Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: WALGREEN 3802 RV1 TAB RPT
Function: Test, Adjust, & Balance
Date: 01/27/2023

PROJECT

WALGREENS #3802 - RICHARDSON, TX

2140 E CAMPBELL RD

RICHARDSON, TX 75081

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

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NATIONAL TAB

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY DESIGN	HVAC SUPPLY ACTUAL	HVAC RETURN DESIGN	HVAC RETURN ACTUAL	HVAC OUTDOOR DESIGN	HVAC OUTDOOR ACTUAL	OA % DESIGN	OA % ACTUAL	HOOD MAKE-UP DESIGN	HOOD MAKE-UP ACTUAL	HOOD EXHAUST DESIGN	HOOD EXHAUST ACTUAL	GENERAL EXH. DESIGN	GENERAL EXH. ACTUAL
EH-1	Entrance	1500	1560												
RTU-1	SALES	6125	6270	5437	5632	688	638	11.2%	10.2%						
RTU-2	SALES	4375	3071	3562	2520	813	551	18.6%	17.9%						
RTU-3	PHARMACY	1750	1709	1650	1602	100	107	5.7%	6.3%						
RTU-4	STOCK ROOM	1050	1113	950	1007	100	106	9.5%	9.5%						
EF-1	LOUNGE													300	291
EF-2	MENS RR													240	266
EF-3	WOMENS RR													240	321
EF-4	OFFICE													300	239
EF-5	PHOTO													750	0
TOTALS		13300	12163	11599	10761	1701	1402			0	0	0	0	1830	1117

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1701	1402
TOTAL EXHAUST	1830	1117
NET AIRFLOW	-129	285

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.005
SIDE	
REAR	0.003
AVERAGE	**0.004**

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:

RETURN TRIP EXECUTIVE SUMMARY:

Closed issues after return trip:
It was determined that EF-5 which originally served the Photo Area & is being Capped off & is not to be utilized.

RTU-3 (Sales)
There was a supply outlet (3-8) with a grill face that was missing & has been installed & issue is now resolved. We rebalanced the unit with the new grill installed & final readings are noted in the asset report for that specific unit.

Remaining Open issues after return trip:
The existing fan EF-4 backdraft damper remains failed Open & does not function. It does have an impact on current airflow measured. The only downside is if the fan gets turned off periodically, the backdraft damper remains open. If desired to increase airflow, removing motorized damper may improve overall airflow since currently the damper/motor assembly affects actual free area.

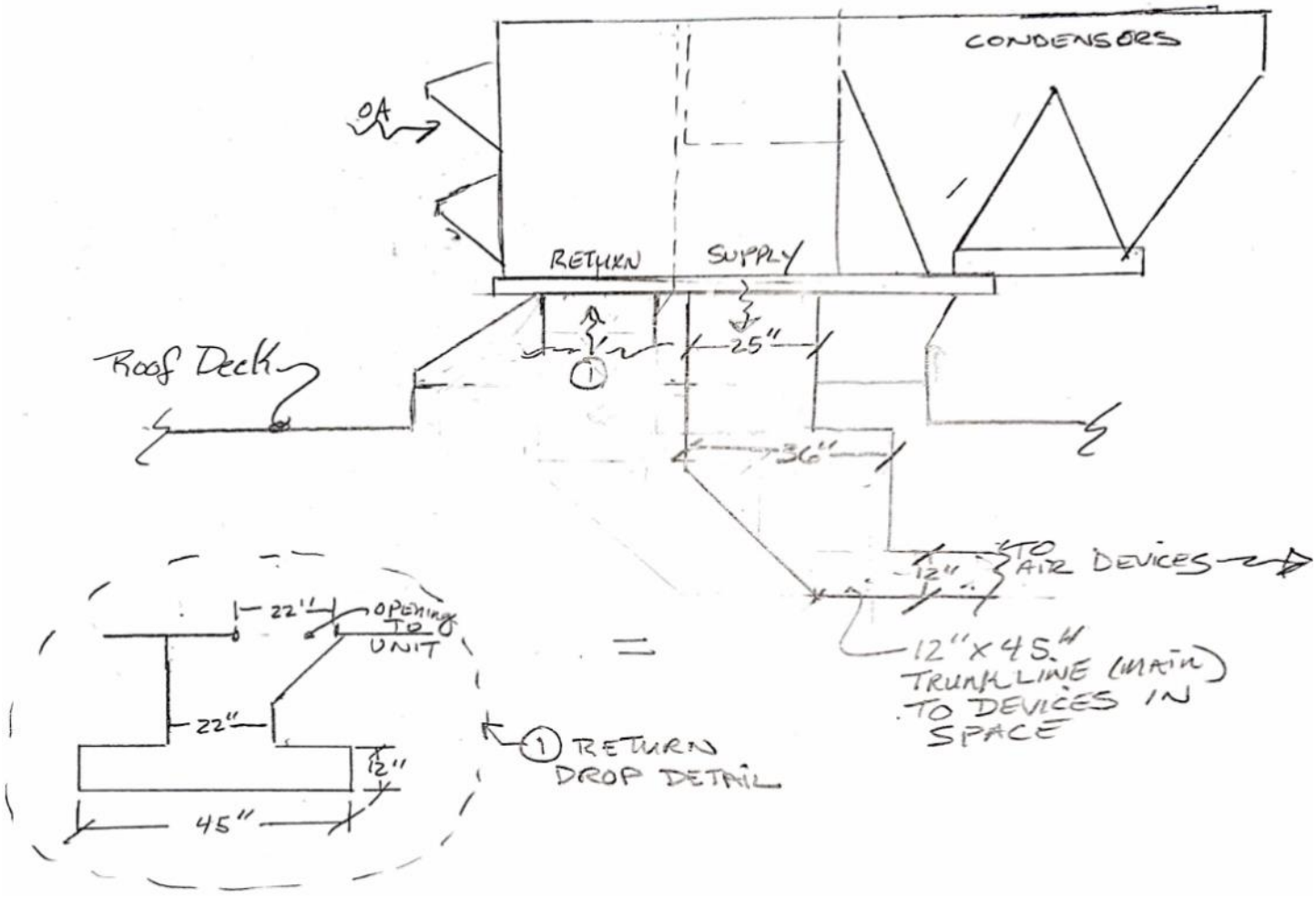
RTU-2 (Sales Area)
Further investigation took place for RTU-2 (Sales Floor) to determine cause of low flow conditions. Duct pressures were taken on the supply & return duct downstream. As indicated in previous report the overall static pressure is higher than typical measure at the unit itself. Additional static pressure points were taken in the ductwork. The pressure dropped dramatically at the main truckline going to the grills & before the duct transitions going up to the RTU unit on the roof. Below is a schematic(s) of the supply duct from the RTU unit through the new curb adapter down to the main trunkline of the supply distribution system. The multiple transitions & duct sizes in a very short distance will cause system affect which will adversely affect overall total airflow for the system. Also duct pressure will increase expediential trying to overcome the airflow losses caused by system affect. The unit is not capable of overcoming the losses before the motor is at maximum Brake Horsepower (BHP). If desired to increase airflow for the system, it would require rework of the supply duct system to have better transition from unit to main trunkline & any turning vanes installed for any short non radius transitions if possible. This may be deemed difficult due to space limitations & the drastic angular setup of the curb transition to the original curb arrangement. The return also has

Finally, during the return visit, the temperatures were taken again and are as follows:
Outside: 39.2/52.4
Sales floor: 53.3/72.8
Pharmacy: 52.9/72.6
Stockroom: 49.5/68.1

It was also verified that RTU-3 is confirmed on 0% OA.

Several additional issues still need to be resolved which includes the ideal condensate drains & filters. See separate issue enclosed for more details for these specific items.

RTU-2 EXISTING CURB TO NEW CURB TRANSITION TO NEW RTU UNIT.



Pressure drop is high in heat exchanger area for supply & then drop dramatically in the 12 x 45 supply main trunkline. Also return has high mixed air pressure drop, but very low pressure drop at main return duct. This is an indication of reduced flow due to high pressure loss & system affect due to transitions in both supply & return duct system.

