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.

RTU's (Roof Top Units)
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
Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow.

General Exhaust Fans
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 of -0.02" wc to +0.02" wc 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.

Comfort. Under control.

11-28 CULVERS - GRAND JUNCTION, CO

CheckList Information

Name :	TECH - STEP 1: INITIAL WALKTHROUGH	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design?	
Perforated diffusers are installed on the cook line? (4-ways will disrupt hood capture)	
All hood filters installed and accounted for?	
Hoods are wired and have power?	
Thermostats have power?	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	

Notes/Comments :

Comfort. Under control.

11-28 CULVERS - GRAND JUNCTION, CO

CheckList Information

Name :	TECH - STEP 2: UNIT DATA AND EVAL	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's

- Economizers are assembled and functional?
- Thermostat wire run from OCP on the RTU to the Ec terminal at the thermostat? If no, jumper can be installed from R to OCP temporarily. (The economizers will not open without OCP being energized.)
- Motors are all operating below the FLA rating?
- Are belts tight?
- If direct drive unit is the speed controller working.
- Is gas piping installed and valves turned on?
- Unit free of noticeable noise and vibration

EF's

- Rotation is correct?
- Belts are tight?
- Grease cup installed on hood fan?
- Hinge kit installed installed on hood fan?
- Lean grease rated fans back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?

Flex conduit is long enough so that fan can be completely tilted back?	
There is no major leakage around base of fan?	
Is the motor operating below the motor FLA rating?	
For restroom fan(s) is the back draft damper installed and can it fully open?	
Unit free of noticeable noise and vibration?	
The hood exhaust fans are installed in correct positions and are not switched?	
HOODS	
Kitchen equipment installed in proper places?	
Can kitchen equipment be turned on for final smoke test?	
Second stage Grease Grabber filters are installed on the griddle hood?	
DOCUMENTATION	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	

Notes/Comments :

Comfort. Under control.

11-28 CULVERS - GRAND JUNCTION, CO

CheckList Information

Name :	TECH - STEP 3: TEST, ADJUST AND BALANCE	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?	
Is space comfortable in all areas?	
Is the space free of ventilation noise?	
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	

Notes/Comments :

Comfort. Under control.

11-28 CULVERS - GRAND JUNCTION, CO

CheckList Information

Name :	TECH - STEP 4: FINAL TESTS	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

FINAL TESTS
HOOD CAPTURE TEST
List equipment turned on for testing
List smoke candle type used
Smoke test capture - Perimeter of hood
Smoke test capture - Top of cooking surface
WITNESS
Date test was completed
TAB tech name / Firm
Site super name / Firm
Owner representative name / Firm (if Applicable)
Building pressure at front & back doors (All Systems On)
ADDITIONAL
Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)
Thermostats are programmed?
PRODIGY SETTINGS FOR RTU'S
Parameter 65 set to 0

Parameter 78 set to 0	
Parameter 105 set to 6	
Parameter 156 set to 70 (Dining unit only)	
Parameter 156 set to 65 (Kitchen Unit Only)	
Parameter 170 set to 75 (Dining Unit Only)	
Parameter 170 set to 70 (Kitchen Unit Only)	
Parameter 131 set to the same % as OA minimum position?	
Parameter 117 set to the same % as OA minimum position?	

Notes/Comments :

Comfort. Under control.

11-28 CULVERS - GRAND JUNCTION, CO

CheckList Information

Name :	TECH - STEP 5: FINAL DOCUMENTATION	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

FINAL DOCUMENTATION

Marked Data capture complete for all assets?	
Picture file sent to processing team or uploaded?	
Balance schedule complete and uploaded?	
Prelim report generated and reviewed?	

Notes/Comments :

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU1 AREA:DINNING ROOM

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	
Model Num	LGH156H4B	LGH156H4B
Type	RTU	
Configuration	VERTICAL	
Num OA Filters 1	-	
OA Filter Size 1	-	
Num Final Filter 1	-	
Final Filter Size 1	-	
Num Final Filter 2	-	
Final Filter Size 2	-	

Test Data		
	Design	**Actual**
SF CFM	6150	
SF RPM	-	
RA CFM	4000	
OA CFM	1750	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	3	
Rated Voltage	208/230	
Rated Amperage	-	

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

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

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

Completed By: Wale Odofin

Notes:

National TAB

Project:11-28 CULVERS - GRAND JUNCTION, CO

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU1/DINNING ROOM

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	ENTRY	SD3	8"	150					-
SGRD2	DINING	SD1	12"	450					-
SGRD3	DINING	SD1	8"	150					-
SGRD4	DINING	SD1	8"	150					-
SGRD5	DINING	SD1	8"	150					-
SGRD6	DINING	SD1	8"	150					-
SGRD7	DINING	SD1	8"	150					-
SGRD8	DINING	SD1	8"	150					-
SGRD9	DINING	SD1	8"	150					-
SGRD10	DINING	SD1	8"	150					-
SGRD11	DINING	SD1	8"	150					-
SGRD12	DINING	SD1	8"	150					-
SGRD13	DINING	SD1	8"	150					-
SGRD14	DINING	SD1	8"	150					-
SGRD15	DINING	SD1	8"	150					-
SGRD16	DINING	SD1	8"	150					-
SGRD17	DINING	SD1	10"	300					-
SGRD18	DINING	SD1	8"8"	150					-
SGRD19	DRIVE THRU	SD1	12"	500					-
SGRD20	OFFICE	SD1	10"	200					-
SGRD21	CUSTOMER SER.	SD1	8"	150					-
SGRD22	CUSTOMER SER.	SD1	12"	450					-
SGRD23	CUSTOMER SER.CUSTOMER SER.	SD1	10"	350					-
SGRD24	CUSTOMER SER.	SD1	10"	350					-
SGRD25	CUSTOMER SER.	SD1	10"	350					-
SGRD26	CUSTOMER SER.	SD1	10"	350					-
SGRD27	RESTROOM	SD4	8"	150					-
SGRD28	RESTROOM	SD4	8"	150					-

Completed By: Wale Odofin on

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: AHU/RTU

Comfort. Under control.

Asset: RTU2 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	LENNOX	LENNOX
Serial Num	-	
Model Num	LGH156H4B	LGH156H4B
Type	RTU	
Configuration	VERTICAL	
Num OA Filters 1	-	
OA Filter Size 1	-	
Num Final Filter 1	-	
Final Filter Size 1	-	
Num Final Filter 2	-	
Final Filter Size 2	-	

Test Data		
	Design	**Actual**
SF CFM	6150	
SF RPM	-	
RA CFM	4450	
OA CFM	1700	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	-	
Motor Rpm	-	
Phase	3	
Rated Voltage	208/230	
Rated Amperage	-	

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

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

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

Completed By: Wale Odofin

Notes:

National TAB

Project:11-28 CULVERS - GRAND JUNCTION, CO

AHU/RTU

Comfort. Under control.

Diffuser Supply (GRD)

RTU2/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	KITCHEN	SD1	12"	600					-
SGRD2	KITCHEN	SD1	12"	600					-
SGRD3	KITCHEN	SD1	12"	600					-
SGRD4	DRY GOODS	SD1	12"	600					-
SGRD5	DRY GOODS	SD1	12"	600					-
SGRD6	KITCHEN	SD5	10"	200					-
SGRD7	KITCHEN	SD5	12"	350					-
SGRD8	KITCHEN	SD5	12"	375					-
SGRD9	KITCHEN	SD5	12"	400					-
SGRD10	KITCHEN	SD5	12"	350					-
SGRD11	KITCHEN	SD5	12"	400					-
SGRD12	KITCHEN	SD5	12"	350					-
SGRD13	KITCHEN	SD5	10"	250					-
SGRD14	KITCHEN	SD5	10"	275					-
SGRD15	KITCHEN	SD5	8"	125					-
SGRD16	RESTROOM	SD1	6"	75					-

Completed By: Wale Odofin on

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: EFA1 AREA:MOP ROOM

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XCRB80	XCRB80
Serial Num	-	
Type	CEILNG	
Configuration	VERTICAL	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	0.01	
Motor Rpm	900	
Phase	1	
Voltage (rated)	115	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	**Actual**
CFM	75	
Fan RPM	885	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.125"	
Fan Inlet SP	-	
Fan Discharge SP	-	

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Notes:

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: PRV1 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XRED-095-D	XRED-095-D
Serial Num	-	
Type	DOWNBLAST	
Configuration	VERTICAL	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	0.0667	
Motor Rpm	1550	
Phase	1	
Voltage (rated)	115	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	**Actual**
CFM	375	
Fan RPM	1479	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.5"	
Fan Inlet SP	-	
Fan Discharge SP	-	

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Notes:

National TAB

Project:11-28 CULVERS - GRAND JUNCTION, CO

FAN - Exhaust

Comfort. Under control.

