOW

Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB



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Project Issue Information

Issue Name : FCU5

Description : 1. FCU5 EMS CONTROLS DO NOT HAVE CONTROL OVER OA DAMPERS TO EACH UNIT. OA CANNOT BE SET UNTIL THEY ARE ABLE TO EST. CONTROLS WITH THESE OA DAMPERS. 2. FCU5 FAN IS RUNNING IN HIGH SPEED. TO PLACE FAN INTO HIGH-SPEED WIRE TAPES WERE ADJUSTED VIA CARRIER TECH SUPPORT OVER THE PHONE AND EMS PLACED UNIT INTO FULL COOLING MODE. UNIT TOTAL IS LOW

Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details



fcu5_cary_.jpg



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Project Issue Information

Issue Name : SF1

Description : EMS HAS NO CONTROL OVER FAN SPEED, THEIR SYSTEM SAYS SF1 FAN WAS NOT RUNNING WHEN FAN WAS RUNNING 100%. THERE IS NO SPEED CONTROLLER INSTALLED ON FAN. FAN BLADES ARE ALSO GRINDING REALLY BAD, FAN WAS SHUT OFF TO PREVENT DAMAGE FROM OCCURRING. THESE ISSUES WILL NEED TO BE RESOLVED BETWEEN EMS AND MECHANICAL FIELD TECH WHO INSTALLED CONTROLS.

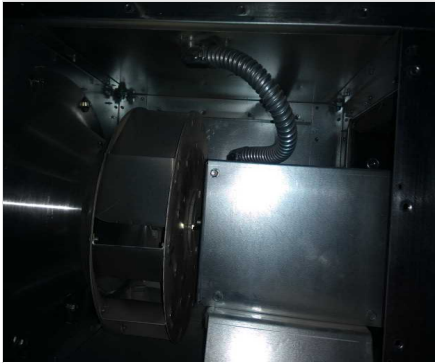
Created By : National TAB

Assigned To : National TAB - Wendy Biggs

Status : Open

Originated Date : 07/07/2022 - Dale Wheeler - National TAB

Project Issue File Details



sf1_cary.jpg

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
FCU-1	BOH	1900	1732	1610	1732	290		15.3%	0.0%						
FCU-2	SALES	1400	1516	1095	1516	305		21.8%	0.0%						
FCU-3	SALES	1400	1542	1095	1542	305		21.8%	0.0%						
FCU-4	SALES	1400	1176	1095	1176	305		21.8%	0.0%						
FCU-5	SOLAR ZONE	1200	870	1200	870	0		0.0%	0.0%						
SF-1	FCU1-4									600	2021				
EF-1	RESTROOM													200	98
TOTALS		7300	6836	6095	6836	1205	0			600	2021	0	0	200	98

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1805	2021
TOTAL EXHAUST	200	98
NET AIRFLOW	1605	1923

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.
SIDE	
REAR	
AVERAGE	0.

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:

STORE FRONT



FCU5



FCU2



FCU3



FCU1



SALES SPACE



FCU4



FCU5



SF1



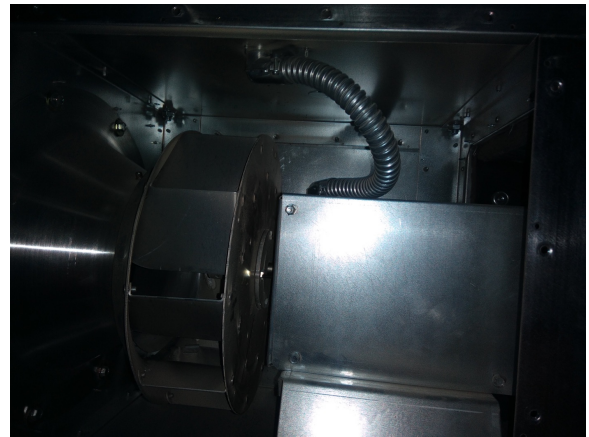
EF1



FCU1



SF1



FCU4





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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

