Report By:

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

NATIONAL TAB
INTELLIGENCE

Report: TAB Report CFA# 01527

Function: Test, Adjust, & Balance

Date: 10/27/2023

PROJECT

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

211 EAGLEVIEW BLVD

EXTON, PA 19341

Client

Chick-fil-A (CFA)

5200 BUFFINGTON ROAD

ATLANTA, GA 30349-2998

FaciliBuild
make it easy

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

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.

Inspections and Commissioning Light
The HVAC equipment, ductwork, and other building assets were inspected per Chick Fil A requirements. The results of this inspection is included in checklists within the report. Operational tests were also performed on the HVAC controls to ensure occupied and unoccupied sequence of operation.

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 of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. 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.

Kitchen Exhaust Hood & Associated Fans (Halton)
Each kitchen exhaust fan was measured by taking static pressure at the exhaust plenum and comparing to OEM performance data. The total flow of the exhaust was then adjusted to tolerance of the engineer's design flow.

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 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 and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.
The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

NATIONAL TAB

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
AC-1	KITCHEN	8000	7990	6000	6100	2000	1890	25.0%	23.7%						
AC-2	SIDE DINNING	2830	3054	2080	2254	750	800	26.5%	26.2%						
AC-3	MAIN DINING	4000	4113	3000	3112	1000	1001	25.0%	24.3%						
AC-4	MAIN DINING	2750	2815	2150	2234	600	581	21.8%	20.6%						
AC-5	PLAY AREA	2000	2003	1700	1683	300	320	15.0%	16.0%						
EF-1	HD1 L+R PRESS COOKER											1913	1933		
EF-2	HD2/HD3 FRYERS											1402	1448		
EF-3	RESTROOM													500	460
TOTALS		19580	19975	14930	15383	4650	4592			0	0	3315	3381	500	460

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	4650	4592
TOTAL EXHAUST	3815	3841
NET AIRFLOW	835	751

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.0095
SIDE	0.0102
REAR	0.0091
AVERAGE	**0.0096**

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:

[1] BP Taken with a few holes still in the ceiling. Grid only 80% completed by rear door

CheckList List

- TECH – SITE PICTURES

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH – SITE PICTURES	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

STORE FRONT

Comment:

Storefront
10/21/2023

AC-1

Comment:

Ac1
10/21/2023

AC-2

Comment:

Ac2
10/21/2023

AC-3

Comment:

Ac3
10/21/2023

AC-4

Comment:

Ac4(1)
10/21/2023

AC-5

Comment:

Ac5
10/21/2023

ECONOMIZER POSITIONS MARKED AND DATED FOR EACH AC

Comment:

Ac1econo
10/21/2023

Ac2econo
10/21/2023

Ac4econo
10/21/2023

EF-1

Comment:

Ef1
10/21/2023

EF-2

Comment:

Ef2
10/21/2023

EACH EF BELT TENSIONER POSITION MARKED

Comment:

Ef1tension
10/21/2023

Ef2tension
10/21/2023

EF-3

Comment:

Ef3(1)
10/21/2023

HOOD 1

Comment:

Hood1
10/21/2023

HOOD 2

Comment:

Hood2
10/21/2023

HOOD 3

Comment:

Hood3
10/21/2023

CAPTURE JET FINAL SETTINGS (MARKED AND DATED)

Comment:

Cjmarked
10/21/2023

ONE MARKED BALANCING DAMPER

Comment:

MarkedBd
10/21/2023

ONE OF EACH KIND OF TAB STICKER

Comment:

Beltsticker
10/21/2023

Filtersticker
10/21/2023

ONE OF EACH KIND OF TAB STICKER

Comment:

Acsticker
10/21/2023

Efsticker
10/21/2023

Hoodsticker(1)
10/21/2023

CheckList List

- TECH - 01: INSPECTION: LENNOX RTU'S
- TECH - 02: INSPECTION: EXHAUST FANS
- TECH - 03: INSPECTION: CONTROLS
- TECH - 04: INSPECTION: HOOD/GREASE DUCT
- TECH - 05: INSPECTION: HVAC DUCTWORK
- TECH - 06: INSPECTION: OTHER
- TECH - 07: TAB CHECKS
- TECH - 08: LENNOX PRODIGY SETTINGS
- TECH - 09: CONTROLS COMMISSIONING
- TECH - 10: SMOKE CAPTURE AND PRESSURIZATION TESTS

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 01: INSPECTION: LENNOX RTU'S	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

OVERALL CHECKS

-All doors and panels are free from damage?

Comment:

Yes

-Any other physical damage to note?

Comment:

None

-Units are level? (Use a bubble level)

Comment:

Yes

-OA filters are installed?

Comment:

Yes

-Caulking at corners of “hinge” on the OA hood?

Comment:

Yes

-Piping (condensate and gas) does not obstruct doors or access panels?

Comment:

Yes

-Clean filters installed in the units?

Comment:

Yes

-GFI outlet (if installed) is wired and operational?

Comment:

Yes

-Grommets installed for GFI outlet wiring? (If applicable)

Comment:

Yes

-Transformers are set to the correct voltage (typ. 208)

Comment:

Yes

Additional comments:

Comment:

MECHANICAL CHECKS

-Gas piping installed and valves turned on?

Comment:

Yes

-Gas piping grommets are installed?

Comment:

Yes

-Gas piping is painted with coat Aluminum base paint (should also have a coat of zinc rust primer but likely won't be visible). As per Plumbing specs

Comment:

Yes

-Hail Guards are installed on the condenser coils

Comment:

Yes

-Condenser coil is clean and fins are straight?

Comment:

Yes

-Economizers are functional?

Comment:

Yes

-Evaporator coil is clean and fins are straight?

Comment:

Yes

-Turn off unit and spot check high voltage wiring lugs are tight, no loose wires, etc.

Comment:

Done

-Belts are properly tensioned? (Rotated to 3 tick marks)

Comment:

N/A

-Belts and pulleys are all aligned?

Comment:

Yes, Where applicable

-Are tensioner pulleys at an adequate angle? If fully horizontal or fully vertical notify Will so that new belts can be shipped to site ASAP and installed by NT technician

Comment:

N/A

Additional comments:

Comment:

CONDENSATE DRAINS - CHECK THAT THEY MATCH DETAIL IN THE PLUMBING DRAWINGS

-Cleanout plug is installed for the lower T fitting

Comment:

Yes

-Condensate drains are properly pitched to drain away from the units?

