Report By:

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

Report: INSPECTIONS TAB REPORT

Function: Test, Adjust, & Balance

Date: 10/14/2024

Completed By: National TAB

PROJECT

09-30-24 CHICK-FIL-A #04730 HOMESTEAD (FL) FSU

3200 NE 8TH STREET

HOMESTEAD, FL 33033

Client

Chick-fil-A (CFA)

5200 BUFFINGTON ROAD

ATLANTA, GA 30349-2998

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Project: 09-30-24 CHICK-FIL-A #04730 HOMESTEAD (FL) FSU

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.

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System/Unit: AHU/RTU

Asset: AC 1 AREA:

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	234112679D
Model Num	YSJ300A3S	YSJ300A3S0H0PYE
Type	AC	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	66X17
Num Final Filter 1	-	8
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Horsepower	4.6	5.0
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	11.0

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	**Actual**
SF CFM	9500	9490
SF RPM	-	1689
RA CFM	8120	8049
OA CFM	1380	1441
RL Voltage	-	209/209/208
RL Amperage	-	8.0/7.9/8.0
SF Rotation	-	CORRECT
SF System SetPt	-	87%
RA Damper Position	-	73%
Min OA Damper Position	-	27%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	25.00 BTU/lb

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.54”
Fan Suction SP	-	-1.82”
Fan Discharge SP	-	0.41”
Total ESP	0.80	0.95"
Fan Total SP	-	2.23"

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

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Project:09-30-24 CHICK-FIL-A #04730 HOMESTEAD (FL)
FSU

AHU/RTU

Diffuser Supply (GRD)

AC 1/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AC 1-SGRD1	KITCHEN	A	14	675	1	478	600	660	97.8
AC 1-SGRD2	KITCHEN	A	14	800	1	549	664	730	91.3
AC 1-SGRD3	KITCHEN	A	14	825	1	646	765	842	102.1
AC 1-SGRD4	KITCHEN	A	14	800	1	655	756	832	104.0
AC 1-SGRD5	KITCHEN	A	14	825	1	760	736	810	98.2
AC 1-SGRD6	KITCHEN	A	14	775	1	726	665	732	94.5
AC 1-SGRD7	KITCHEN	A	14	775	1	794	683	751	96.9
AC 1-SGRD8	KITCHEN	A	14	600	1	595	559	615	102.5
AC 1-SGRD9	KITCHEN	A	14	775	1	770	709	780	100.6
AC 1-SGRD10	KITCHEN	A	14	600	1	643	574	631	105.2
AC 1-SGRD11	KITCHEN	A	14	610	1	470	569	626	102.6
AC 1-SGRD12	SERVICE	A	12	515	1	370	466	513	99.6
AC 1-SGRD13	DTT CLOSET	A	8	225	1	185	223	245	108.9
AC 1-SGRD14	OFFICE	A	12	400	1	452	372	409	102.3
AC 1-SGRD15	UTILITY	A	10	300	1	313	285	314	104.7
Total				9500		8406	8626	9490	99.89%

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System/Unit: AHU/RTU

Asset: AC 2 AREA:

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	234011046D
Model Num	YSJ210A3S	YSJ210A3S0H0MWW
Type	AC	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	66X17
Num Final Filter 1	-	8
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Horsepower	3.1	3.0
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.8

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	**Actual**
SF CFM	5600	5635
SF RPM	-	1110
RA CFM	4350	4365
OA CFM	1250	1270
RL Voltage	-	207/207/209
RL Amperage	-	2.7/2.8/2.8
SF Rotation	-	CORRECT
SF System SetPt	-	60%
RA Damper Position	-	80%
Min OA Damper Position	-	20%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	25.00 BTU/lb

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.32”
Fan Suction SP	-	-0.76”
Fan Discharge SP	-	0.64”
Total ESP	0.65	0.96"
Fan Total SP	-	1.40"

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

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AHU/RTU

Diffuser Supply (GRD)

AC 2/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AHU2-SGRD1	DRIVE THRU	A	14	800	1	1073	859	837	104.6
AHU2-SGRD2	DRIVE THRU	A	14	800	1	1130	892	802	100.3
AHU2-SGRD3	DRIVE THRU	A	14	800	1	984	802	798	99.8
AHU2-SGRD4	DRIVE THRU	A	14	800	1	709	584	723	90.4
AHU2-SGRD5	DRIVE THRU	A	14	800	1	842	680	848	106.0
AHU2-SGRD6	DRIVE THRU	A	14	800	1	1132	921	815	101.9
AHU2-SGRD7	DRIVE THRU	A	14	800	1	1110	894	812	101.5
Total				5600		6980	5632	5635	100.63%