Review Plan Review Checklist, has it been signed off and meets our standards to start balancing? If not contact processor to ensure job is ready.	YES
All diffusers and grilles are installed and match design?	FCU1 SGRD2 SUPPLY GRILL IS CONNECTED TO THE OA DUCT NOT THE UNITS SUPPLY GRILL
Thermostats have power?	UNITS ARE CONTROLLED BY A THIRD PARTY CONTROLS COMPANY STATS WITHIN STORE SPACE ARE POWERED
All HVAC units and fans and powered and operational?	YES
VAV diffusers (if applicable) are powered and responding to adjustment at thermostat?	YES MECHANICAL DAMPERS ARE COMMUNICATING WITH THERMOSTATS IN ROOM FOR FCU1
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	STORE IS OPEN LOCATION ALL ISSUES WILL BE SENT OUT IN EMAIL AT THE END OF JOB

Notes/Comments :



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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?	OA DAMPERS ARE INSTALLED BUT NOT FUNCTIONING, 3RD PARTY EMS CONTROLS SYSTEM DOES NOT HAVE CONTROL OVER OA DAMPER POSITIONS, UNABLE TO SET OA SETPOINTS TILL THIS ISSUES IS FIXED FOR ALL UNITS.
Motors are all operating below the FLA rating?	YES
Are belts tight?	N/A
If direct drive unit is the speed controller working.	YES / FANS ARE CONTROLLED BY 3RD PARTY COMPANY FANS ARE FORCED INTO COOLING/ HIGH SPEED FOR BALANCE
Is gas piping installed and valves turned on?	N/A
Unit free of noticeable noise and vibration	UNITS AMPS HAD TO BE TAKEN WITH BLOWER FAN PANEL OFF

EF's

Rotation is correct?	EF1 FAN IS LOCATED ABOVE CEILING GRID AND IS NOT ACCESSIBLE / FAN IS RUNNING BUT CANNOT GAIN ACCESS TO THE INLINE FAN.
Belts are tight?	N/A
Grease cup installed on hood fan	N/A
Hinge kit installed installed on hood fan?	N/A
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	N/A

Flex conduit is long enough so that fan can be completely tilted back?	N/A
There is no major leakage around base of fan?	N/A
Is the motor operating below the motor FLA rating?	N/A
For restroom fan(s) is the back draft damper installed and can it fully open?	N/A
Unit free of noticeable noise and vibration?	YES / EF1 NO / SF1 FAN WHEEL IS GRINDING UNABLE TO FIX THIS ISSUE. FAN HAS BEEN SHUT OFF TILL THIS ISSUE CAN BE RESOLVED. EMS DOES NOT HAVE COMMUNICATION WITH SF1

DOCUMENTATION

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	THIS IS A OPEN LOCATION, GC OR TRADES ARE NOT ON SITE. ALL ISSUES WILL BE SENT OUT IN EMAIL AT THE END OF JOB.
--	--

Notes/Comments :

EF1 FAN DUCTWORK IS NOT CONNECTED TO EF1-1 FLEX DUCT IS NOT RUN DOWN TO DIFFUSER DUCTWORK LOCATED ABOVE HARD CEILING.



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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?	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".	N/A

FABRIC DUCT STATIC PRESSURES (IF APPLICABLE)

Take static pressures near takeoff for each fabric duct once balancing is completed. Input this into the "VEL (1)" field on the diffuser asset. If not a fabric duct then, put "N/A" into the "VEL (1)" field instead.	N/A
--	-----

Notes/Comments :



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CheckList Information

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

CheckList Item Details

FINAL TESTS

BUILDING PRESSURE

Building pressure at front & back doors (All Systems On)	FRONT DOOR -0.00" / SF1 FAN IS NOT RUNNING
--	--

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	SF1 HAD TO BE TURNED OFF DUE TO FAN GRINDING BADLY.
---	---

CARRIER VFD PARAMETERS (IF APPLICABLE)

Use Carrier provided VFD cable to verify VFD speed parameters for each unit (Defaults - high speed = 60Hz, low speed = 40Hz). Can adjust high speed parameter for balancing but requires that the low speed is proportionally adjusted. Record VFD speeds on the individual assets	N/A
--	-----

TEMPERATURES/HUMIDITIES

Measure temperatures/humidities for outside air (taken in shade), return air, and supply air for each HVAC unit during full cooling and input into appropriate fields on the individual asset	FCU1 SUPPLY TEMP. 60F / 71% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU2 SUPPLY TEMP. 59F/ 72% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU3 SUPPLY TEMP. 56F/ 71% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU4 SUPPLY TEMP. 50F/ 70% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% FCU5 SUPPLY TEMP. 49F / 71% HUMIDITY / OA TEMP. 79F / HUMIDITY 82% DID NOT HAVE TIME TO TAKE RETURN AIR TEMPS BEFORE STORE CLOSED, UNIT SPACE TEMP. WAS 72F
---	--

VAV DIFFUSERS (IF APPLICABLE)

Each VAV-diffuser is calibrated for max airflow?	NO / THESE ARE NOT ABLE TO BE CALIBRATED DUE TO CONFORT CONTROLS NOT HAVE CONTROL OVER THIS VAV BOX
--	---

Each VAV diffuser is set for minimum airflow? Record value
in notes on the individual diffuser asset

MAX AND MIN, ARE BOTH SET TO 300CFM

Notes/Comments :

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Project: 05-09 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU



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Asset: FCU1

AREA:BOH

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	4821F11375
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	6.8

Drive Data		
	Design	Actual
Num of Belts	-	DD

Test Data		
	Design	Actual
SF CFM	1900	1732
SF RPM	-	DD
OA CFM	290	-
RL Voltage	-	[3]
RL Amperage	-	2.5
SF Rotation	-	CCW
Min OA Damper Position	-	[2]

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.175"
Fan Suction SP	-	-0.519"
Fan Discharge SP	-	0.101"
Total ESP	0.65"	0.276"
Fan Total SP	-	0.62"

General		
	Design	Actual
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Dale Wheeler

Notes: [1] SGRD2 IS DUCTED INTO THE SF1 DUCT, SHOULD BE DUCTED INTO FCU1 SUPPLY DUCT UNABLE TO BALANCE GRILL TILL THIS IS RESOLVED. SEE PIC [2] EMS COMFORT CONTROLS DO NOT HAVE CONTROLS OVER OA DAMPERS UNABLE TO SET DAMPER POSITIONS UNTIL CONTROLS ISSUE IS RESOLVED. OA DAMPER IS NOT WIRED. [3] UNABLE TO ACCESS AND TAKE RLV

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Project:05-09 NIKE LIVE - CARY, NC

AHU/RTU



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Diffuser Supply (GRD)

FCU1/BOH

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	IT ROOM	CSD3	10"	250	155	153	155	62.0
SGRD2	RESTROOM	CSD3	6"	75	0	0	0	0.0
SGRD3	FOH PIP	CSD2	8"	100	107	137	145	145.0
SGRD4	COACH'S OFFICE	CSD1	8"	200	181	181	183	91.5
SGRD5	HALLWAY	CSD2	8"	100	91	93	99	99.0
SGRD6	S&R	CSD2	8"	200	186	199	201	100.5
SGRD7	S&R	CSD2	8"	200	192	208	213	106.5
SGRD8	S&R	CSD2	8"	200	187	178	182	91.0
SGRD9	S&R	CSD2	8"	200	209	227	242	121.0
SGRD10	BREAKROOM	CSD1	8"	200	137	141	167	83.5
SGRD11	BREAKROOM	CSD1	8"	175	122	127	145	82.9

FCU1/BOH

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	IT ROOM	CSD3	10"	250	155	153	155	62.0
SGRD2	RESTROOM	CSD3	6"	75	0	0	0	0.0
SGRD3	FOH PIP	CSD2	8"	100	107	137	145	145.0
SGRD4	COACH'S OFFICE	CSD1	8"	200	181	181	183	91.5
SGRD5	HALLWAY	CSD2	8"	100	91	93	99	99.0
SGRD6	S&R	CSD2	8"	200	186	199	201	100.5
SGRD7	S&R	CSD2	8"	200	192	208	213	106.5
SGRD8	S&R	CSD2	8"	200	187	178	182	91.0
SGRD9	S&R	CSD2	8"	200	209	227	242	121.0
SGRD10	BREAKROOM	CSD1	8"	200	137	141	167	83.5
SGRD11	BREAKROOM	CSD1	8"	175	122	127	145	82.9

Diffuser Supply (GRD)

FCU1/BOH

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	IT ROOM	CSD3	10"	250	155	153	155	62.0
SGRD2	RESTROOM	CSD3	6"	75	0	0	0	0.0
SGRD3	FOH PIP	CSD2	8"	100	107	137	145	145.0
SGRD4	COACH'S OFFICE	CSD1	8"	200	181	181	183	91.5
SGRD5	HALLWAY	CSD2	8"	100	91	93	99	99.0
SGRD6	S&R	CSD2	8"	200	186	199	201	100.5
SGRD7	S&R	CSD2	8"	200	192	208	213	106.5
SGRD8	S&R	CSD2	8"	200	187	178	182	91.0
SGRD9	S&R	CSD2	8"	200	209	227	242	121.0
SGRD10	BREAKROOM	CSD1	8"	200	137	141	167	83.5
SGRD11	BREAKROOM	CSD1	8"	175	122	127	145	82.9

FCU1/BOH

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	IT ROOM	CSD3	10"	250	155	153	155	62.0
SGRD2	RESTROOM	CSD3	6"	75	0	0	0	0.0
SGRD3	FOH PIP	CSD2	8"	100	107	137	145	145.0
SGRD4	COACH'S OFFICE	CSD1	8"	200	181	181	183	91.5
SGRD5	HALLWAY	CSD2	8"	100	91	93	99	99.0
SGRD6	S&R	CSD2	8"	200	186	199	201	100.5
SGRD7	S&R	CSD2	8"	200	192	208	213	106.5
SGRD8	S&R	CSD2	8"	200	187	178	182	91.0
SGRD9	S&R	CSD2	8"	200	209	227	242	121.0
SGRD10	BREAKROOM	CSD1	8"	200	137	141	167	83.5
SGRD11	BREAKROOM	CSD1	8"	175	122	127	145	82.9

Completed By: Dan Hertenstein on

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Project: 05-09 NIKE LIVE - CARY, NC
System/Unit: AHU/RTU



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Asset: FCU2

AREA:SALES

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	4821F11362
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	230/208
Rated Amperage	-	6.8

Drive Data		
	Design	Actual
Num of Belts	-	DD

Test Data		
	Design	Actual
SF CFM	1400	1516
SF RPM	-	DD
OA CFM	305	-
RL Voltage	-	[3]
RL Amperage	-	1.8
SF Rotation	-	CCW
OA Damper Type	-	[1]

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.12"
Fan Suction SP	-	-0.46"
Fan Discharge SP	-	0.11"
Total ESP	0.85"	0.23"
Fan Total SP	-	0.57"

General		
	Design	Actual
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Dale Wheeler

Notes: [1] EMS DOES NOT HAVE CONTROL OF SF1 OR OA DAMPER POSITIONS OA COULD NOT BE SET. [2] AMPS HAD GO BE TAKEN WITH BLOWER DOOR OFF. [3] SF1 FAN WHEEL WAS GRINDING BADLY, FAN WAS SHUT OFF TO PREVENT DAMAGE.

National TAB

Project:05-09 NIKE LIVE - CARY, NC

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

FCU2/SALES

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOH PIP	CSD2	10"	225	270	270	270	120.0
SGRD2	FOH PIP	CSD2	10"	225	303	303	303	134.7
SGRD3	FOH PIP	CSD2	10"	225	347	347	347	154.2
SGRD4	FOH PIP	CSD2	10"	225	296	296	296	131.6
VAV1	VAV1	-	9"	500	300	300	300	60.0

FCU2/SALES

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOH PIP	CSD2	10"	225	270	270	270	120.0
SGRD2	FOH PIP	CSD2	10"	225	303	303	303	134.7
SGRD3	FOH PIP	CSD2	10"	225	347	347	347	154.2
SGRD4	FOH PIP	CSD2	10"	225	296	296	296	131.6
VAV1	VAV1	-	9"	500	300	300	300	60.0

Diffuser Supply (GRD)

FCU2/SALES

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOH PIP	CSD2	10"	225	270	270	270	120.0
SGRD2	FOH PIP	CSD2	10"	225	303	303	303	134.7
SGRD3	FOH PIP	CSD2	10"	225	347	347	347	154.2
SGRD4	FOH PIP	CSD2	10"	225	296	296	296	131.6
VAV1	VAV1	-	9"	500	300	300	300	60.0

FCU2/SALES

Asset								
Asset Name	Location	Type	Size	DESIGN CFM	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	FOH PIP	CSD2	10"	225	270	270	270	120.0
SGRD2	FOH PIP	CSD2	10"	225	303	303	303	134.7
SGRD3	FOH PIP	CSD2	10"	225	347	347	347	154.2
SGRD4	FOH PIP	CSD2	10"	225	296	296	296	131.6
VAV1	VAV1	-	9"	500	300	300	300	60.0

Completed By: Dan Hertenstein on

Asset	Notes
VAV1	[1] COMFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CALIBRATE/CONTROL THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN COMFORT CONTROL SYSTEM AND THE MECHANICAL FIELD TECH WHO INSTALLED THE CONTROLS.
VAV1	[1] COMFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CALIBRATE/CONTROL THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN COMFORT CONTROL SYSTEM AND THE MECHANICAL FIELD TECH WHO INSTALLED THE CONTROLS.
VAV1	[1] COMFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CALIBRATE/CONTROL THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN COMFORT CONTROL SYSTEM AND THE MECHANICAL FIELD TECH WHO INSTALLED THE CONTROLS.
VAV1	[1] COMFORT CONTROLS SYSTEM [EMS] IS NOT ABLE TO CALIBRATE/CONTROL THIS VAV BOX. EMS IS ONLY ABLE TO VIEW THE DAMPER VOLTAGE. THIS ISSUE WILL NEED TO BE RESOLVED BETWEEN COMFORT CONTROL SYSTEM AND THE MECHANICAL FIELD TECH WHO INSTALLED THE CONTROLS.

National TAB

Project: 05-09 NIKE LIVE - CARY, NC
System/Unit: AHU/RTU



Comfort. Under control.

Asset: FCU3

AREA:SALES

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	4821F11361
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	0.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	6.8

Drive Data		
	Design	Actual
Num of Belts	-	DD

Test Data		
	Design	Actual
SF CFM	1400	1542
SF RPM	-	DD
OA CFM	305	-
RL Voltage	-	[2]
RL Amperage	-	2.7
SF Rotation	-	CCW

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.132"
Fan Suction SP	-	-0.511"
Fan Discharge SP	-	0.14"
Total ESP	0.60"	0.272"
Fan Total SP	-	0.651"

General		
	Design	Actual
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Dale Wheeler

Notes: [1] UNABLE TO LOCATED A SAFE PLACE TO TAKE VOLT [2] SF1 FAN WHEEL WAS GRINDING BADLY, FAN WAS SHUT OFF TO PREVENT DAMAGE. EMS DOES NOT HAVE CONTROL OF SF1 OR OA DAMPER POSITIONS [3] AMPS HAD GO BE TAKEN WITH BLOWER DOOR OFF. .

National TAB

Project:05-09 NIKE LIVE - CARY, NC

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

FCU3/SALES

Asset											
Asset Name	Location	Type	Size	DESIGN CFM	AK	VEL(1)	CFM(1)	VEL(2)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	DSG1	10X6	200	1		236		236	236	118.0
SGRD2	SALES	DSG1	10X6	200	1		236		236	236	118.0
SGRD3	SALES	DSG1	10X6	200	1	225	225		216	217	108.5
SGRD4	SALES	DSG1	10X6	200	1	237	237		201	214	107.0
SGRD5	SALES	DSG1	10X6	200	1	199	199		227	209	104.5
SGRD6	SALES	DSG1	10X6	200	1	192	192		183	211	105.5
SGRD7	SALES	DSG1	10X6	200	1	287	287		256	219	109.5

Completed By: Brianna Biggs on

National TAB

Project: 05-09 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU



Comfort. Under control.

Asset: FCU4

AREA:SALES

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	4821F11378
Model Num	FV4CNB006	FV4CNB006
Configuration	-	HORIZONTAL
Num Final Filter 1	-	1
Final Filter Size 1	-	22X24X1

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	3/4	.75
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	6.8

Drive Data		
	Design	Actual
Num of Belts	-	DD

Test Data		
	Design	Actual
SF CFM	1400	1176
SF RPM	-	DD
OA CFM	305	-
RL Voltage	-	[2]
RL Amperage	-	1.8
SF Rotation	-	CCW
Min OA Damper Position	-	[3]

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.12"
Fan Suction SP	-	-0.284"
Fan Discharge SP	-	0.11"
Total ESP	0.65"	0.23"
Fan Total SP	-	0.394"

General		
	Design	Actual
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YES

Completed By: Dale Wheeler

Notes: [1] FCU4 FAN IS RUNNING IN HIGH SPEED. TO PLACE FAN INTO HIGH-SPEED WIRE TAPES WERE ADJUSTED VIA CARRIER TECH SUPPORT OVER THE PHONE AND EMS PLACED UNIT INTO COOLING MODE. UNIT TOTAL IS LOW OF DESIGN CFM. [2] NO SAFE PLACE TO TAKE A VOLT READING [3] SF1 FAN WHEEL WAS GRINDING BADLY, FAN WAS SHUT OFF TO PREVENT DAMAGE. EMS DOES NOT HAVE CONTROL OF SF1 OR OA DAMPER POSITIONS.