Comment:

Yes

-Condensate drains have at least 2" rise between connection to unit and the pipe after the P-trap?

Comment:

Yes

-Do condensate lines for each RTU match the sizing shown on the plumbing rooftop drawing? (There should be no reduction in size at any point including the P-trap.)

Comment:

Yes

-Condensate drains are installed and have union on both sides of P-trap? (per plumbing drawings)

Comment:

Yes

Upper T fitting is open to the atmosphere and the top of the opening is below the pipe connection to the RTU

Comment:

Yes

Additional comments:

Comment:

LOW VOLTAGE WIRING

-Low voltage wiring is ran through wire hub?

Comment:

Yes

-Grommets are installed around penetrations for low voltage wiring that is not in conduit?

Comment:

Yes

-Wire landed to OCP (and not jumpered)?

Comment:

Yes

-Wires landed to R, G, Y1, Y2, W1, W2, C on thermostat terminal strip?

Comment:

Yes

-Wire from terminal GND in the panel as well as both shield wires are landed at the drain terminal?

Comment:

Yes

-Wire is landed to HUM?

Comment:

Yes

-Wire for humidstats is landed at 24VAC R terminal on the “Sensor” strip?

Comment:

Yes

-Wire landed to DI-1 smoke detector?

Comment:

Yes

Additional comments:

Comment:

OTHER

Has the mechanical contractor completed the startups?

Comment:

Yes upon 10/27 return

-Laminated copy of the control wiring is included in each RTU electrical cabinet as per the Controls M Sheet

Comment:

No

-Has mechanical contractor provided a second set of filters for owner (should be stored in space somewhere)

Comment:

Yes

-Annunciators are the specified Suncoast Keyless type?

Comment:

Yes

-All annunciators are labeled?

Comment:

Yes

-What is the drive kit # for each RTU? Take from Lennox options stickers

Comment:

AC-1: Drive Kit 6 C-CAB AC-3 Drive Kit 5 B-CAB

Additional comments:

Comment:

SEISMIC DETAILS

Seismic clips attached to both sides of the unit and secured with screws when specified. Typically two per side (four total).

Comment:

Not specified

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 02: INSPECTION: EXHAUST FANS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

RESTROOM EXHAUST FAN

-Rectangular duct is lined?

Comment:

Yes

-Round duct is externally insulated?

Comment:

Yes

-Backdraft damper is installed in duct and operates correctly?

Comment:

Yes

-Flexible conduit is run up through duct to raceway in fan?

Comment:

Yes

-Fan is secured to the curb with screws?

Comment:

Yes

-Speed controller installed and wired?

Comment:

Yes

Additional comments:

Comment:

UTILITY SET GREASE FANS

-1’ high nozzle is installed? If the fan is within 10' of parapet walls, RTU's, or condensing units, ensure that it extends at least 2" above them.

Comment:

Yes

-Joint between the nozzle and the exhaust fan collar has welded bead (not tack weld) so that grease will not accumulate? Caulking not preferred as it falls off.

Comment:

Yes

-G2 drip guard is installed and drain is piped to center of the guard?

Comment:

Yes

-Transitions from duct to fan, and from fan to nozzle, are bolted and either have fire caulking or gasket?

Comment:

Yes

-Service disconnect is installed on the outside of the fan and functional?

Comment:

Yes

-Belts are properly tensioned? (rotated to 2 tick marks)

Comment:

Yes

-PVC grease drains pieces are glued together?

Comment:

Yes

-Pulleys are aligned?

Comment:

Yes

-Spare belt provided for each fan? (Relocate spare belt to the inside of the door.)

Comment:

Yes

-What other defects or quality control issues observed with the fans? For instance - access door missing, name plate wrong/missing, bolts or nuts missing from motor mount, etc

Comment:

None to note

-Walk around unit and ensure fan is free of damage?

Comment:

Yes

-Verify that the nameplate matches design and that the store # matches

Comment:

N/A

-Blower wheel spins freely?

Comment:

Yes

-Fan is free of noise and vibration?

Comment:

Yes

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 03: INSPECTION: CONTROLS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

SENSORS (OVERALL CHECKS)

-Sensors labeled on wall adjacent to sensors (unless plans specifically state otherwise) and have the correct unit number and indicate whether they are temp or humidity?

Comment:

Yes

-Temperature and humidity sensors are installed where shown on the drawing?

Comment:

Yes

Additional comments:

Comment:

TEMPERATURE SENSORS

-Temperature sensors are wired to the correct thermostat? (Check by having someone hold a handwarming pad or lighter under the sensor from a safe distance and verifying temperature rise on the thermostat)

Comment:

Yes

-Verify that manfacturer/model stamped on the outer jacket of the temperature sensor wiring cables is Connect Air model W221P-2003OR. The wire should be a shielded twisted pair (i.e., only two wires), with one drain wire. If other manufacturers are used, note the manufacturer/model and take picture for report.

Comment:

Yes

-Is RS1 on each temperature sensor wired to RS-1 in the Suncoast panel?

Comment:

Yes

-Is RS+V on each temperature sensor wired to RS+V in the Suncoast panel?

Comment:

Yes

-Is RS2 on each temperature sensor wired with DRAIN wire to RS2 in the Suncoast panel?

Comment:

Yes

Additional comments:

Comment:

HUMIDITY SENSORS

-Verify that manufacturer/model stamped on the outer jacket of the humidity sensor wiring cables matches the specification (Connect Air model W221P-2003 is preferred)

Comment:

Yes

-Covers of humidstats are secured?

Comment:

Yes

-LENNOX: For all humidity sensors: 2 conductor shielded cable has one wire landed to Vin, one to GND, and the shield wire is not connected.

Comment:

Yes

-LENNOX: For all humidity sensors: For second shielded cable, one wire is landed to Vout and the shield wire is not connected.

Comment:

Yes

Additional comments:

Comment:

PANEL

-High voltage wiring is run through the cable routing compartment and cover is installed?

Comment:

Yes

-Low voltage wiring installed at all terminals shown on specification for each RTU—E1, DI-1, G, Y2, Y1, W2, W1, R, C, RS2, RS1, RS+V

Comment:

Yes

-Thermostats are powered?

Comment:

Yes

-Overall, is panel is completely wired with no jumpers, installation complete, and is fully operational?

Comment:

Yes

-LENNOX units - Is OCP wired to P terminal in SEC panel, and P1 jumpered to R in the SEC panel

Comment:

Yes

-Are R-1, R-2, and R-3 (R-4 and R-5 if applicable) ice cube relays factory wired properly from SEC inside the panel. Take photo and include in TAB report

Comment:

Yes

Acrelays
10/21/2023

-Is R-6 (fire interlock) relay factory wired properly from SEC inside the panel. Take photo and include in TAB report.

Comment:

Yes

Firerelay
10/21/2023

Additional comments:

Comment:

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CheckList Information

Name :	TECH - 04: INSPECTION: HOOD/GREASE DUCT	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

Picture document all issues with full description. Needs to include the location of the specification (ex:Page, specification #, detail #) in the drawings. If you see something, say something. If there are any other issues you identify outside of these checklists note those in the report as well. All issues should be communicated with the MC onsite

HOODS

-Are hoods hung at the correct height? (check Halton spec for exact dimension - typically 64". Halton spec supercedes mechanical drawings)

Comment:

Yes

-Make sure pin and sleeve electrical box is assembled correctly on all hoods

Comment:

Yes

-Take filters out of bank. Are there any parts laying in the grease trough and if so do they need to be installed?

Comment:

None

-Adjust the slider on filter bank so that the filters have tight fit? Ensure no pieces are missing from the slider

Comment:

Done

-Side brackets installed in between hoods and counters?

Comment:

Hd-3 is missing sidearm bracket

-Any threaded holes underneath hood canopy are filled?

Comment:

Yes

-All hoods supported at factory support points with threaded rod (3/8” typ.)?

Comment:

Yes

-If threaded rod is exposed below ceiling, is it inside stainless steel tubing and is the escutcheon installed?

Comment:

N/A

-ANSUL pull stations are labeled with red bakelite label with 1/4" high white letters indicating the hoods served?

Comment:

Yes

Is the ANSUL system installation complete?

Comment:

Yes

-Curb caps secured to the curb where roof top grease duct penetrates into space? (if no roof top grease duct put N/A)

Comment:

Yes

-Capture jet fans are hard piped?

Comment:

Yes

-Capture jet speed controllers are wired and functional.

Comment:

Yes

-Capture jet fans are installed the correct direction (so they supply air to hood canopy and do NOT exhaust)

Comment:

Yes

-Side Capture jet (if applicable) is installed with fan guard and stand?

Comment:

N/A

-Hoods are secured to the wall at all pre-punch hole locations?

Comment:

No

-Is the fry chute installed?

Comment:

Yes

-Are the grease cups installed?

Comment:

HD 1L Missing Cup

-Are gusset bracket bolts installed (typically on Hood 2)?

Comment:

No

-Ensure there is no damage to the hoods?

Comment:

None to note

Additional comments:

Comment:

GREASE DUCTWORK

-EF-1 main drop is equal distance between both risers unless specified otherwise on drawings

Comment:

N/A

-Unifrax Fyrewrap brand is used on all grease ductwork

Comment:

Yes

-All turns in grease duct are long radius type elbows and follow equation Radius = (3 * W) / 2. (Measured to the duct centerline). No mitered fitting allowed. (Both in space and on roof)

Comment:

Yes

-Each grease cleanout doors meets specifications, is assembled correctly, and is the correct size? (Outer plate is not required for rooftop ductwork - indoors only)

Comment:

Yes

-Each grease cleanout doors are installed in the location shown on drawing?

Comment:

Yes

-Balancing dampers are installed if specified?

Comment:

Yes

-Roof top grease duct is painted white in a professional manner? If grease duct is not painted, recommend that all rust be removed prior to painting.

Comment:

Yes, but there was one missing cleanout door cover not painted.

-Rooftop grease duct is supported at 6’ intervals maximum with supports shown in specification?

Comment:

Yes

-Rooftop grease duct is supported at each duct drop into the space?

Comment:

Yes

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 05: INSPECTION: HVAC DUCTWORK	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

Picture document all issues with full description. Needs to include the location of the specification (ex:Page, specification #, detail #) in the drawings. If you see something, say something. If there are any other issues you identify outside of these checklists note those in the report as well. All issues should be communicated with the MC onsite

MAIN TRUNKS (SPOT CHECK)

-All ductwork (w/ exception of RR fan) is externally insulated. No liners are allowed and must be removed.

Comment:

Yes

-Ductwork insulation has minimum 6 R-Value installed?

Comment:

Yes. There is a portion of AC-3 duct that is missing insulation.

-Canvas connector installed between the main supply & return drops and RTU's.

Comment:

Yes

-Check that base-pan connections are seated and aligned correctly (i.e., duct connections at the RTU)?

Comment:

Good

-Turning vanes on main supply drop should be single thickness and not double thickness? (not necessary in returns)

Comment:

Yes

-Ducts 24” or wider have stick pins and stick pins are covered with duct tape or mastic?

Comment:

Yes

-All seams in insulation are taped?

Comment:

Yes

-Is the insulation wet?

Comment:

No

-Does the return air drop span-out with a transition per specification where applicable (i.e., is it a tapered transition from opening at unit to full size on plans and NOT hard mitred transition)

Comment:

Yes

-Check that sealant used on ductwork connections (spot check 1)

Comment:

Yes

Additional comments:

Comment:

GRILLE TAKEOFFS (SPOT CHECK)

-Damper handles are located on the left or right of the duct?

-Do all start collars and Rusking In-Line dampers match specification and appear to be purchased thru Tom Barrow Co

Comment:

Yes

-Fluorescent ribbon is attached to each damper handle?

Comment:

Yes for new Dampers

-Minimum 1’ rigid duct after start collar?

Comment:

Yes

-Flex duct is installed on each duct run after rigid duct and is less than 48” in length?

Comment:

Yes

-Rigid hard pipe with 90 degree fitting and riser connecting to the grille?

Comment:

Yes

-Drawband and tape are used to secure inner core of the flex duct? (Spot check)

Comment:

Yes

-Drawband or tape is used on outer jacket?

Comment:

Yes

-Tops of diffusers are insulated?

Comment:

Yes

-Mastic at rigid connections to diffuser?

Comment:

Yes

Additional comments:

Comment:

OVERALL

-Any leaky ductwork observed?

Comment:

No

-Ductwork supported properly?

Comment:

Yes

Additional comments:

Comment:

GRD'S

-Do all diffusers match specified models and appear to be purchased thru Tom Barrow Co.?

Comment:

Yes

-Do all diffusers appear to be clean of dust and debris?

Comment:

Yes

-Any damage to diffusers?

Comment:

No damage to note

-All diffusers installed at the correct locations?

Comment:

Yes

-Ensure that deflectors for diffusers in entires, Drive thru cockpit, office, adjacent to soffits, restrooms, RR vesibule are closed as shown on the mechanical plan.

Comment:

Completed

-Look at plans and adjust pattern deflectors to throw straight down for diffusers near hood where noted.

Comment:

Completed

-Adjust pattern deflectors for any other diffusers where noted on plans (Either included as a note in plans or as blacked out triangle sections of diffuser.)

Comment:

Done

-Air diffuser air pattern blades adjusted uniformly?

Comment:

Yes

-Is space free of drafting?

Comment:

Yes

-Notice any squeaking damper noise? If so, tighten wing-nut on opposite side of stand-off.

Comment:

No squeaking noises to note

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name : TECH - 06: INSPECTION: OTHER **Status :** Not Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 10/13/2023 - Laura Robinson - National TAB

CheckList Item Details

Picture document all issues with full description. Needs to include the location of the specification (ex:Page, specification #, detail #) in the drawings. If you see something, say something. If there are any other issues you identify outside of these checklists note those in the report as well. All issues should be communicated with the MC onsite

AIR DOORS

Does the hanging height of the air doors match design?

Comment:

Yes

-Installed in proper location?

Comment:

Yes

-Correct model/manufacturer?

Comment:

Yes

-Is the Drive-thru air curtain diverter box installed and allows enough room for servicing the air filter?

Comment:

Yes

-Timer is set to minimum position (0)?

Comment:

Yes

-They are operating correctly?

Comment:

Yes

-Are switches installed?

Comment:

Yes

-For drive thru air door, if MP-1-30 type or similar, door is adjusted so it is not noisey and directed at the center of the drive thru window?

Comment:

N/A

-For drive thru air door, if Chameleon type, fan speed is set as high as possible without creating disruptive noise, and air is directed to center of walkway?

Comment:

Yes

Additional comments:

Comment:

CANOPY

Are canopy fans and heaters installed and controls complete?

Comment:

Yes

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 07: TAB CHECKS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

Is space free of drafting?

Comment:

Yes

Is space comfortable in all areas?

Comment:

Yes

Is the space free of ventilation noise?

Comment:

Yes

All balancing dampers final position marked with permanent marker after balancing complete?

Comment:

Yes for new dampers

Notice any squeaking damper noise? If so, tighten wing-nut on opposite side of stand-off.

Comment:

No squeaking to note

Additional Comments

Comment:

ZONE DAMPER - OFFICE

Maximum airflow set to design?

Comment:

Yes

Thermostat is installed and functional?

Comment:

Yes

Additional Comments

Comment:

OVERALL

Is there anything outside of the checklists that appears out of sort?

Comment:

Nothing to note

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 08: LENNOX PRODIGY SETTINGS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

PRODIGY BOARD SETTINGS (MECHANICAL CONTRACTOR TO COMPLETE, TAB TO VERIFY AND CORRECT AS REQUIRED)

For all AC's EXCEPT the kitchen RTU, change parameter 65 to 1 (58 on LCH Units). This will cause the OA damper to open on "occupied" start. At kitchen AC (LGH Type) leave the setting at the default value so the OA damper will remain closed for the first 60 minutes after occupied start. At kitchen AC (LCH Type) change the value to 5400 so the OA dam

Comment:

Yes

At Humiditrol RTU's, set the Prodigy M3 Board control parameter #105 for dehumidification operation to a value of 7

Comment:

Yes

At Humiditrol RTU's, set the Prodigy M3 Board control parameter 106 to value of 60

Comment:

Yes

At Humiditrol RTU's, set the Prodigy M3 Board control parameter 107 to value of 2.

Comment:

Yes

Set TSTAT COM Switch on prodigy board to open position. (Newer Prodigy will not have this setting--put N/A)

Comment:

N/A

Complete the damper calibration in the Damper menu prior to setting OA (Only needs to be done once)

Comment:

Done

Enthalpy offset set to 5.0 for all AC's?

Comment:

Yes

Free cooling supply air setpoint set to 55.0 F?

Comment:

Yes

Damper max opening set to the same position as min position?

Comment:

Yes

Power exhaust on by econ travel set higher than min damper position (typ. 50%)?

Comment:

Yes

Fresh air cooling enable FAC = No?

Comment:

Yes

At MSAV Units, set the MSAV Low speed setting to the same value as the high speed setting after TAB is completed. (If not applicable put N/A)

Comment:

Yes Where applicable

Note any alarms present on the prodigy board:

Comment:

No alarms to note

Additional Comments

Comment:

FRESH AIR HEATING (FAH) SETTINGS

Comment:

FAH = Yes (On units with fresh air tempering only - verify on M sheets. Typ mandatory in Northeast, Midwest, Northwest, VA, KY, and some areas of NC/TN.) (If not applicable put N/A)

Comment:

Enabled for new units

If FAH, change prodigy parameter 156 to: 60 for the kitchen, 62 for serving, and 63 for dining

Comment:

Yes where applicable

If FAH, change prodigy parameter 157 to 5 for all units

Comment:

Yes where applicable

If FAH, change prodigy parameter 158 to a value of 300 for all units

Comment:

Yes where applicable

If FAH, is the discharge sensor installed AFTER the first elbow on main supply drop?

Comment:

Core Units are not supplied with a separate discharge air sensor.

If FAH, is the wiring harness connected to the sensor wiring?