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System/Unit: AHU/RTU

Asset: AC 3 AREA:

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	233911744D
Model Num	YSJ240A3S	YSJ240A3S0H0MWW
Type	AC	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	66X17
Num Final Filter 1	-	8
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Horsepower	3.1	3.0
Phase	-	3
Rated Voltage	-	208
Rated Amperage	-	8.8

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Motor Sheave SetPt	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment	DD

Test Data		
	Design	**Actual**
SF CFM	6400	6461
SF RPM	-	1302
RA CFM	4375	4381
OA CFM	2025	2080
RL Voltage	-	206/206/208
RL Amperage	-	3.2/3.2/3.2
SF Rotation	-	CORRECT
SF System SetPt	-	65%
RA Damper Position	-	66%
Min OA Damper Position	-	34%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	25.00 BTU/lb

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.40”
Fan Suction SP	-	-0.90”
Fan Discharge SP	-	0.38”
Total ESP	0.65	0.78"
Fan Total SP	-	1.28"

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

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Project:09-30-24 CHICK-FIL-A #04730 HOMESTEAD (FL)
FSU

AHU/RTU

Diffuser Supply (GRD)

AC 3/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
AHU3-SGRD1	DINNING	A	12	400	1	519	528	421	105.3
AHU3-SGRD2	DINNING	A	12	410	1	439	603	423	103.2
AHU3-SGRD3	VEST	C	10	390	1	660	467	395	101.3
AHU3-SGRD4	DINNING	A	12	410	1	552	479	422	102.9
AHU3-SGRD5	DINNING	A	10	350	1	514	405	358	102.3
AHU3-SGRD6	DINNING	A	12	475	1	598	650	481	101.3
AHU3-SGRD7	DINNING	A	12	475	1	674	594	504	106.1
AHU3-SGRD8	DINNING	A	12	475	1	595	639	484	101.9
AHU3-SGRD9	DINNING	A	10	350	1	412	501	322	92.0
AHU3-SGRD10	DINNING	A	12	475	1	522	581	498	104.8
AHU3-SGRD11	DINNING	A	12	475	1	473	531	467	98.3
AHU3-SGRD12	BOH	A	8	150	1	132	144	141	94.0
AHU3-SGRD13	EXIT VEST	C	8	140	1	159	167	152	108.6
AHU3-SGRD14	TM RM	A	12	350	1	309	344	327	93.4
AHU3-SGRD15	TM RM	A	12	350	1	284	333	316	90.3
AHU3-SGRD16	MENS RR	J	8	125	1	203	147	132	105.6
AHU3-SGRD17	WOMENS RR	J	8	125	1	267	148	136	108.8
AHU3-SGRD18	DINING	A	12	475	1	625	548	482	101.5
Total				6400		7937	7809	6461	100.95%

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System/Unit: FAN - Exhaust

Asset: EF1 AREA:

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	150 CPS	150 CPS CL1 150 CPS S
Serial Num	-	050SL17213- 00/0000706
Type	BELT	UTILITY
Configuration	UTILITY	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	56H
Horsepower	3/4	0.75
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115/230
Amperage (rated)	-	8.2/4.1
Service Factor	-	1.25

Drive Data	
	Actual
Motor Sheave Size	4.0”
Motor Bore Size	5/8”
Motor Sheave SetPt	1.5 TURNS OUT
Fan Sheave Size	AK51
Fan Sheave Bore	1.0”
Belt CL Distance	12.0”
Num of Belts	1
Belt Size	A37

Test Data		
	Design	**Actual**
CFM	1912	1940
Fan RPM	-	1393
Fan Rotation	-	CCW
Motor RPM	-	1755
RL Voltage	-	119
RL Amperage	-	5.1
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	ATM

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System/Unit: FAN - Exhaust

Asset: EF2 AREA:

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	150 CPS	150 CPS CL1 150 CPS S
Serial Num	-	050SL17213- 00/0000704
Type	BELT	UTILITY
Configuration	UTILITY	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	US MOTORS
Frame	-	56H
Horsepower	3/4	0.75
Motor Rpm	-	1725
Phase	-	1
Voltage (rated)	-	115/230
Amperage (rated)	-	8.2/4.1
Service Factor	-	1.25