National TAB

Project:05-09 NIKE LIVE - CARY, NC

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

FCU4/SALES

Asset											
Asset Name	Location	Type	Size	DESIGN CFM	AK	VEL(1)	CFM(1)	VEL(2)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES	DSG1	10X6	200	1		-	-	-		-
SGRD2	SALES	DSG1	10X6	200	1		-	-	-		-
SGRD3	SALES	DSG1	10X6	200	1		153	153	153	153	76.5
SGRD4	SALES	DSG1	10X6	200	1		169	169	169	169	84.5
SGRD5	SALES	DSG1	10X6	200	1		200	200	200	200	100.0
SGRD6	SALES	DSG1	10X6	200	1		188	188	188	188	94.0
SGRD7	SALES	DSG1	10X6	200	1		196	196	196	196	98.0

Completed By: Brianna Biggs on

Asset	Notes
SGRD1	SGRD1 CANNOT PHYSICALLY BE ACCESSED IN STORE SPACE TO BE READ
SGRD2	SGRD2 CANNOT BE PHYSICALLY ACCESSED IN THE STORE TO READ

National TAB

Project: 05-09 NIKE LIVE - CARY, NC

System/Unit: AHU/RTU



Comfort. Under control.

Asset: FCU5

AREA: SOLAR ZONE

Unit Data		
	Design	Actual
MFG	CARRIER	CARRIER
Serial Num	-	5221F46291
Model Num	FV4CNB003	FV4CNF003
Configuration	-	HORIZONTAL
Num OA Filters 1	-	N/A
OA Filter Size 1	-	N/A
Num Final Filter 1	-	1
Final Filter Size 1	-	20x22x1

Test Data		
	Design	Actual
SF CFM	1200	870
SF RPM	-	DD
RA CFM	1200	-
OA CFM	-	-
RL Voltage	-	[2]
RL Amperage	-	0.14
SF Rotation	-	CCW
Min OA Damper Position	-	[3]

Motor Data		
	Design	Actual
Motor MFG	-	N/L
Frame	-	N/L
Horsepower	1/2	0.50
Motor Rpm	-	N/L
Phase	3	1
Rated Voltage	480	208/230
Rated Amperage	-	4.3

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.05"
Fan Suction SP	-	-0.191"
Fan Discharge SP	-	0.017"
Total ESP	0.65"	0.067"
Fan Total SP	-	0.208"

Drive Data		
	Design	Actual
Num of Belts	-	DD

General		
	Design	Actual
Unit free of Damage	-	YES
Unit Completely Assembled	-	YES
Unit Leveled	-	YES
Controls Complete	-	YES
Unit Filters Clean	-	YES
Evap Coil Clean	-	YES
Condensate Drain Installed	-	YRS

Completed By: Dale Wheeler

Notes: FCU5 FAN IS RUNNING IN HIGH SPEED. TO PLACE FAN INTO HIGH-SPEED WIRE TAPES WERE ADJUSTED VIA CARRIER TECH SUPPORT OVER THE PHONE AND EMS PLACED UNIT INTO COOLING MODE. UNIT TOTAL IS LOW OF DESIGN CFM. STATIC PRESSURES ARE VERY LOW INDICATING UNIT MAY NOT BE RESPONDING TO CALLS FOR HIGH SPEED. [2] NO SAFE PLACE TO TAKE A VOLT READING 3] SF1 FAN WHEEL WAS GRINDING BADLY, FAN WAS SHUT OFF TO PREVENT DAMAGE. EMS DOES NOT HAVE CONTROL OF SF1 OR OA DAMPER POSITIONS.

National TAB

Project:05-09 NIKE LIVE - CARY, NC

AHU/RTU



Comfort. Under control.

Diffuser Supply (GRD)

FCU5/SOLAR ZONE

Asset											
Asset Name	Location	Type	Size	DESIGN CFM	AK	VEL(1)	CFM(1)	VEL(2)	CFM(2)	FINAL CFM	% to design
SGRD1	WELCOM E	DSG1	14X6	300	1		217	300	217	217	72.3
SGRD2	WELCOM E	DSG1	14X6	300	1		217	3	217	217	72.3
SGRD3	WELCOM E	DSG1	14X6	300	1		218		218	218	72.7
SGRD4	WELCOM E	DSG1	14X6	300	1		218		218	218	72.7

Completed By: Brianna Biggs on

National TAB

Project: 05-09 NIKE LIVE - CARY, NC

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF1

AREA:RESTROOM

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SQ-080-VG	SQ-080-VG
Serial Num	-	N/A
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Test Data		
	Design	Actual
CFM	200	98

Motor Data		
	Design	Actual

Drive Data		
	Design	Actual

Completed By: Dale Wheeler

Notes: [1] EF1-1 DUCTWORK ABOVE CEILING IS NOT CONNECT UNABLE TO BALANCE GRILL. SEE PIC [2] EF1 FAN IS NOT ACCESSIBLE IN CEILING CANNOT GET A TALL ENOUGH LADDER INTO THE NARROW HALLWAY TO BE ABLE TO GET UP TO THE FAN TO GET UNIT + TEST DATA

National TAB

Project:05-09 NIKE LIVE - CARY, NC

FAN - Exhaust



Comfort. Under control.

Diffuser Ret/Exh (GRD)

EF1/RESTROOM

Asset												
Asset Name	Model Num	MFG	Type	Size	DESIGN CFM	AK	VEL(1)	CFM(1)	VEL(2)	CFM(2)	FINAL CFM	% to design
EGRD1	NA	RETURN	CEG1	6"	75	1		0	0	0	0	0.0
EGRD2	NA	RETURN	CEG1	8"	125	1		98	98	98	98	78.4

Completed By: Brianna Biggs on

National TAB

Project: 05-09 NIKE LIVE - CARY, NC
System/Unit: FAN - Supply



Comfort. Under control.

Asset: SF1

AREA:FCU1-4

Unit Data		
	Design	Actual
MFG	GREENHECK	GREENHECK
Model Num	SQ-120-VG	SQ-120-VG
Serial Num	-	N/L
Type	INLINE	INLINE
Configuration	HORIZONTAL	HORIZONTAL

Motor Data		
	Design	Actual
Motor MFG	-	N/A
Frame	-	N/A
Horsepower	1/2	N/A
Motor Rpm	-	N/A
Phase	1	N/A
Voltage (rated)	120	N/A
Amperage (rated)	-	N/A
Service Factor	-	N/A

Drive Data		
	Design	Actual

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	
Flame Status (pass/fail)	-	
Inlet Air Temp SetPt	-	
Discharge Air Temp SetPt	-	
Air Flow Switch SP Actual	-	

Electric Coil		
	Design	Actual

Hot Water Coil		
	Design	Actual

Steam Coil		
	Design	Actual

Condensor DX Coil		
	Design	Actual

Condensor Fan		
	Design	Actual

Test Data		
	Design	Actual
CFM	600	2021
SF RPM	1602	DD
Motor RPM	-	DD
SF System SetPt	-	HIGH
RL Voltage	-	[1]
RL Amperage	-	[1]
Total ESP	-	0.387"
Fan Inlet SP	-	-0.387"

Combustion Fan Motor Data		
	Design	Actual

Combustion Gas Duct		
	Design	Actual

Chilled Water Coil		
	Design	Actual

Evaporator DX Coil		
	Design	Actual

Evaporative Cooler		
	Design	Actual

Compressors		
	Design	Actual

General		
	Design	Actual

Completed By: Dale Wheeler

Notes: SF1 TURNED OFF DUE TO FAN WHEEL RUBBING AGAINST THE HOUSING

National TAB

Project:05-09 NIKE LIVE - CARY, NC



Comfort. Under control.

VAV - Single Duct

EQUIPMENT/

Asset				
Asset Name	Design Max CFM	Max CFM	Min CFM	Damper SetPt
VAV1	500	300	300	37V

Completed By: Dale Wheeler on

1 HVAC PLAN
3/16" = 1'-0"

2 ENLARGED BACK OF HOUSE HVAC PLAN
1/4" = 1'-0"