Comment:

Yes, sensor is located in the discharge of the unit

PRODIGY INSTALL MENU SETTINGS (GO TO SETTINGS > INSTALL)

Language = English?

Comment:

Yes

Date/Time is correct?

Comment:

Yes

Display units F/C set to Farenheit?

Comment:

Yes

Model Number correct?

Comment:

Yes

Configuration ID 1 & 2 is correct? (On white sticker titled "Original factory unit configuration" on right side of control box

Comment:

Yes

Catalog number is correct (Located on the unit nameplate)

Comment:

Yes

Serial number is correct?

Comment:

Yes

Set to Control type to "Wired Thermostat"

Comment:

Yes

Set Dehum to "No Conditions"

Comment:

Yes

Set Dehum deadband to 2

Comment:

Yes

Go to Service > Test > Damper > Power Exhaust and make sure fan operates with no issues

Comment:

Yes

Go to Service > Test > Cool and test each stage of cooling

Comment:

Yes

Additional comments:

Comment:

PRODIGY NETWORK INTEGRATION (GO TO SETUP > NETWORK INTEGRATION)

Set Network = L-Connection/Address-2/Monitor Only

Comment:

Yes

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 09: CONTROLS COMMISSIONING	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

OCCUPIED / UNOCCUPIED SEQUENCE OF OPERATION

Turn switch on Suncoast panel to occupied mode and check the following for all RTU's:

All blowers turn on (I.e., signal to G)? (Except the Playroom unit which will stay in auto blower)

Comment:

Yes

All economizers open to minimum position? (I.e., signal to OCP terminal)

Comment:

Yes

Temperatures on thermostats at occupied settings (73 cooling / 69 heating)

Comment:

Yes

Hood exhaust and Capture Jets turn on?

Comment:

Yes

Additional comments:

Comment:

Turn switch on Suncoast panel to unoccupied mode and check the following for all RTU's:

All blowers go to auto mode?

Comment:

Yes

All economizers close? (I.e., no signal to the OCP terminal)

Comment:

Yes

Temperatures on thermostats at unoccupied settings (80 cooling / 55 heating). Unoccupied cooling may need to be manually changed to 80.

Comment:

Yes

Hood exhaust and Capture Jets turn off?

Comment:

Yes

Additional comments:

Comment:

TEMPERATURES

Turn on temp sensor reading for all thermostats

Comment:

Yes

Measured temperature at each sensor matches actual temperature on thermostat?

Comment:

Yes

Measured temperature at each zone damper thermostat matches displayed temprature?

Comment:

Yes

Additional comments:

Comment:

ZONE DAMPER

Zone damper closes and opens correctly when a change is made at the thermostat?

Comment:

Yes

Zone damper thermostats are installed and functional?

Comment:

Yes

Additional comments:

Comment:

10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

CheckList Information

Name :	TECH - 10: SMOKE CAPTURE AND PRESSURIZATION TESTS	**Status :**	Not Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	10/13/2023 - Laura Robinson - National TAB		

CheckList Item Details

Picture document all issues with full description. Needs to include the location of the specification (ex:Page, specification #, detail #) in the drawings. If you see something, say something. If there are any other issues you identify outside of these checklists note those in the report as well. All issues should be communicated with the MC onsite	Yes

Comment:

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing

Comment:

None, Equipment not clean enough to put oil in and turn on

List smoke candle type used

Comment:

45 Sec Smoke

Smoke test capture - Perimeter of hood

Comment:

100% For All

Smoke test capture - Top of cooking surface

Comment:

100% For All

WITNESS

Date test was completed

Comment:

10/27/23

TAB tech name / Firm

Comment:

Tyler/NTAB

Site super name / Firm

Comment:

Stephen/ Bannett Group

Owner representative name / Firm (if Applicable)

Comment:

N/A

Video taken of smoke tests?

Comment:

Yes

BUILDING PRESSURE TEST

Building pressure at front & back doors (All Systems On)

Comment:

Yes +0.009" Avg

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)

Comment:

VELOCITY OF SERVING WINDOW

Transfer velocity for Serving Window (window between kitchen and serving) is 50-80FPM Yes

Comment:

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

System/Unit: AHU/RTU

Asset: AC 1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5623H08602
Model Num	LGT300S4E	LGT300S4MH1Y
Type	AC	AC
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	3
OA Filter Size 1	-	24X16
Num Final Filter 1	-	6
Final Filter Size 1	-	24X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTOR
Frame	-	215TZ
Horsepower	7.5	7.5
Motor Rpm	-	1765
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	20.4

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP65
Motor Bore Size	-	1-3/8
Motor Sheave SetPt	-	2.5 TURNS OUT
Fan Sheave Size	-	BK110
Fan Sheave Bore	-	1-3/16"
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	BX66
Belt Alignment	-	GOOD

Test Data		
	Design	**Actual**
SF CFM	8000	7990
SF RPM	-	953
RA CFM	6000	6100
OA CFM	2000	1890
RL Voltage	-	206.1/205.8/206.9
RL Amperage	-	15.2/15.1/15.5
SF Rotation	-	CCW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	32%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	5.0MA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.42”
Fan Suction SP	-	-1.11”
Fan Discharge SP	-	0.30”
Total ESP	0.8	0.72”
Fan Total SP	-	1.41”

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

Completed By: Tyler Youells on 10/21/2023

Diffuser Supply (GRD)

AC 1/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 1-SGRD1	KITCHEN	A	14	825	1	871	842	842	102.1
AC 1-SGRD2	KITCHEN	A	14	625	1	865	623	623	99.7
AC 1-SGRD3	KITCHEN	A	14	825	1	675	808	808	97.9
AC 1-SGRD4	KITCHEN	A	14	825	1	594	832	832	100.8
AC 1-SGRD5	KITCHEN	A	14	625	1	633	579	579	92.6
AC 1-SGRD6	KITCHEN	A	12	500	1	56	527	527	105.4
AC 1-SGRD7	KITCHEN	A	12	500	1	495	498	498	99.6
AC 1-SGRD8	KITCHEN	A	14	825	1	836	808	808	97.9
AC 1-SGRD9	KITCHEN	A	12	475	1	651	467	467	98.3
AC 1-SGRD10	KITCHEN	A	12	325	1	583	367	355	109.2
AC 1-SGRD11	KITCHEN	A	12	475	1	467	471	471	99.2
AC 1-SGRD12	KITCHEN	A	12	425	1	502	412	424	99.8
AC 1-SGRD13	WH	A	8	200	1	266	201	201	100.5
AC 1-SGRD14	WH	A	8	125	1	195	127	127	101.6
AC 1-SGRD15	WH	A	12	425	1	453	428	428	100.7
Total				8000		8142	7990	7990	99.88%

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: AHU/RTU

Asset: AC 2 AREA:MECH ROOM

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5623H02599
Model Num	LGT102H4E	LGT102H4EH1Y
Type	AC	AC
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24X16
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBM PABST
Frame	-	NL
Horsepower	3.75	3300W
Motor Rpm	-	2200
Phase	-	3
Rated Voltage	-	200
Rated Amperage	-	8.7

Test Data		
	Design	**Actual**
SF CFM	2830	3054
SF RPM	-	60%
RA CFM	2080	2254
OA CFM	750	800
RL Voltage	-	213.5/213.9/212.7
RL Amperage	-	2.33/2.37/2.33
SF Rotation	-	CW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	30%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	5.0MA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.27”
Fan Suction SP	-	-0.55”
Fan Discharge SP	-	0.38”
Total ESP	0.8	0.65”
Fan Total SP	-	0.93”

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

Completed By: Tyler Youells on 10/21/2023

Notes:
[1] DIFFUSER DESIGN CFM VALUES NOT PROVIDED FOR RESTROOMS/MECH. BALANCED TO COMFORT

Written By: Tyler Youells on 10/21/2023

AHU/RTU

Diffuser Supply (GRD)

AC 2/MECH ROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 2-SGRD1	SERVING	A	12	600	1	826	676	590	98.3
AC 2-SGRD2	DINING	A	16	525	1	738	616	538	102.5
AC 2-SGRD3	DINING	A	16	525	1	172	148	502	95.6
AC 2-SGRD4	DINING	A	16	525	1	840	688	526	100.2
AC 2-SGRD5	DINING	A	16	525	1	397	340	531	101.1
AC 2-SGRD6	WOMENS	J	8		1	311	249	154	-
AC 2-SGRD7	MENS	J	8		1	292	246	158	-
AC 2-SGRD8	MECH ROOM				1	79	70	55	-
Total						3655	3033	3054	

Diffuser Ret/Exh (GRD)

AC 2/MECH ROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 2-EGRD1	MECH	NA	NA		1	101	56	56	-
Total						101	56	56	

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: AHU/RTU

Asset: AC 3 AREA:MAIN DINNING/DRIVE THRU

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5615C06439
Model Num	LGH120H4BH3Y	LGH120H4BH3Y
Type	AC	AC
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24X16
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	INTERTEK
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1745
Phase	-	3
Rated Voltage	-	200
Rated Amperage	-	7.8

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VP50
Motor Bore Size	-	0.875"
Motor Sheave SetPt	-	3 TURNS OUT
Fan Sheave Size	-	7"
Fan Sheave Bore	-	1'
Belt CL Distance	-	21.5"
Num of Belts	-	1
Belt Size	-	A58
Belt Alignment	-	GOOD

Test Data		
	Design	**Actual**
SF CFM	4000	4113
SF RPM	-	886
RA CFM	3000	3112
OA CFM	1000	1001
RL Voltage	-	213.7/212.8/213.2
RL Amperage	-	7.68/7.54/7.59
SF Rotation	-	CCW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	24%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	19.0 MA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.39”
Fan Suction SP	-	-0.88”
Fan Discharge SP	-	0.32”
Total ESP	-	0.71”
Fan Total SP	-	1.20”

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

Completed By: Tyler Youells on 10/21/2023

Notes:
[1] NOT ALL DIFFUSER DESIGN VALUES PROVIDED. DIFFUSERS WITH MISSING DESIGN VALUES BALANCED TO COMFORT AND TYPICAL CFM DESIGN VALUES

Written By: Tyler Youells on 10/21/2023

Diffuser Supply (GRD)

AC 3/MAIN DINNING/DRIVE THRU

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 3-SGRD1	VESTIBULE	C	10		1	302	336	356	-
AC 3-SGRD2	DINING	A	12	325	1	411	456	343	105.5
AC 3-SGRD3	DINING	A	12	325	1	345	394	315	96.9
AC 3-SGRD4	DRIVE THRU	A	12		1	246	277	373	-
AC 3-SGRD5	DRIVE THRU	A	12	500	1	347	399	524	104.8
AC 3-SGRD6	DRIVE THRU	A	12	500	1	241	273	514	102.8
AC 3-SGRD7	DRIVE THRU	A	16		1	556	636	655	-
AC 3-SGRD8	DINING	A	12	325	1	405	454	352	108.3
AC 3-SGRD9	DINING	A	12	325	1	372	409	355	109.2
AC 3-SGRD10	DINING	A	12	325	1	502	565	326	100.3
Total						3727	4199	4113	

Diffuser Ret/Exh (GRD)

AC 3/MAIN DINNING/DRIVE THRU

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 3-EGRD1	VESTIBULE	K	10		1	263	226	226	-
Total						263	226	226	

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: AHU/RTU

Asset: AC 4 AREA:MAIN DINNING

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5623H02600
Model Num	LGT092H4E	LGT092H4EH1Y
Type	AC	AC
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	2
OA Filter Size 1	-	24X16
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2

Motor Data		
	Design	**Actual**
Motor MFG	-	EBMPABST
Frame	-	NL
Horsepower	0.375	3300W
Motor Rpm	-	2200
Phase	-	3
Rated Voltage	-	200
Rated Amperage	-	8.7

Test Data		
	Design	**Actual**
SF CFM	2750	2815
SF RPM	-	55%
RA CFM	2150	2234
OA CFM	600	581
RL Voltage	-	213.3/213.6/212.8
RL Amperage	-	2.11/2.12/2.15
SF Rotation	-	CW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	30%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	5.0 MA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.19”
Fan Suction SP	-	-0.44”
Fan Discharge SP	-	0.27”
Total ESP	0.8	0.46”
Fan Total SP	-	0.71”

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

Completed By: Tyler Youells on 10/21/2023

Notes:
[1] DIFFUSER DESIGN VALUES NOT PROVIDED. DIFFUSERS BALANCED TO TYPICAL CFA CFM VALUES

Written By: Tyler Youells on 10/21/2023

AHU/RTU

Diffuser Supply (GRD)

AC 4/MAIN DINNING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 4-SGRD1	DINING	A	12		1	372	421	386	-
AC 4-SGRD2	DINING	A	12		1	215	598	387	-
AC 4-SGRD3	DINING	A	12		1	983	466	371	-
AC 4-SGRD4	DINING	A	12		1	224	442	389	-
AC 4-SGRD5	VESTIBULE	C	12		1	467	561	556	-
AC 4-SGRD6	DINING	A	12		1	454	315	386	-
AC 4-SGRD7	DINING	A	12		1	517	335	340	-
Total						3232	3138	2815	

Diffuser Ret/Exh (GRD)

AC 4/MAIN DINNING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	VESTIBULE	K	12		1	509	411	411	-
Total						509	411	411	

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: AHU/RTU

Asset: AC 5 AREA:PLAY AREA

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	5616B09469
Model Num	LGH060H4EH4Y	LGH060H4EH4Y
Type	AC	AC
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	34X16
Num Final Filter 1	-	4
Final Filter Size 1	-	20X20X2

Motor Data		
	Design	**Actual**
Motor MFG	-	GENTEQ
Frame	-	NA
Horsepower	-	1
Motor Rpm	-	NL
Phase	-	1
Rated Voltage	-	208
Rated Amperage	-	7.4

Test Data		
	Design	**Actual**
SF CFM	2000	2003
SF RPM	-	82%
RA CFM	1700	1683
OA CFM	300	320
RL Voltage	-	212.3
RL Amperage	-	7.2
SF Rotation	-	CW
RA Damper Position	-	MECHANICAL LINKAGE
Min OA Damper Position	-	7%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	19.0 MA

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.14”
Fan Suction SP	-	-0.47”
Fan Discharge SP	-	0.28”
Total ESP	-	0.42”
Fan Total SP	-	0.75”

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

Completed By: Tyler Youells on 10/21/2023

Notes:
[1] DIFFUSER DESIGN VALUES NOT PROVIDED. BALANCED ALL DIFFUSERS PROPORTIONALLY/ TYPICAL FOR CFA PLAYLAND AREA.

Written By: Tyler Youells on 10/21/2023

AHU/RTU

Diffuser Supply (GRD)

AC 5/PLAY AREA

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 5-SGRD1	PLAYLAND	A	12		1	512	580	511	-
AC 5-SGRD2	PLAYLAND	A	12		1	487	554	488	-
AC 5-SGRD3	PLAYLAND	A	12		1	467	532	478	-
AC 5-SGRD4	PLAYLAND	A	12		1	313	348	526	-
Total						1779	2014	2003	

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

System/Unit: FAN - Exhaust

Asset: EF1 AREA:HOOD 1 L/R

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	150 CPS	150 CPS
Serial Num	-	050SK38956-00/0004501
Type	BELT	UTILITY
Configuration	UTILITY	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	56
Horsepower	3/4	0.75
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	8.2
Service Factor	-	1.25

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	MVL44
Motor Bore Size	-	0.625
Motor Sheave SetPt	-	4.0 TURNS OUT
Fan Sheave Size	-	4.75"
Fan Sheave Bore	-	1"
Belt CL Distance	-	12"
Num of Belts	-	1
Belt Size	-	A38

Test Data		
	Design	**Actual**
CFM	1913	1933
Fan RPM	-	1225
Fan Rotation	-	CCW
Motor RPM	-	1769
RL Voltage	-	122
RL Amperage	-	7.71
Suction ESP	-	-0.62”
Discharge ESP	-	ATM
Total ESP	0.75	0.62”

Completed By: Tyler Youells on 10/21/2023

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: FAN - Exhaust

Asset: EF2 AREA:HOODS 2/3

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	150 CPS	150 CPS
Serial Num	-	050SK37078-00/0000703
Type	BELT	UTILITY
Configuration	UTILITY	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR RELIANCE
Frame	-	56
Horsepower	3/4	0.75
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	8.2
Service Factor	-	1.25

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	1VL44
Motor Bore Size	-	0.625"
Motor Sheave SetPt	-	1 TURN OUT
Fan Sheave Size	-	AK54
Fan Sheave Bore	-	1"
Belt CL Distance	-	12"
Num of Belts	-	1
Belt Size	-	A38

Test Data		
	Design	**Actual**
CFM	-	1448
Fan RPM	-	1294
Fan Rotation	-	CCW
Motor RPM	-	1762
RL Voltage	-	122.3
RL Amperage	-	7.88
Suction ESP	-	0.99”
Discharge ESP	-	ATM
Total ESP	-	-0.99”

Completed By: Tyler Youells on 10/21/2023

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

System/Unit: FAN - Exhaust

Asset: EF3 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	ACED 100C15DH	ACEH 100C15DH
Serial Num	-	050PK74143-00/0000701
Type	DD	CRE
Configuration	DOWNBLAST	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTOR
Frame	-	48Y
Horsepower	1/8	0.125
Motor Rpm	-	1600
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	1.7
Service Factor	-	1

Test Data		
	Design	**Actual**
CFM	500	460
Fan RPM	-	1600
Fan Rotation	-	CCW
Motor RPM	-	1600
System SetPt	-	FULL SPEED
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.375	0.46”
Fan Inlet SP	-	-0.46”
Fan Discharge SP	-	ATM

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FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF3/RESTROOMS

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD 1	MENS RR	K	8	250	1	301	232	232	92.8
EGRD 2	WOMENS RR	K	8	250	1	197	228	228	91.2
Total				500		498	460	460	92%

National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

System/Unit: Kitchen Hood Type I

Asset: HD 2 AREA:

Unit Data		
	Design	**Actual**
MFG	HALTON	HALTON
Model Num	KVL-C-IC	KVL-C-IC
Job / Serial Num	-	118375-342
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	42"	42"
Hood Width	34"	34"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	FULL KSA
Filter Qty 1	2	2
TAB SP	0.30"	0.337"
CFM	701	749

Cooking Equipment		
	Design	**Actual**
Item 1	-	2X SINGLE FRYERS

Test Data Supply		
	Design	**Actual**
TAB SP	0.29"	0.285"

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National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU) REINVEST

System/Unit: Kitchen Hood Type I

Asset: HD 3 AREA:

Unit Data		
	Design	**Actual**
MFG	HALTON	HALTON
Model Num	KVL-C-IC	KVL-C-IC
Job / Serial Num	-	118375-393
Type	TYPE I CANOPY	TYPE I LOW PROXIMITY
Hood length	42"	42"
Hood Width	34"	34"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	FULL KSA
Filter Qty 1	2	2
TAB SP	0.30"	0.293"
CFM	701	699

Cooking Equipment		
	Design	**Actual**
Item 1	-	SINGLE FRYER

Test Data Supply		
	Design	**Actual**
TAB SP	0.29"	0.256"

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National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: Kitchen Hood Type I

Asset: HD L1 AREA:

Unit Data		
	Design	**Actual**
MFG	HALTON	HALTON
Model Num	KVL-2-IC	KVL-2-IC
Job / Serial Num	-	118375-254
Type	TYPE I CANOPY	TYPE I LOW PROXIMITY
Hood length	107"	107"
Hood Width	37"	37"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	FULL KSA
Filter Qty 1	5	5
TAB SP	0.13"	0.137"
CFM	1204	1247

Cooking Equipment		
	Design	**Actual**
Item 1	-	4X PRESSURE FRYER
Item 2	-	2X GRILLE

Test Data Supply		
	Design	**Actual**
TAB SP	0.30"	0.302"

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National TAB

Project: 10-16-23 CHICK-FIL-A #01527 - EXTON, PA (LIONSVILLE, FSU)
REINVEST

System/Unit: Kitchen Hood Type I

Asset: HD R1 AREA:

Unit Data		
	Design	**Actual**
MFG	HALTON	HALTON
Model Num	KVL-2-IC	KVL-2-IC
Job / Serial Num	-	118375-296
Type	TYPE I CANOPY	TYPE I LOW PROXIMITY
Hood length	63"	63"
Hood Width	37"	37"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	FULL KSA
Filter Qty 1	3	3
TAB SP	0.13"	0.121"
CFM	709	686

Cooking Equipment		
	Design	**Actual**
Item 1	-	2X PRESSURE FRYER

Test Data Supply		
	Design	**Actual**
TAB SP	0.30	0.303"

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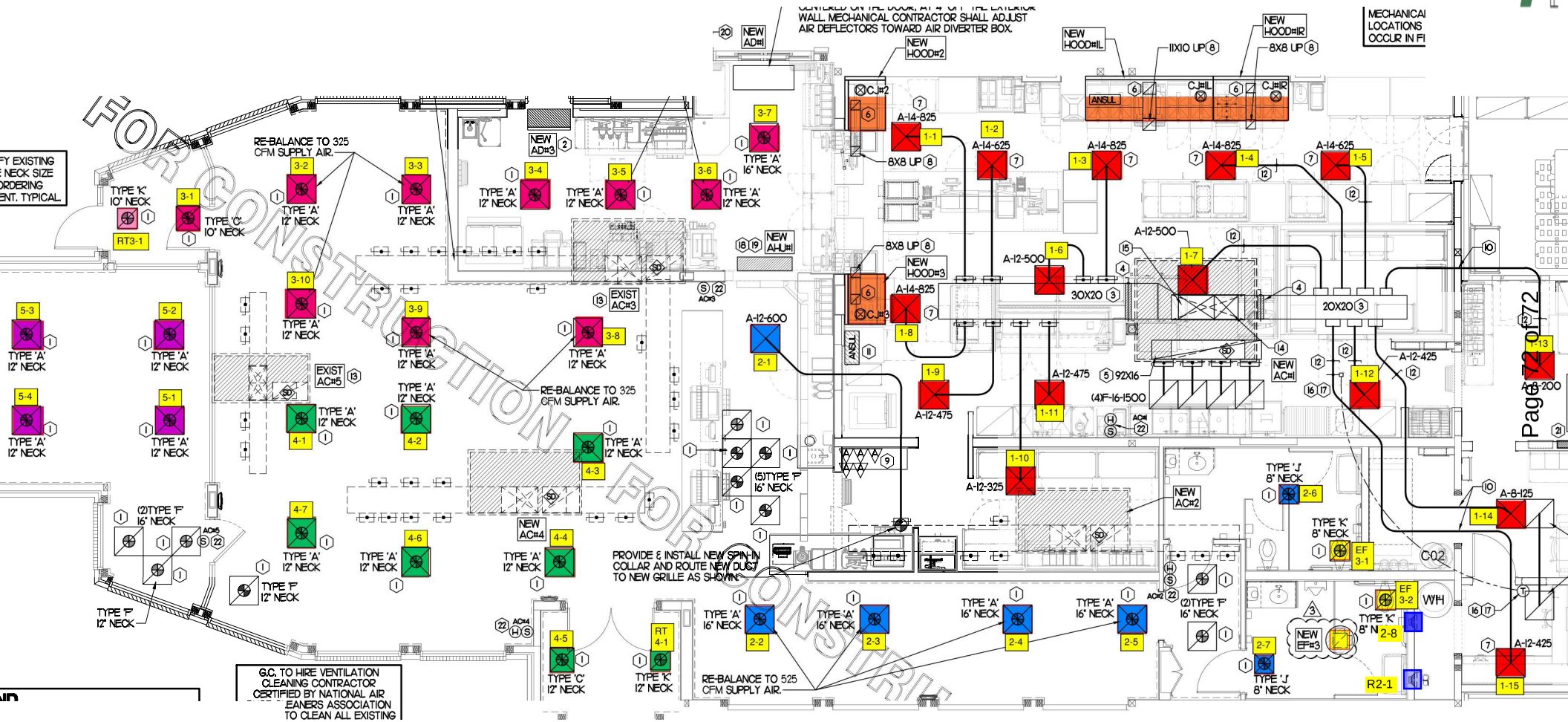

Date: 11/2/2023