Diffuser Ret/Exh (GRD)

PRV1/RESTROOMS

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1				150					-
EGRD2				150					-
EGRD3				150					-

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National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: PRV2 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XRUB-160XP-15	XRUB-160XP-15
Serial Num	-	
Type	UPBLAST	
Configuration	VERTICAL	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	1.29	
Motor Rpm	1725	
Phase	3	
Voltage (rated)	208	
Amperage (rated)	-	
Service Factor	-	

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	
Motor Bore Size	-	
Motor Sheave SetPt	-	
Fan Sheave Size	-	
Fan Sheave Bore	-	
Belt CL Distance	-	
Num of Belts	-	
Belt Size	-	

Test Data		
	Design	**Actual**
CFM	1500	
Fan RPM	2411	
Fan Rotation	-	
Motor RPM	-	
RL Voltage	-	
RL Amperage	-	
Suction ESP	-	
Discharge ESP	-	
Total ESP	2.337"	

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Notes:

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: FAN - Exhaust

Comfort. Under control.

Asset: PRV3 AREA:HOOD 2

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XRUB-140-7	XRUB-140-7
Serial Num	-	
Type	UPBLAST	
Configuration	VERTICAL	

Motor Data		
	Design	**Actual**
Motor MFG	-	
Frame	-	
Horsepower	0.5	
Motor Rpm	1725	
Phase	3	
Voltage (rated)	208	
Amperage (rated)	-	
Service Factor	-	

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	
Motor Bore Size	-	
Motor Sheave SetPt	-	
Fan Sheave Size	-	
Fan Sheave Bore	-	
Belt CL Distance	-	
Num of Belts	-	
Belt Size	-	

Test Data		
	Design	**Actual**
CFM	1500	
Fan RPM	1377	
Fan Rotation	-	
Motor RPM	-	
RL Voltage	-	
RL Amperage	-	
Suction ESP	-	
Discharge ESP	-	
Total ESP	1"	

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Notes:

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: Kitchen Hood Type I

Comfort. Under control.

Asset: HD1 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XGEP-64-S	XGEP-64-S
Job / Serial Num	-	
Type	TYPE I LOW PROXIMITY	
Hood length	64	
Hood Width	23	

Test Data Exhaust		
	Design	**Actual**
Filter Type	GREASE GRABBER	
Filter Size 1	16X16	
Filter Size 2	-	
Filter Qty 1	4	
Filter Qty 2	-	
Filter AK factor size 1	1.53	
Filters AK factor size 2	-	
Filter Total AK Area	6.12	
Filter1 FPM	-	
Filter2 FPM	-	
Filter3 FPM	-	
Filter4 FPM	-	
Filter5 FPM	-	
Filter6 FPM	-	
Filter7 FPM	-	
Filter8 FPM	-	
Filter9 FPM	-	
Filter10 FPM	-	
Filter11 FPM	-	
Filter12 FPM	-	
Filter Ave FPM(corr)	-	
CFM	1500	

Cooking Equipment		
	Design	**Actual**
Item 1	-	
Item 2	-	

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Notes:

National TAB

Project: 11-28 CULVERS - GRAND JUNCTION, CO

System/Unit: Kitchen Hood Type I

Comfort. Under control.

Asset: HD2 AREA:

Unit Data		
	Design	**Actual**
MFG	ACCUREX	ACCUREX
Model Num	XXEP-83-S	XXEP-83-S
Job / Serial Num	-	
Type	TYPEI I LOW PROXIMITY	
Hood length	83	
Hood Width	23	

Test Data Exhaust		
	Design	**Actual**
Filter Type	XTRACTOR	
Filter Size 1	16X16	
Filter Size 2	-	
Filter Qty 1	5	
Filter Qty 2	-	
Filter AK factor size 1	1.53	
Filters AK factor size 2	-	
Filter Total AK Area	7.65	
Filter1 FPM	-	
Filter2 FPM	-	
Filter3 FPM	-	
Filter4 FPM	-	
Filter5 FPM	-	
Filter6 FPM	-	
Filter7 FPM	-	
Filter8 FPM	-	
Filter9 FPM	-	
Filter10 FPM	-	
Filter11 FPM	-	
Filter12 FPM	-	
Filter Ave FPM(corr)	-	
CFM	1500	

Cooking Equipment		
	Design	**Actual**
Item 1	-	
Item 2	-	

Completed By: Wale Odofin

Notes: