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: 11/13/2022

PROJECT

11-07 WALGREENS #3848 - DEER PARK, TX

3300 CENTER ST

DEER PARK, TX 77536

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

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.

Commissioning Activities
Equipment was inspected to ensure that the installation meets Walgreens requirements. Control and equipment setpoints were checked and after balancing was completed performance of each unit was verified. The full list of items that were verified along with any that failed are contained in the checklists in this report.

RTU's (Roof Top Units) w/ Diffusers
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 per Walgreens standards. Each outlet was then adjusted to within tolerance. 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.

General Exhaust Fans w/ Grilles
The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance. 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.

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11-07 WALGREENS #3848 - DEER PARK, TX

Project Issue Information

Issue Name : COSTGARD

Description : COSTGARD CONDENSATE DRAINS ARE NOT PROPERLY SUPPORTED. COSTGARD RECOMMENDS SUPPORTS WHERE SHOWN ON PICTURE.

Created By : National TAB **Assigned To :** National TAB - Wesley John

Status : Open

Originated Date : 11/13/2022 - Wesley John - National TAB

Project Issue File Details

IMG_0123.jpeg

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11-07 WALGREENS #3848 - DEER PARK, TX

Project Issue Information

Issue Name : EF-4

Description : EF-4 WOULD NOT POWER ON. UNIT HAS ACTUATED BACK DRAFT DAMPER THAT IS UNPOWERED.

Created By : National TAB **Assigned To :** National TAB - Wesley John

Status : Open

Originated Date : 11/13/2022 - Wesley John - National TAB

Project Issue File Details

Image_2022_11_13T1324...

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11-07 WALGREENS #3848 - DEER PARK, TX

Project Issue Information

Issue Name : RTU-2

Description : RTU-2 FAN MOTOR IS ONLY MEASURING CURRENT ON 2 OF 3 PHASES. MEASURED CURRENT ON BOTH PHASES ARE 7.7/4.1 FLA AT 60 Hz.

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

Status : Open

Originated Date : 11/09/2022 - Wesley John - National TAB

Project Issue File Details

FuseITea6177916a62495...

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11-07 WALGREENS #3848 - DEER PARK, TX

Project Issue Information

Issue Name : RTU-3

Description : RTU-3 PHARMACY FAN SPEED IS MINIMIZED BUT OPERATING AT 159% OF DESIGN AIR FLOW. PULLEY CHANGE IS NEEDED TO BRING AIR FLOW INTO TOLERANCE.

Created By : National TAB **Assigned To :** National TAB - Wesley John

Status : Open

Originated Date : 11/13/2022 - Wesley John - National TAB

NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	SUPPLY AIR		RETURN AIR		OUTDOOR AIR		OA% RATIO		EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	SALES	6125	5825	5457	5122	668	703	10.9%	12.1%		
RTU-2	SALES	3500	0	2850	0	650	0	18.6%	N/A		
RTU-3	PHARMACY	1750	2548	1750	2439	0	109	0.0%	4.3%		
RTU-4	STOCKROOM	1050	1038	950	932	100	106	9.5%	10.2%		
EF-1	LOUNGE									300	286
EF-2	MENS RR									240	258
EF-3	WOMENS RR									240	251
EF-4	OFFICE/PHOTO									300	0
TOTALS		12425	9411	11007	8493	1418	918			1080	1095

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1418	918
TOTAL EXHAUST	1080	1095
NET AIRFLOW	338	-177

PRESSURIZATION CALCULATION

% PRESSURIZATION	>10%?
-16%	✗

Balance store to +10% pressurization based on air flow.

i. $\left(\frac{Outdoor\ Air - Exhaust\ Air}{Exhaust\ Air} > 10\%\right)$

ii. In case of nonfunctioning EF's T&B contractor to balance store accounting for the nonfunctioning EF air flow as shown on original drawings.

NOTES:

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

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

CheckList Item Details

STORE FRONT

Image_2022_11_13T1307...

RTU-1

Image_2022_11_13T1307...

RTU-2

Image_2022_11_13T1307...

RTU-3

Image_2022_11_13T1307...

RTU-4

Image_2022_11_13T1307...

EF-4

Image_2022_11_13T1307...

Notes/Comments :

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name :	TECH - 01 RTU INSTALLATION CHECKLIST	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

General / Exterior Inspections	
Verify all required equipment has been replaced per TA and BOM.	Pass
All units are installed in the proper locations	Pass
Units are labeled correctly	Pass
Asset tag installed	Pass
Roof is clear of debris.	Pass
Maintenance access for all unit access panels is acceptable and panels open freely.	Pass
Cabinet and general installation is complete.	Pass
Unit is secure to curb and level horizontally and vertically.	Pass
Access doors close tightly with no leaks	Pass
Condensate and gas piping is properly supported.	Pass
Costgaurd is installed per scope of work and piping unions are cemented.	Fail
Additional Comments	COSTGARD CONDENSATE DRAINS ARE NOT SUPPORTED PROPERLY PER SCOPE.
Interior Inspections	
Fan rotation is correct	Pass

Pulleys are correctly aligned and both motor and fan sheave pins are tightened in place.	Pass
Return air and outside air dampers close tightly with no gaps	Pass
Cabinet and coils are not damaged and in like new condition.	Pass
Inside of unit is clean and clear of debris.	Pass
Validate condesate is piped to splash block, draing, or roof drain per code requirements	Pass
Verify filters are installed, clean and of proper size. Verify there is no air by-pass around filters.	Pass
Curb is sealed with no air leakage.	Pass
Additional Comments:	
Fire/Smoke Alarm Systems	
In duct smoke detectors are installed	Pass
Fire alarm panel status (visual inspection where possible)	UNABLE TO VISUALLY INSPECT.
Additional Comments:	
Electrical	
Electrical wiring is complete with no visible damage	Pass
Electrical connections are tight with sealtight around any unit penetrations.	Pass
Disconnect switch is installed in accessible location near or on unit.	Pass
Verify overcurrent protection is HACR type, installed and sized correctly and labeled in panel.	Pass
Maintenance electrical outlet is installed and functional.	Pass
Main distribution panel is labeled correctly.	Pass
Unit ground wire is secured.	Pass
Additional Comments:	

Notes/Comments :

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name :	TECH - 02 EXHAUST FANS INSPECTIONS	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Fan rotation is correct	Pass
Pulleys are aligned and belts are tensioned properly	ALL EFS ARE DIRECT DRIVE.
Speed controller installed and functional (direct drive)	EF 1-3 ARE SINGLE SPEED. EF-4 HAS SPEED CONTROLLER INSTALLED BUT FAN DID NOT POWER ON.
Fan is secured to the curb	Pass
Back draft damper is installed and functional	Fail
No exterior damage to the fan	Pass
No unusual noise or vibration	Pass
Controls are functional	Fail
Additional Comments:	EF-4 SERVING THE OFFICE AND PHOTO LAB WILL NOT POWER ON. UNIT HAS MOTORIZED BACKDRAFT DAMPER BUT IS NOT POWERED.

Notes/Comments :

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name :	TECH - 03 START-UP CONTROLS PROGRAMMING	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Programming: SE 3.3, 3.4, 4.0

Controller-Network-Address: RTU number + 3	Pass
Controller-Network-FCBusMode = Wired Field Bus	Pass
Controller-Network-BaudRate = Auto	Pass
Controller-Network-Device ID = RTU number + 3	Pass
Details-Occ-OffDurUnocc = No	Pass
Details-Clg-Setup-Clg-En = Yes	Pass
Details-Clg-Setup-ClgAdapTunEn = Yes	Pass
Details-Htg-Setup-Htg-En = Yes	Pass
Details-Htg-Setup-#HtgStgs = 2 Stages	Pass
Details-Htg-Setup-HtgAdapTunEn = Yes	Pass
Details-Htg-Setup-#GasVlvs = 1 (Set to 0 for Hp and Elect Heat)	Pass
Details-Fan-Setup-Fan Ctl-Type = No VFD select "Single Speed", W/VFD select "Fixed Variable"	Pass
Details-Fan-Setup-FanOnOcc = Yes	Pass
Details-Fan-Setup-FanOnDlyHeat = 30s (Set to 0 for HP or Electric Heat)	Pass
Details-Fan-Setup-FanOnly-%Cmd = 50%	Pass

Details-Fan-Setup-1ClgStg-%Cmd = 70%	Pass
Details-Fan-Setup-2Clgstg-%Cmd = 100% (2stage Unit) or 80% (3 and 4 stage)	Pass
Details-Fan-Setup-3ClStg-%Cmd = 100% (3 stage unit) or 90% (4 stage)	Pass
Details-Fan-Setup-4ClStg-%Cmd = 100% (4 Stage unit)	Pass
Details-Fan-Setup-1HtgStg-%Cmd = 100%	Pass
Details-Fan-Setup-2HtgStg-%Cmd = 100%	Pass
Details-Econ-Setup-Econ-En = Yes	Pass
Details-Econ-Setup-Econ-MinPos = Set to minimum outside air requirements.	Pass
Details-Econ-Setup-LowSpdFan-MinPos = Set minimum 1% above EconMinPos	Pass
Details-Econ-Setup-FreeClg-Sel = Single Enthalpy	Pass
Details-Econ-Setup-EconOAEnth-Sp 4= 24 Btu/lb	Pass
Details-Econ-Setup-Dvent-Mode = Enable	Pass
Details-Econ-Setup-DventMaxEconPos = 50%	Pass
Details-Econ-Setup-DventIAP-Sp = 1000	Pass
Details-Econ-Setup-EconFltDetectEn = Enable	Pass
Additional Comments:	
Non ZR Units only:	
Details-HGR-Setup-HGR-En = No	Pass
Details-HGR-Setup-HGRAlt-En = No	Pass
Details - HGR-Setup-HGRUnocc-En = No	Pass
Details-HGR-Setup-Mode = No	Pass
Additional Comments:	

Notes/Comments :

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name : TECH - 04 EMS/SENSOR VALIDATION **Status :** Submitted

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

CheckList Item Details

RTU supply air temp sensor location located per start-up binder.	Pass
RTU return air temp sensor location located per start-up binder.	Pass
RTU return air smoke detector (when applicable) is located per start-up binder.	Pass
Space temperature sensor has been replaced and location meets requirements.	Pass
Space humidity sensor has been replaced and location meets requirements.	Pass
Unit is being controlled by a space temperature sensor or thermostat	Pass
EMS has been connected and validated with TOC or Gridpoint. Screen shot is available.	Pass
No splicing of EMS/Sensor/Thermostat wiring is visible	Pass
(If Applicable) 2 Stage Thermostat to SE Board Control Wiring meets detail in start-up binder.	N/A
(If Applicable) 2 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.	N/A
(If Applicable) 4 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.	N/S
(If Applicable) 3 Stage Thermostat wiring meets detail in start-up binder.	N/A
(If Applicable) 3 Stage Thermostat with Humidity sensor wiring meets detail in start-up binder.	N/A

(If Applicable) EH Thermostat with SCR control wiring meets detail in start-up binder.	N/A
Temperature setpoints are set for correction region and space (see ASHRAE / temperature setpoint chart in procedure)	Pass
Additional Comments:	

Notes/Comments :

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name :	TECH - 05 TAB CHECKLIST	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Outside air damper set to minimum air flow requirement and damper position marked.	Pass
Total Supply, return, and outside air volumes meet design tolerances (+/-10%)	Pass
Enclosed area diffusers (Pharmacies, manager office, employee room, restrooms, electrical rooms) balanced within +/-10%?	Pass
Open area diffusers (Sales floor and stock room) balanced within +/-25% of design?	Pass
Store pressure meets tolerances (see formula in balance schedule). Make sure to account for existing exhaust fans airflows as shown on original drawings that are non-functioning.	Pass
Outside air and return air dampers modulate freely.	Pass
Start-up report from the installing contractor is reviewed and all information if filled out. All required measurements are within typical ranges.	Pass
(If Applicable) VFD is set-up and operational. (N/A = not applicable)	YES
Verify amp draw of motor is within unit specification, not operating in overamped condition.	Pass
Sales floor temperature and humidity measurement	71.9/61.7 (DB/WB)
Pharmacy temperature and humidity measurement	75.1/65.8 (DB/WB)
Stock Room temperature and humidity measurement	75.6/69.0 (DB/WB)
Outdoor air temperature and humidity measurement	81.2/71.6 (DB/WB)

Additional Comments:	TAB WAS UNABLE TO BE COMPLETED DUE TO THE FOLLOWING: 1) RTU-2 FUSE SERVING SUPPLY FAN MOTOR HAD BLOWN. MOTOR WAS RUNNING ON 2 OF 3 PHASES. OTHER 2 PHASES WERE DRAWING 7.7 AMPS OUT OF 4.1 FLA. UNIT TURNED OFF TO AVOID DAMAGING MOTOR. 2) RTU-3 NEEDS PULLEY CHANGE. FAN SPEED IS MINIMIZED BUT UNIT IS OPERATING AT 159% OF DESIGN AIR FLOW. 3) EF-4 WOULD NOT OPERATE. UNABLE TO DETERMINE HOW FAN TURNS ON. FAN HAS MOTORIZED BACKDRAFT DAMPER, BUT DAMPER IS NOT HOOKED UP TO POWER.

Notes/Comments :

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11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name :	TECH - 06 FUNCTIONAL TESTS	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Cooling Functional Test	
Overwrite the thermostat or sensor to put the unit into cooling mode.	Pass
Compressors enable.	Pass
If fan has VFD, the fan increases speed.	Pass
Document the discharge air temperature.	RTU-1 54.6 F RTU-2 N/A RTU-3 59.1 F RTU-4 54.7 F
After 10 minutes, Discharge air temperature is below 55 degrees.	Pass
Cooling mode is operational	Pass
Additional Comments:	RTU-2 IS KEPT OFF TO AVOID DAMAGE TO SUPPLY FAN MOTOR. RTU-3 IS OPERATING AT 159% OF DESIGN AIR FLOW.
Heating Functional Test	
Overwrite the thermostat or sensor to put the unit into heating mode.	Pass
Heat exchanger enables.	Pass
If fan has VFD, the fan increases speed.	Pass
Document the discharge air temperature.	RTU-1 91.7 F RTU-2 N/A RTU-3 85.6 F RTU-4 92.4 F
After 10 minutes, Discharge air temperature is above 85 degrees.	Pass
Heating mode is operational	Pass

Additional Comments	RTU-2 IS KEPT OFF TO AVOID DAMAGE TO SUPPLY FAN MOTOR.
Dehumidification Functional Test	
Overwrite the humidistat to put the unit into dehumidification mode.	Pass
Compressors enable.	Pass
Hot Gas Reheat Valve opens	Pass
If fan has VFD, the fan increases speed.	Pass
Document the discharge air temperature.	RTU-1 72.1 F RTU-2 N/A RTU-3 74.2 F RTU-4 71.5 F
Dehumidification Mode is operational. (Pass/Fail/NA)	PASS RTU-2 IS KEPT OFF TO AVOID DAMAGE TO SUPPLY FAN MOTOR.
Additional Comments:	
Economizer Functional Test	
Overwrite the humidistat to put the unit into economizer mode.	Pass
Economizer modulates from minimum position to 100% open. (Pass/Fail/NA)	PASS
Additional Comments:	

Notes/Comments :

Comfort. Under control.

11-07 WALGREENS #3848 - DEER PARK, TX

CheckList Information

Name :	TECH - 07 TEMPERATURE SETPOINTS	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Temperature setpoints must be set using provided charts are based on state and space that each RTU serves. Confirm with controls company that these are set correctly	Pass

Notes/Comments :

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: AHU/RTU

Asset: RTU1 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G2764907
Model Num	ZT210N30R4B5GCB2C1	ZT210N30R4B5GCB2C1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL DISCHARGE
Num OA Filters 1	-	6
OA Filter Size 1	-	16x28x2
Num Final Filter 1	-	4
Final Filter Size 1	-	16x20x2
Num Final Filter 2	-	4
Final Filter Size 2	-	16x25x2

Test Data		
	Design	**Actual**
SF CFM	6125	5825
SF RPM	-	1020
RA CFM	-	5122
OA CFM	688	703
RL Voltage	-	481/480/483
RL Amperage	-	10.2/10.0/10.2
SF Rotation	-	CCW
RA Damper Position	-	77%
Min OA Damper Position	-	23%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	215T
Horsepower	11.50	10
Motor Rpm	-	1770
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	12.5

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.78"
Fan Suction SP	-	-1.05"
Fan Discharge SP	-	0.58"
Total ESP	2.0"	1.36"
Fan Total SP	-	1.63"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP60
Motor Bore Size	-	1 3/8"
Motor Sheave SetPt	-	5.0 TURNS OPEN
Fan Sheave Size	-	BK90
Fan Sheave Bore	-	1 3/16"
Belt CL Distance	-	28"
Num of Belts	-	1
Belt Size	-	B75
Belt Alignment	-	CORRECT

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

Completed By: Wesley John

Notes:

Comfort. Under control.

Diffuser Supply (GRD)

RTU1/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES			170	1.0	353	335	181	106.5
SGRD2	SALES			170	1.0	175	161	190	111.8
SGRD3	SALES			170	1.0	197	189	192	112.9
SGRD4	SALES			170	1.0	325	305	194	114.1
SGRD5	SALES			170	1.0	143	133	159	93.5
SGRD6	SALES			170	1.0	196	183	190	111.8
SGRD7	SALES			734	1.0	763	720	734	100.0
SGRD8	SALES			734	1.0	741	708	724	98.6
SGRD9	SALES			734	1.0	736	694	754	102.7
SGRD10	SALES			734	1.0	506	482	729	99.3
SGRD11	PHOTO			184	1.0	383	360	197	107.1
SGRD12	ELECTRICAL			307	1.0	370	353	324	105.5
SGRD13	HALLWAY			302	1.0	652	623	327	108.3
SGRD14	PHOTO			594	1.0	453	434	558	93.9
SGRD15	OFFICE			345	1.0	252	237	372	107.8

Completed By: Brianna Biggs on

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: AHU/RTU

Asset: RTU2 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2H2891799
Model Num	ZT120N18R4B5GCL2R1	ZT120N18R4B5GCL2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL DISCHARGE
Num OA Filters 1	-	1
OA Filter Size 1	-	22x30x1
Num Final Filter 1	-	4
Final Filter Size 1	-	20x24x2

Test Data		
	Design	**Actual**
SF CFM	3500	-
SF RPM	1018	NA
RA CFM	-	-
OA CFM	650	-
RL Voltage	-	NA
RL Amperage	-	NA
SF Rotation	-	CCW
RA Damper Position	-	NA
Min OA Damper Position	-	NA
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	NA

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	3	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	4.1

Performance Data		
	Design	**Actual**
MA Plenum SP	-	NA
Fan Suction SP	-	NA
Fan Discharge SP	-	NA
Total ESP	0.6"	NA
Fan Total SP	-	NA

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	NA
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	19"
Num of Belts	-	1
Belt Size	-	A54
Belt Alignment	-	CORRECT

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

Completed By: Wesley John

Notes:

Comfort. Under control.

Diffuser Supply (GRD)

RTU2/SALES

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SALES			475	1.0	379	404	402	84.6
SGRD2	SALES			475	1.0	369	400	401	84.4
SGRD3	SALES			475	1.0	355	380	382	80.4
SGRD4	SALES			475	1.0	472	511	508	106.9
SGRD5	SALES			475	1.0	458	487	485	102.1
SGRD6	SALES			475	1.0	495	531	533	112.2
SGRD7	LOUNGE			150	1.0	151	159	160	106.7
SGRD8	RR HALLWAY			200	1.0	192	205	208	104.0
SGRD9	VALUABLES			50	1.0	89	92	53	106.0

Completed By: Brianna Biggs on

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: AHU/RTU

Asset: RTU3 AREA:PHARMACY

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2K2935594
Model Num	ZJ061N08D4B5GCB2R3	ZJ061N08D4B5GCB2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL DISCHARGE
Num OA Filters 1	-	1
OA Filter Size 1	-	22x30x1
Num Final Filter 1	-	4
Final Filter Size 1	-	16x24x2

Test Data		
	Design	**Actual**
SF CFM	1750	2548
SF RPM	1051	1120
RA CFM	1650	2439
OA CFM	100	109
RL Voltage	-	482/480/484
RL Amperage	-	3.6/3.5/3.5
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56HZ
Horsepower	2	2
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	3.4

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.61"
Fan Suction SP	-	-0.90"
Fan Discharge SP	-	0.57"
Total ESP	1.3"	1.18"
Fan Total SP	-	1.47"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP56
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5.0 TURNS OPEN
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	17"
Num of Belts	-	1
Belt Size	-	A51
Belt Alignment	-	CORRECT

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

Completed By: Wesley John

Notes: PULLEY MINIMIZED.

Comfort. Under control.

Diffuser Supply (GRD)

RTU3/PHARMACY

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	WAITING			152	1.0	432	-	234	153.9
SGRD2	PHARMACY			239	1.0	404	-	391	163.6
SGRD3	PHARMACY			239	1.0	427	-	371	155.2
SGRD4	PHARMACY			239	1.0	629	-	378	158.2
SGRD5	PHARMACY			239	1.0	285	-	380	159.0
SGRD6	TECH			517	1.0	404	-	794	153.6

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National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: AHU/RTU

Asset: RTU4 AREA:STOCKROOM

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2F2554983
Model Num	ZJ037N08D4B5BCB2R3	ZJ037N08D4B5BCB2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL DISCHARGE
Num OA Filters 1	-	1
OA Filter Size 1	-	22x30x1
Num Final Filter 1	-	4
Final Filter Size 1	-	16x24x2

Test Data		
	Design	**Actual**
SF CFM	1050	1038
SF RPM	960	804
RA CFM	950	932
OA CFM	100	106
RL Voltage	-	481/484/482
RL Amperage	-	2.2/2.0/2.2
SF Rotation	-	CCW
RA Damper Position	-	86%
Min OA Damper Position	-	14%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Motor Data		
	Design	**Actual**
Motor MFG	-	CENTURY
Frame	-	56H
Horsepower	1.50	1.5
Motor Rpm	-	1725
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	2.5

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.34"
Fan Suction SP	-	-0.55"
Fan Discharge SP	-	0.42"
Total ESP	1.2"	0.76"
Fan Total SP	-	0.97"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	5.0 TURNS OPEN
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1"
Belt CL Distance	-	16 1/2"
Num of Belts	-	1
Belt Size	-	A47
Belt Alignment	-	CORRECT

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

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Notes:

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: FAN - Exhaust

Asset: EF1 AREA:LOUNGE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-150	SP-150
Serial Num	-	NA
Type	CEILING	CENTRIFUGAL
Configuration	VERTICAL	CEILING

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	120W	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	300	286
Fan RPM	1000	DIRECT DRIVE
Fan Rotation	-	CW
Motor RPM	-	DIRECT DRIVE
System SetPt	-	SINGLE SPEED
RL Voltage	-	121
RL Amperage	-	0.42
Total ESP	0.375"	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	NA

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Notes:

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: FAN - Exhaust

Asset: EF2 AREA:MENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-150	SP-150
Serial Num	-	NA
Type	CEILING	CENTRIFUGAL
Configuration	VERTICAL	CEILING

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	120W	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	NL
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	240	258
Fan RPM	1000	DIRECT DRIVE
Fan Rotation	-	CW
Motor RPM	-	DIRECT DRIVE
System SetPt	-	SINGLE SPEED
RL Voltage	-	121
RL Amperage	-	0.42
Total ESP	0.375"	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	NA

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Notes:

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: FAN - Exhaust

Asset: EF3 AREA:WOMENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-150	SP-150
Serial Num	-	NA
Type	CEILING	CENTRIFUGAL
Configuration	VERTICAL	CEILING

Motor Data		
	Design	**Actual**
Motor MFG	-	NA
Frame	-	NA
Horsepower	120W	NA
Motor Rpm	-	NA
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	NA
Service Factor	-	NA

Test Data		
	Design	**Actual**
CFM	240	251
Fan RPM	1000	DIRECT DRIVE
Fan Rotation	-	CW
Motor RPM	-	DIRECT DRIVE
System SetPt	-	SINGLE SPEED
RL Voltage	-	121
RL Amperage	-	0.43
Total ESP	0.375'	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	NA

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Notes:

National TAB

Project: 11-07 WALGREENS #3848 - DEER PARK, TX

System/Unit: FAN - Exhaust

Asset: EF4 AREA:OFFICE/PHOTO

Unit Data		
	Design	**Actual**
MFG	GREENHECK	PENN BARRY
Model Num	SP-150	L253864
Serial Num	-	B21AX83124
Type	CEILING	CENTRIFUGAL
Configuration	VERTICAL	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	NL
Horsepower	120W	0.2
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	NL

Test Data		
	Design	**Actual**
CFM	300	-
Fan RPM	1000	NA
Fan Rotation	-	CCW
Motor RPM	-	NA
System SetPt	-	NA
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375"	NA
Fan Inlet SP	-	NA
Fan Discharge SP	-	ATM

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Notes:

Diffuser Ret/Exh (GRD)

EF4/OFFICE/PHOTO

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	OFFICE				1.0				
EGRD2	PHOTO				1.0				

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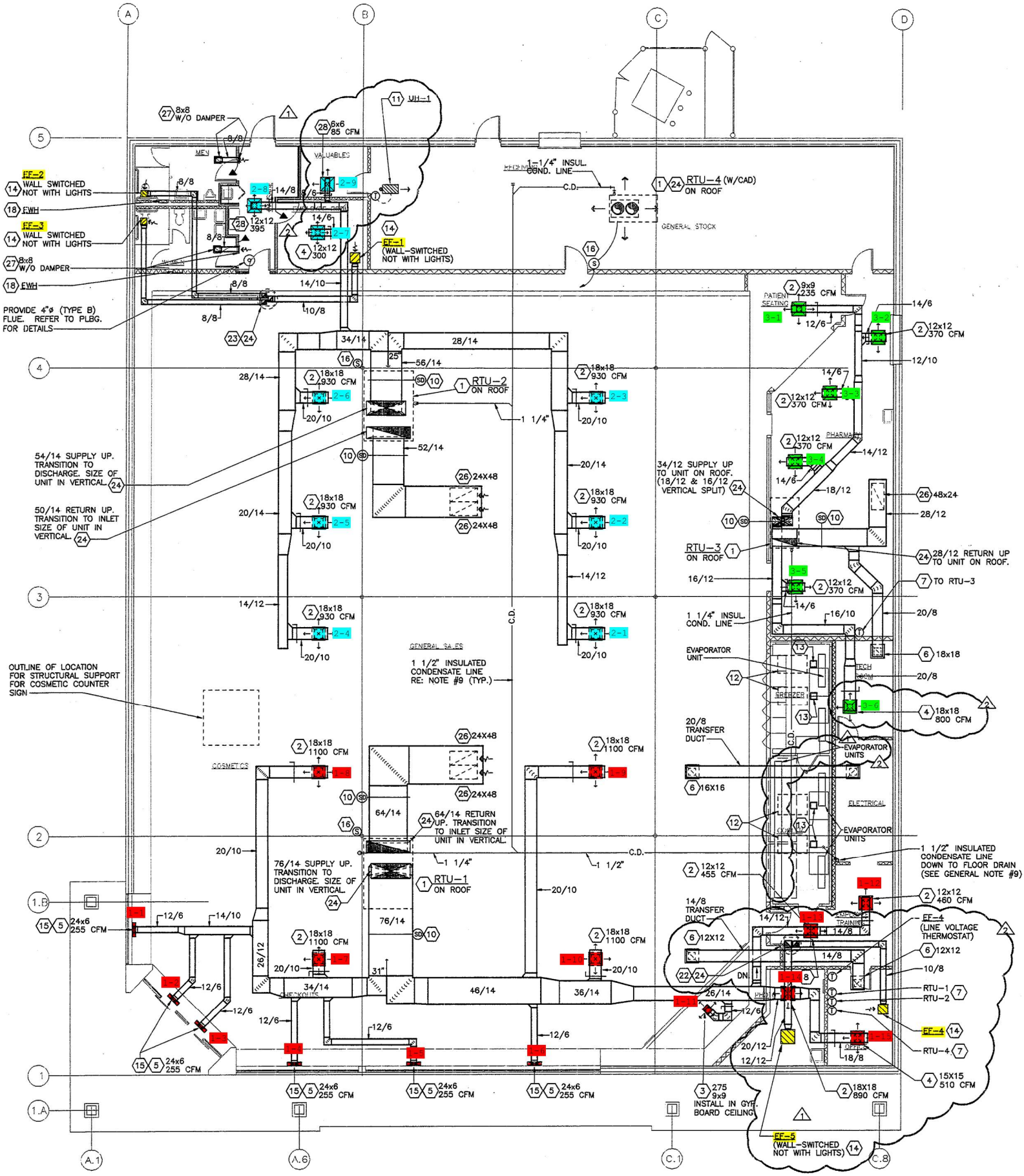

1 **FLOOR PLAN - MECHANICAL**
SCALE: 1/8" = 1'-0"