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WALGREENS #3802 - RICHARDSON, TX

CheckList Information

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

CheckList Item Details

STORE FRONT

Strorefront.jpg

EH-1

EH_1.jpg

RTU-1

RTU_1.jpg

RTU-2

RTU_2.jpg

RTU-3

RTU_3.jpg

RTU-4

RTU_4.jpg

EF-1

EF_1.jpeg

EF-2

EF_3.jpeg

EF-3

EF_3.jpeg

EF-4&5

EF_5_AND_4.jpg

Notes/Comments :

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WALGREENS #3802 - RICHARDSON, 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	
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.	Fail
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)	PASS
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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WALGREENS #3802 - RICHARDSON, 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	DIRECT DRIVE
Speed controller installed and functional (direct drive)	YES
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	Pass
Additional Comments:	EF-5 has been abandoned by design EF-4 has a back draft damper that has failed or is not powered so it stuck in the open position.

Notes/Comments :

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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:	
ZR Units - Reheat Units only:	
Details-HGR-Setup-HGR-En = Yes	Pass
Details-HGR-Setup-HGRAlt-En = Yes	Pass

Details - HGR-Setup-HGRUnocc-En = Yes	Pass
Details-HGR-Setup-Mode = No	Pass
Additional Comments:	

Notes/Comments :

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WALGREENS #3802 - RICHARDSON, 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.	
(If Applicable) 2 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.	
(If Applicable) 4 Stage Thermostat to 4 Stage Unit meets detail in start-up binder.	
(If Applicable) 3 Stage Thermostat wiring meets detail in start-up binder.	
(If Applicable) 3 Stage Thermostat with Humidity sensor wiring meets detail in start-up binder.	

(If Applicable) EH Thermostat with SCR control wiring meets detail in start-up binder.	
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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WALGREENS #3802 - RICHARDSON, 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	WB 54.4 DB 70.7
Pharmacy temperature and humidity measurement	WB 54.9 DB 72.5
Stock Room temperature and humidity measurement	WB 54.6 DB 74.0
Outdoor air temperature and humidity measurement	WB 41.3 DB 54.5

Additional Comments:

Notes/Comments :

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WALGREENS #3802 - RICHARDSON, 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 54.8 F RTU-2 54.3 F RTU-3 54.6 F RTU-4 54.8 F
After 10 minutes, Discharge air temperature is below 55 degrees.	Pass
Cooling mode is operational	Pass
Additional Comments:	
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 90.8 F RTU-2 92.3 F RTU-3 93.9 F RTU-4 93.1 F
After 10 minutes, Discharge air temperature is above 85 degrees.	Pass
Heating mode is operational	Pass
Additional Comments	

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 74.1 F RTU-2 73.2 F RTU-3 71.5 F RTU-4 72.4 F
Dehumidification Mode is operational. (Pass/Fail/NA)	Pass
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 :

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WALGREENS #3802 - RICHARDSON, 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 :

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WALGREENS #3802 - RICHARDSON, TX

CheckList Information

Name :	TECH - 08 ENTRANCE HEATERS	**Status :**	Submitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

Sensor is located within 15' of entrance area	Pass
Confirm proper operation of entrance heater and associated controls	Pass
Balance supply air quantity to manufacturer recommended supply airflow.	Pass
Confirm listed temperature rise and discharge air temperature based on approved BOM/submittal	Pass

Notes/Comments :

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

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Asset: EH1 AREA:

Unit Data		
	Design	**Actual**
MFG	NA	MESTEK
Serial Num	-	G2201871037001001
Model Num	NA	PV15
Type	-	ENTRANCE HEATER
Configuration	-	VERTICAL
Num Final Filter 1	-	4
Final Filter Size 1	-	16X20X1

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56
Horsepower	-	0.75
Motor Rpm	-	1725
Phase	-	1
Rated Voltage	-	115
Rated Amperage	-	11.4

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VM50
Motor Bore Size	-	5/8"
Motor Sheave SetPt	-	4.0 TURNS OPEN
Fan Sheave Size	-	BK70
Fan Sheave Bore	-	1"
Belt CL Distance	-	11 1/2"
Num of Belts	-	1
Belt Size	-	A37
Belt Alignment	-	CORRECT

Test Data		
	Design	**Actual**
SF CFM	1500	1560
SF RPM	-	1026
RA CFM	1500	1026
OA CFM	0	0
RL Voltage	-	122
RL Amperage	-	6.2
SF Rotation	-	CCW

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-0.40"
Fan Discharge SP	-	0.52"
Total ESP	-	0.89"
Fan Total SP	-	0.92"

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

Completed By: Chance Russel

Notes:

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Project:WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

EH1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	ENTRY	NA	NA	750	1.0	729	-	762	101.6
SGRD2	ENTRY	NA	NA	750	1.0	846	-	798	106.4

Completed By: Chance Russel on

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU1 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G2749182
Model Num	ZT210N30R4B5GCA2C1	ZT210N30R4B5GCA2C1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	6
OA Filter Size 1	-	16X26X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

Test Data		
	Design	**Actual**
SF CFM	6125	6270
SF RPM	997	912
RA CFM	5437	5632
OA CFM	688	638
RL Voltage	-	485/490/488
RL Amperage	-	9.2/9.5/9.6
SF Rotation	-	CCW
RA Damper Position	-	84%
Min OA Damper Position	-	16%
Min OA Damper Type	-	PARALLEL
OA Enthalpy Setpt	-	24 BTU/LB

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

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.54"
Fan Suction SP	-	-0.73"
Fan Discharge SP	-	0.65"
Total ESP	2.0"	1.19"
Fan Total SP	-	1.38"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP60
Motor Bore Size	-	1 3/8
Motor Sheave SetPt	-	6.0 TURNS OPEN
Fan Sheave Size	-	BK90
Fan Sheave Bore	-	1 3/16
Belt CL Distance	-	28
Num of Belts	-	1
Belt Size	-	BX75
Belt Alignment	-	CORRECT

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

Completed By: Chance Russel

Notes:

National TAB

Project:WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

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	NA	NA	154	1.0	224	210	181	117.5
SGRD2	SALES	NA	NA	912	1.0	932	889	941	103.2
SGRD3	SALES	NA	NA	912	1.0	943	889	937	102.7
SGRD4	SALES	NA	NA	909	1.0	1045	996	1016	111.8
SGRD5	SALES	NA	NA	912	1.0	755	714	714	78.3
SGRD6	SALES	NA	NA	154	1.0	230	218	187	121.4
SGRD7	SALES	NA	NA	154	1.0	268	251	189	122.7
SGRD8	SALES	NA	NA	154	1.0	255	240	168	109.1
SGRD9	PHOTO	NA	NA	192	1.0	234	226	199	103.6
SGRD10	PHOTO	NA	NA	639	1.0	655	617	672	105.2
SGRD11	OFFICE	NA	NA	393	1.0	448	421	403	102.5
SGRD12	PASSAGE #2	NA	NA	293	1.0	309	297	302	103.1
SGRD13	PASSAGE #2	NA	NA	293	1.0	319	301	304	103.8
SGRD14	VALUABLE ROOM	NA	NA	54	1.0	110	107	57	105.6

Completed By: Brianna Biggs on

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

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Asset: RTU2 AREA:SALES

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2F2486782
Model Num	ZT150N24R4B5GCE2R1	ZT150N24R4B5GCE2R1
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22/30X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

Test Data		
	Design	**Actual**
SF CFM	4375	3071
SF RPM	1347	1222
RA CFM	3562	2520
OA CFM	813	551
RL Voltage	-	489/489/484
RL Amperage	-	6.3/6.5/6.3
SF Rotation	-	CCW
RA Damper Position	-	82%
Min OA Damper Position	-	18%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	184T
Horsepower	5	5
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	460	460
Rated Amperage	-	6.5

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-1.02"
Fan Suction SP	-	-1.36"
Fan Discharge SP	-	1.14"
Total ESP	1.2"	2.16"
Fan Total SP	-	2.50"

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP56
Motor Bore Size	-	1 1/8
Motor Sheave SetPt	-	2.0 TURNS OPEN
Fan Sheave Size	-	BK77
Fan Sheave Bore	-	1
Belt CL Distance	-	19 1/2
Num of Belts	-	1
Belt Size	-	BX56
Belt Alignment	-	CORRECT

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

Completed By: Chance Russel

Notes: Airflow appears to be low due to restrictive curb adapter. The static pressures on the return and supply side of the unit are elevated. Motor is at the FLA rating

National TAB

Project:WALGREENS #3802 - RICHARDSON, TX

AHU/RTU

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Diffuser Supply (GRD)

RTU2/SALES

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	NA	NA	NA	1094	1.0	737	746	746	68.2
SGRD2	NA	NA	NA	1093	1.0	773	781	781	71.5
SGRD3	NA	NA	NA	1094	1.0	765	761	761	69.6
SGRD4	NA	NA	NA	1094	1.0	744	752	752	68.7
SGRD5	NA	NA	NA	30	1.0	191	138	31	103.3

Completed By: Wale Odofin on

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU3 AREA:PATIENT HEALTH

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2K2984311
Model Num	ZJ061N16D4B5GCA2R3	ZJ061N16D4B5GCA2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

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

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP40
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	3.5 TURNS OPEN
Fan Sheave Size	-	AK74
Fan Sheave Bore	-	1
Belt CL Distance	-	17 3/4
Num of Belts	-	1
Belt Size	-	A50
Belt Alignment	-	CORRECT

Test Data		
	Design	**Actual**
SF CFM	1750	1709
SF RPM	1051	723
RA CFM	1750	1709
OA CFM	0	0
RL Voltage	-	489/489/485
RL Amperage	-	3.3/3.3/3.3
SF Rotation	-	CCW
RA Damper Position	-	92%
Min OA Damper Position	-	8%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.43"
Fan Suction SP	-	-0.57"
Fan Discharge SP	-	0.39"
Total ESP	1.3"	0.82"
Fan Total SP	-	0.96"

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

Completed By: Chance Russel

Notes:

Diffuser Supply (GRD)

RTU3/PATIENT HEALTH

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	TECH ROOM	NA	NA	414	1.0	328	234	389	94.0
SGRD2	PHARMACY	NA	NA	110	1.0	196	133	120	109.1
SGRD3	PHARMACY	NA	NA	232	1.0	234	168	209	90.1
SGRD4	PHARMACY	NA	NA	232	1.0	423	297	255	109.9
SGRD5	PHARMACY	NA	NA	232	1.0	73	55	211	90.9
SGRD6	PHARMACY	NA	NA	232	1.0	345	247	240	103.4
SGRD7	EMPLOYEE ROOM	NA	NA	110	1.0	138	93	113	102.7
SGRD8	PASSAGE #1	NA	NA	188	1.0	680	473	172	91.5

Completed By: Brianna Biggs on

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU4 AREA:STOCKROOM

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G2686939
Model Num	ZJ037N12D4B5BCA2R3	ZJ037N12D4B5BCA2R3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30X1
Num Final Filter 1	-	MESH
Final Filter Size 1	-	MESH

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

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	7/8
Motor Sheave SetPt	-	5 TURNS OPEN
Fan Sheave Size	-	AK69
Fan Sheave Bore	-	1
Belt CL Distance	-	16 3/4
Num of Belts	-	1
Belt Size	-	A47
Belt Alignment	-	CORRECT

Test Data		
	Design	**Actual**
SF CFM	1050	1113
SF RPM	960	788
RA CFM	950	1007
OA CFM	100	106
RL Voltage	-	488/483/484
RL Amperage	-	2.3/2.3/2.1
SF Rotation	-	CCW
RA Damper Position	-	90%
Min OA Damper Position	-	10%
Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.46"
Fan Suction SP	-	-0.58"
Fan Discharge SP	-	0.33"
Total ESP	1.2"	0.79"
Fan Total SP	-	0.91"

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

Completed By: Chance Russel

Notes:

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF1 AREA:LOUNGE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-127	SP-127
Serial Num	-	NR
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	BROAN
Frame	-	NL
Horsepower	190W	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	2.6
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	300	291
Fan RPM	1580	1580
Fan Rotation	-	CCW
Motor RPM	-	1580
System SetPt	-	DD
RL Voltage	-	119
RL Amperage	-	2.1
Total ESP	0.125"	NA

Completed By: Chance Russel

Notes:

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF2 AREA:MENS RR

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-150	SP-150
Serial Num	-	20920292
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	120W	1/19
Motor Rpm	-	1100
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	240	266
Fan RPM	1000	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	DD
RL Voltage	-	114
RL Amperage	-	1.6
Total ESP	0.375"	NA

Completed By: Chance Russel

Notes:

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF3 AREA:WOMENS RR

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

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	120W	1/19
Motor Rpm	-	1100
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	240	321
Fan RPM	1000	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	DD
RL Voltage	-	116
RL Amperage	-	1.8
Total ESP	0.375"	NA

Completed By: Chance Russel

Notes: SINGLE SPEED FAN.

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF4 AREA:OFFICE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-85-G	G-85-G
Serial Num	-	NL
Type	DOWNBLAST	DOWNBLAST
Configuration	HORIZONTAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	NL
Horsepower	1/30	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	300	239
Fan RPM	1300	1725
Fan Rotation	-	CCW
Motor RPM	-	1725
System SetPt	-	DD
RL Voltage	-	63
RL Amperage	-	2.6
Total ESP	0.125"	0.100
Fan Inlet SP	-	0.023
Fan Discharge SP	-	ATM

Completed By: Chance Russel

Notes: SINGLE SPEED FAN.

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EF5 AREA:PHOTO

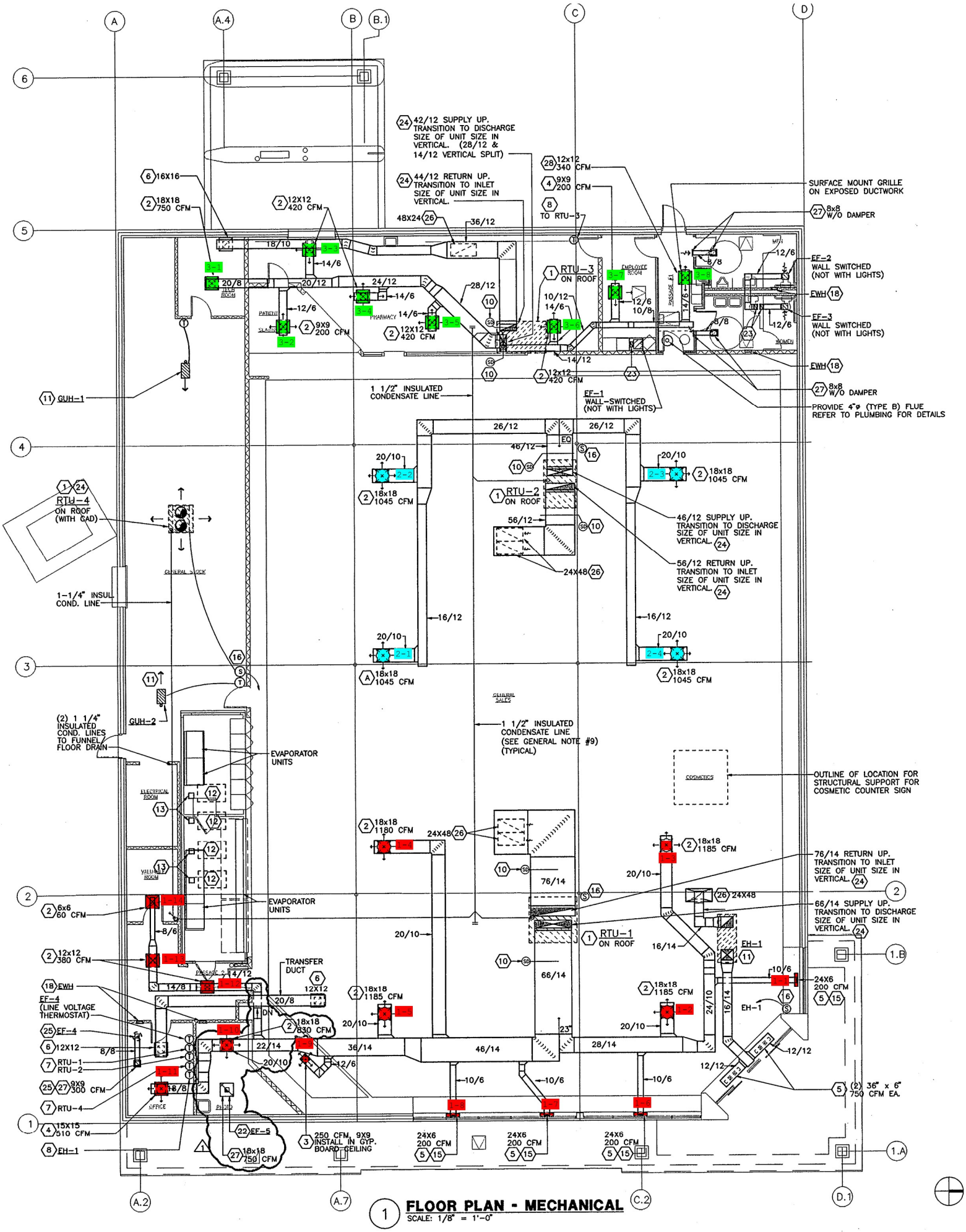
Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-100-G	G-100-G
Serial Num	-	NL
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Test Data		
	Design	**Actual**
CFM	750	0
Fan RPM	1140	0
Fan Rotation	-	NA
System SetPt	-	DD
Total ESP	0.250"	0

Motor Data		
	Design	**Actual**
Motor MFG	-	A. O. SMITH
Frame	-	48Y
Horsepower	1/6	1/4
Motor Rpm	-	1075
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.2
Service Factor	-	1.2

Completed By: Chance Russel

Notes:



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

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Asset: EF1 AREA:LOUNGE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	SP-127	SP-127
Serial Num	-	NR
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	BROAN
Frame	-	NL
Horsepower	190W	NL
Motor Rpm	-	NL
Phase	1	1
Voltage (rated)	120	120
Amperage (rated)	-	2.6
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	300	291
Fan RPM	1580	1580
Fan Rotation	-	CCW
Motor RPM	-	1580
System SetPt	-	DD
RL Voltage	-	119
RL Amperage	-	2.1
Total ESP	0.125"	NA

Completed By: Chance Russel

Notes:

National TAB

Project: WALGREENS #3802 - RICHARDSON, 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	-	20920292
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	120W	1/19
Motor Rpm	-	1100
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	240	266
Fan RPM	1000	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	DD
RL Voltage	-	114
RL Amperage	-	1.6
Total ESP	0.375"	NA

Completed By: Chance Russel

Notes:

National TAB

Project: WALGREENS #3802 - RICHARDSON, 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	-	NR
Type	CEILING	CEILING
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	MCMILLAN
Frame	-	NL
Horsepower	120W	1/19
Motor Rpm	-	1100
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	240	321
Fan RPM	1000	1100
Fan Rotation	-	CCW
Motor RPM	-	1100
System SetPt	-	DD
RL Voltage	-	116
RL Amperage	-	1.8
Total ESP	0.375"	NA

Completed By: Chance Russel

Notes:SINGLE SPEED FAN.

National TAB

Project: WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust

Asset: EF4 AREA:OFFICE

Unit Data		
	Design	**Actual**
MFG	GREENHECK	GREENHECK
Model Num	G-85-G	G-85-G
Serial Num	-	NL
Type	DOWNBLAST	DOWNBLAST
Configuration	HORIZONTAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	NL
Horsepower	1/30	1/5
Motor Rpm	-	1725
Phase	1	1
Voltage (rated)	120	115
Amperage (rated)	-	3.0
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	300	239
Fan RPM	1300	1725
Fan Rotation	-	CCW
Motor RPM	-	1725
System SetPt	-	DD
RL Voltage	-	63
RL Amperage	-	2.6
Total ESP	0.125"	0.100
Fan Inlet SP	-	0.023
Fan Discharge SP	-	ATM

Completed By: Chance Russel

Notes:SINGLE SPEED FAN.