Drive Data	
	Actual
Motor Sheave Size	4.25”
Motor Bore Size	5/8”
Motor Sheave SetPt	2.5 TURNS OUT
Fan Sheave Size	AK51
Fan Sheave Bore	1.0”
Belt CL Distance	11.75”
Num of Belts	1
Belt Size	A36

Test Data		
	Design	**Actual**
CFM	1402	1450
Fan RPM	-	1285
Fan Rotation	-	CCW
Motor RPM	-	1767
RL Voltage	-	119
RL Amperage	-	4.3
Suction ESP	-	INACCESSIBLE
Discharge ESP	-	ATM

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System/Unit: FAN - Exhaust

Asset: EF3 AREA:

Unit Data		
	Design	**Actual**
MFG	LOREN COOK	LOREN COOK
Model Num	ACED-90C15DH	90C15DH 90 ACEH
Serial Num	-	050PL21297-00/0000701
Type	DD	CENTRIFUGAL
Configuration	DOWNBLAST	DOWNBLAST

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

Test Data		
	Design	**Actual**
CFM	300	296
Fan RPM	-	DD
Fan Rotation	-	CORRECT
Motor RPM	-	DD
System SetPt	-	SPEED CONTROLLER
Total ESP	0.375	0.137”
Fan Inlet SP	-	-0.137”
Fan Discharge SP	-	ATM

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Notes:
SPEED CONTROLLER MARKED

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FSU

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF3/

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EF3-EGRD1	MENS RR	K	8	150	1	270	158	158	105.3
EF3-EGRD2	WOMENS RR	K	8	150	1	245	138	138	92.0
Total				300		515	296	296	98.67%

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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	-	122108-311
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)	S.S FILTERS (KSA)
Filter Qty 1	2	2
TAB SP	0.295"	0.305"
CFM	701	713

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	FRYER

Test Data Supply		
	Design	**Actual**
TAB SP	0.29"	0.289"

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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	-	122108-362
Type	TYPE 1 CANOPY	TYPE I CANOPY
Hood length	42"	42"
Hood Width	34"	34"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	S.S FILTERS (KSA)
Filter Qty 1	2	2
TAB SP	0.30"	0.326"
CFM	701	737

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	FRYER

Test Data Supply		
	Design	**Actual**
TAB SP	0.29"	0.282"

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System/Unit: Kitchen Hood Type I

Asset: HD L1 AREA:

Unit Data		
	Design	**Actual**
MFG	HALTON	HALTON
Model Num	KVL-C-IC	KVL-2-IC
Job / Serial Num	-	122108-225
Type	TYPE 1 CANOPY	TYPE I CANOPY
Hood length	96"	96”
Hood Width	37"	37"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	S.S FILTERS (KSA)
Filter Size 2	1/2 S.S FILTERS (KSA)	1/2 S.S FILTERS (KSA)
Filter Qty 1	4	4
Filter Qty 2	1	1
TAB SP	0.126"	0.135"
CFM	1080	1118

Cooking Equipment	
	Actual
Item 1	PRESSURE FRYER
Item 2	GRILL

Test Data Supply		
	Design	**Actual**
TAB SP	0.30"	0.295"

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Project: 09-30-24 CHICK-FIL-A #04730 HOMESTEAD (FL)
FSU

System/Unit: Kitchen Hood Type I

Asset: HD R1 AREA:

Unit Data		
	Design	**Actual**
MFG	HALTON	HALTON
Model Num	KVL-C-IC	KVL-2-IC
Job / Serial Num	-	122108-266
Type	TYPE 1 CANOPY	TYPE I CANOPY
Hood length	74"	74”
Hood Width	37"	37"

Test Data Exhaust		
	Design	**Actual**
Filter Size 1	S.S FILTERS (KSA)	S.S FILTERS (KSA)
Filter Size 2	1/2 S.S FILTERS (KSA)	1/2 S.S FILTERS (KSA)
Filter Qty 1	3	3
Filter Qty 2	1	1
TAB SP	0.126"	0.123"
CFM	832	822

Cooking Equipment	
	Actual
Item 1	PRESSURE FRYER
Item 2	GRILL

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

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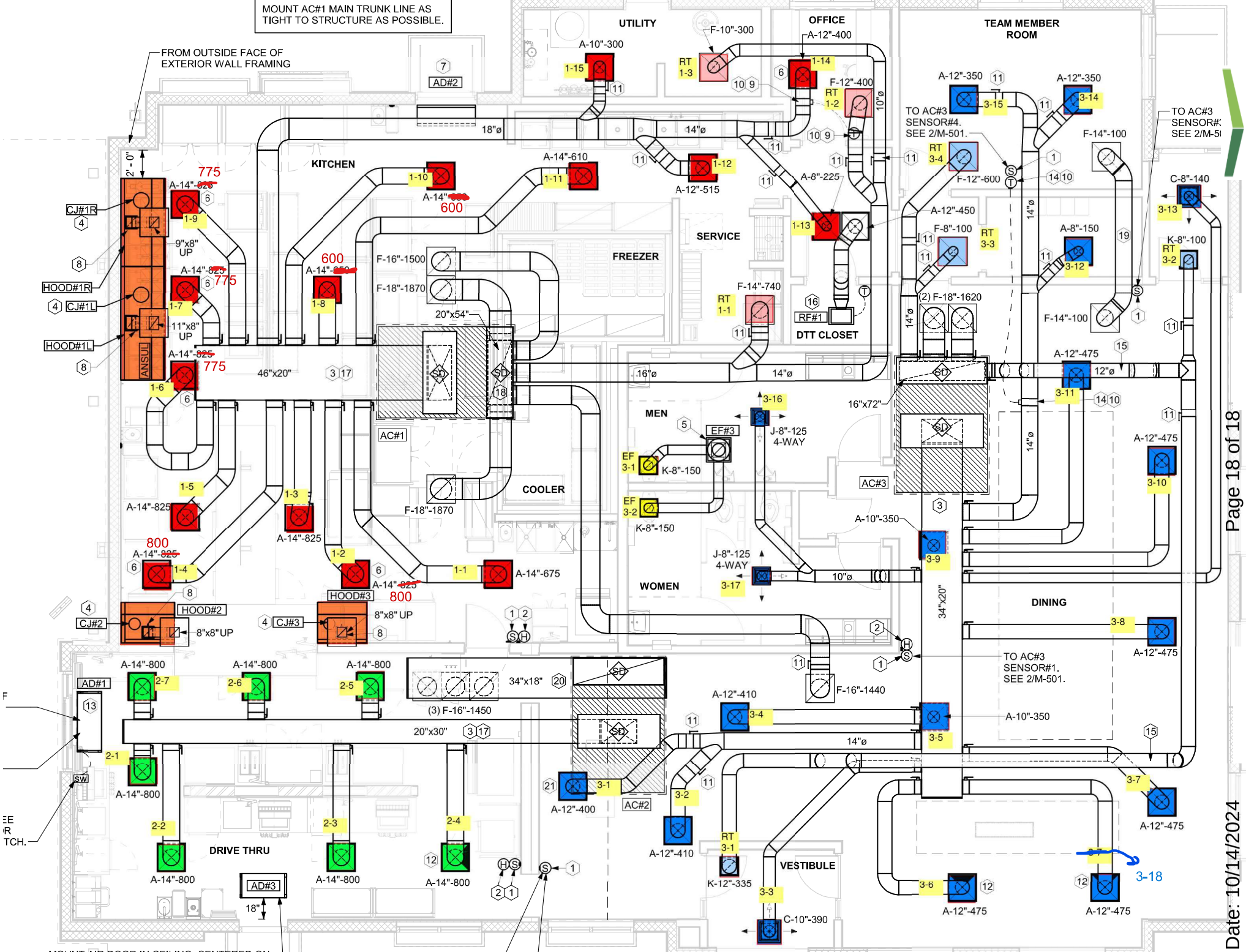
MOUNT AC#1 MAIN TRUNK LINE AS TIGHT TO STRUCTURE AS POSSIBLE.
FROM OUTSIDE FACE OF EXTERIOR WALL FRAMING
UTILITY
OFFICE
TEAM MEMBER ROOM
KITCHEN
SERVICE
FREEZER
COOLER
MEN
WOMEN
DTT CLOSET
DINING
DRIVE THRU
VESTIBULE
AC#1
AC#2
AC#3
AD#1
AD#2
AD#3
HOOD#1R
HOOD#1L
HOOD#2
HOOD#3
CJ#1R
CJ#1L
CJ#2
CJ#3
RF#1
ANSUL
TO AC#3 SENSOR#4. SEE 2/M-501.
TO AC#3 SENSOR#1. SEE 2/M-501.
TO AC#3 SENSOR#2. SEE 2/M-501.
MOUNT AIR DOOR IN CEILING, CENTERED ON DOOR OPENING, AT 18" OFF WALL. PROVIDE WITH FACTORY MICROSWITCH CONTROL.
COORD. EXACT LOCATION OF SENSORS WITH SIGNAGE.
3-18
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