

Report By:

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**NATIONAL**  **TAB**

Comfort. Under control.

**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 12/02/2022**

# PROJECT

**11-28 WALGREENS #3802 - RICHARDSON,  
TX**

2140 E CAMPBELL RD

RICHARDSON, TX 75081

Client

Walgreens

200 WILMOT RD

DEERFIELD, IL 60015

# National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

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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.

### 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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## 11-28 WALGREENS #3802 - RICHARDSON, TX

### Project Issue Information

**Issue Name :** EF-4 BACKDRAFT OPEN

**Description :** The backdraft damper is no functioning and has failed open.

**Created By :** National TAB

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

**Status :** Open

**Originated Date :** 12/01/2022 - Chance Russel - National TAB

#### Project Issue File Details



tmp\_0add065d\_f492\_4cd...



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## 11-28 WALGREENS #3802 - RICHARDSON, TX

### Project Issue Information

**Issue Name :** EF-5 NOT RUNNING

**Description :** EF-5 is not wired to any power and is not running.

**Created By :** National TAB

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

**Status :** Open

**Originated Date :** 12/01/2022 - Chance Russel - National TAB

#### Project Issue File Details



tmp\_6ca3d469\_f13e\_405...

#### Project Issue Response Details

- **12/02/2022 National TAB - Will Turnbough**
  - Serves photo area. Will be capped.



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### 11-28 WALGREENS #3802 - RICHARDSON, TX

#### Project Issue Information

**Issue Name :** GRILLE 3-8 MISSING FACE

**Description :** GRILLE 3-8 MISSING GRILLE FACE. GRILLE CANNOT BE DAMPERED AND IT IS MEASURED AT 250% OF DESIGN AIR FLOW.

**Created By :** National TAB

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

**Status :** Open

**Originated Date :** 11/30/2022 - Chance Russel - National TAB

#### Project Issue File Details



Image\_2022\_11\_30T1209...

#### Project Issue Response Details

- **12/02/2022 National TAB - Will Turnbough**
  - Recommend installing grille face with damper so that airflow can be reduced.







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## 11-28 WALGREENS #3802 - RICHARDSON, TX

### Project Issue Information

**Issue Name :** RTU-2 LOW ON AIR FLOW

**Description :** RTU-2 WAS MEASURED AT 70% OF DESIGN AIR FLOW. STATIC PRESSURE WAS ELEVATED. SUSPECTED RESTRICTION AT CURB ADAPTER.

**Created By :** National TAB

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

**Status :** Open

**Originated Date :** 11/30/2022 - Chance Russel - National TAB

#### Project Issue File Details



Image\_2022\_11\_30T1209...

#### Project Issue Response Details

- **12/02/2022**    **National TAB - Will Turnbough**
  - Unable to change pulleys as the motor is near the FLA rating. The static pressures at the return and supply side of the RTU are elevated (>1" of pressure).



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## 11-28 WALGREENS #3802 - RICHARDSON, TX

### Project Issue Information

**Issue Name :** WRONG FILTERS USED ON RTU 1, 2, 4

**Description :** The filters on RTUs 1, 2, and 4 are the wrong size.

**Created By :** National TAB

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

**Status :** Open

**Originated Date :** 12/01/2022 - Chance Russel - National TAB

#### Project Issue File Details



tmp\_215ab308\_9b6b\_471...

### 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
EH-1	ENTRANCE	1500	1560	1500	1560	0	0	0.0%	0.0%						
RTU-1	SALES	6125	6270	5437	5632	688	638	11.2%	10.2%						
RTU-2	SALES	4375	3040	3562	2489	813	551	18.6%	18.1%						
RTU-3	PHARMACY	1750	1843	1650	1736	100	107	5.7%	5.8%						
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
<b>TOTALS</b>		13300	12266	11599	10864	1701	1402			0	0	0	0	1830	1117

#### NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1701	1402
TOTAL EXHAUST	1830	1117
<b>NET AIRFLOW</b>	<b>-129</b>	<b>285</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	0.005
SIDE	
REAR	0.003
<b>AVERAGE</b>	<b>0.004</b>

#### 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:



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## 11-28 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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### 11-28 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 condensate 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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### 11-28 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 is not wired up as shown in issues. 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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## 11-28 WALGREENS #3802 - RICHARDSON, 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-EconOAEth-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:	
<b>Non ZR Units only:</b>	
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:	
<b>ZR Units - Reheat Units only:</b>	
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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### 11-28 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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### 11-28 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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### 11-28 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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### 11-28 WALGREENS #3802 - RICHARDSON, TX

#### CheckList Information

<b>Name :</b>	TECH - 07 TEMPERATURE SETPOINTS	<b>Status :</b>	Submitted
<b>Assigned Organization :</b>	National TAB	<b>Asset :</b>	
<b>Requesting Organization :</b>	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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### 11-28 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 :**

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Project: 11-28 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: 11-28 WALGREENS #3802 - RICHARDSON, TX

## AHU/RTU



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### 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

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Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

## System/Unit: AHU/RTU



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Asset: RTU1

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	6125	6270
Serial Num	-	N2G2749182	SF RPM	997	912
Model Num	ZT210N30R4B5GCA2C1	ZT210N30R4B5GCA2C1	RA CFM	5437	5632
Type	RTU	RTU	OA CFM	688	638
Configuration	VERTICAL	VERTICAL	RL Voltage	-	485/490/488
Num OA Filters 1	-	6	RL Amperage	-	9.2/9.5/9.6
OA Filter Size 1	-	16X26X1	SF Rotation	-	CCW
Num Final Filter 1	-	MESH	RA Damper Position	-	84%
Final Filter Size 1	-	MESH	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

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Notes:

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Project:11-28 WALGREENS #3802 - RICHARDSON, TX

## AHU/RTU



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### 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

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Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

## System/Unit: AHU/RTU



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Asset: RTU2

AREA:SALES

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	4375	3040
Serial Num	-	N2F2486782	SF RPM	1347	1222
Model Num	ZT150N24R4B5GCE2R1	ZT150N24R4B5GCE2R1	RA CFM	3562	2489
Type	RTU	RTU	OA CFM	813	551
Configuration	VERTICAL	VERTICAL	RL Voltage	-	489/489/484
Num OA Filters 1	-	1	RL Amperage	-	6.3/6.5/6.3
OA Filter Size 1	-	22/30X1	SF Rotation	-	CCW
Num Final Filter 1	-	MESH	RA Damper Position	-	82%
Final Filter Size 1	-	MESH	Min OA Damper Position	-	18%

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

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

Min OA Damper Type	-	PARALLEL BLADE
OA Enthalpy Setpt	-	24 BTU/LB

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"

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: 11-28 WALGREENS #3802 - RICHARDSON, TX

## AHU/RTU



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	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

Completed By: Brianna Biggs on

# National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

## System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU3

AREA: PATIENT HEALTH

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1750	1843
Serial Num	-	N2K2984311	SF RPM	1051	723
Model Num	ZJ061N16D4B5GCA2R3	ZJ061N16D4B5GCA2R3	RA CFM	1650	1736
Type	RTU	RTU	OA CFM	100	107
Configuration	VERTICAL	VERTICAL	RL Voltage	-	489/489/485
Num OA Filters 1	-	1	RL Amperage	-	3.3/3.3/3.3
OA Filter Size 1	-	22X30X1	SF Rotation	-	CCW
Num Final Filter 1	-	MESH	RA Damper Position	-	92%
Final Filter Size 1	-	MESH	Min OA Damper Position	-	8%

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

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:

# National TAB

Project:11-28 WALGREENS #3802 - RICHARDSON, TX

## AHU/RTU



Comfort. Under control.

### 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	312	75.4
SGRD2	PHARMACY	NA	NA	110	1.0	196	133	94	85.5
SGRD3	PHARMACY	NA	NA	232	1.0	234	168	199	85.8
SGRD4	PHARMACY	NA	NA	232	1.0	423	297	211	90.9
SGRD5	PHARMACY	NA	NA	232	1.0	73	55	204	87.9
SGRD6	PHARMACY	NA	NA	232	1.0	345	247	206	88.8
SGRD7	EMPLOYEE ROOM	NA	NA	110	1.0	138	93	77	70.0
SGRD8	PASSAGE #1	NA	NA	188	1.0	680	473	481	255.9
SGRD9	PATIENT HEALTH	NA	NA		1.0	191	138	59	-

Completed By: Brianna Biggs on

# National TAB

Project: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: AHU/RTU



Comfort. Under control.

Asset: RTU4

AREA:STOCKROOM

Unit Data			Test Data		
	Design	Actual		Design	Actual
MFG	YORK	YORK	SF CFM	1050	1113
Serial Num	-	N2G2686939	SF RPM	960	788
Model Num	ZJ037N12D4B5BCA2R3	ZJ037N12D4B5BCA2R3	RA CFM	950	1007
Type	RTU	RTU	OA CFM	100	106
Configuration	VERTICAL	VERTICAL	RL Voltage	-	488/483/484
Num OA Filters 1	-	1	RL Amperage	-	2.3/2.3/2.1
OA Filter Size 1	-	22X30X1	SF Rotation	-	CCW
Num Final Filter 1	-	MESH	RA Damper Position	-	90%
Final Filter Size 1	-	MESH	Min OA Damper Position	-	10%

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

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: 11-28 WALGREENS #3802 - RICHARDSON, TX

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF1

AREA: LOUNGE

Unit Data		
	Design	Actual
<b>MFG</b>	GREENHECK	GREENHECK
<b>Model Num</b>	SP-127	SP-127
<b>Serial Num</b>	-	NR
<b>Type</b>	CEILING	CEILING
<b>Configuration</b>	VERTICAL	VERTICAL

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

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

Completed By: Chance Russel

Notes:

# National TAB

Project: 11-28 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: 11-28 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: 11-28 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: 11-28 WALGREENS #3802 - RICHARDSON, TX

## System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF5

AREA:PHOTO

Unit Data		
	Design	Actual
<b>MFG</b>	GREENHECK	GREENHECK
<b>Model Num</b>	G-100-G	G-100-G
<b>Serial Num</b>	-	NL
<b>Type</b>	DOWNBLAST	DOWNBLAST
<b>Configuration</b>	VERTICAL	VERTICAL

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

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

Completed By: Chance Russel

Notes:

