

**Report By:**

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



**Report: TAB REPORT**  
**Function: Test, Adjust, & Balance**  
**Date: 04/02/2025**  
**Completed By: National TAB**

# PROJECT

## SNC Office Improvements (Miamisburg, OH)

9555 Springboro Pike

Miamisburg, OH 45342

### Client

Mechanical Services & Design (MSD)

4401 Springfield St

Dayton, OH 45431

# National TAB

Project: SNC Office Improvements (Miamisburg, OH)

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# CERTIFICATION



**PROJECT:** SNC Office Improvements (Miamisburg, OH)

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems*. Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

**NEBB TAB FIRM:** National TAB

**REGISTRATION NO:** 3629

**CERTIFIED BY:** Joe Hertenstein

**DATE:** 4/2/2025

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

**NEBB TAB FIRM:** National TAB

**REGISTRATION NO:** 3629


**CERTIFIED BY:** Joe Hertenstein

**DATE:** \_\_\_\_\_

## Submitted and Certified by:

**NEBB TAB FIRM:** National TAB

**TAB PROFESSIONAL:** Joe Hertenstein

**SIGNATURE:** 

**REGISTRATION NO:** 3629

**CERTIFICATION EXP:** 12/31/2025





# National TAB



Testing, Adjusting, and Balancing Equipment

INTELLIGENCE

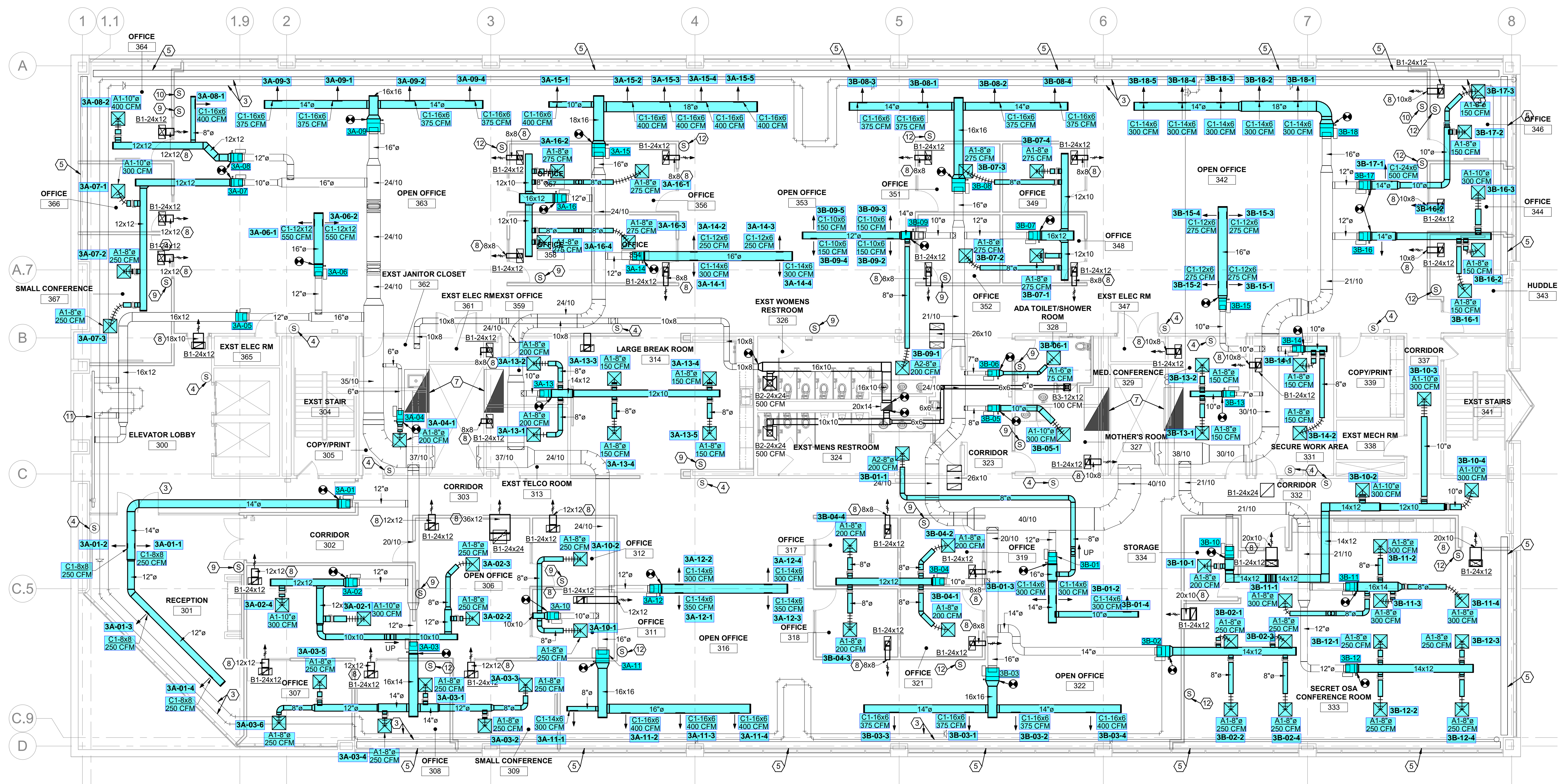
Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 5 % +/- 7 cfm	Evergreen S-PVF-1 S/N 2200484C	3/24/2025	3/24/2027
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	7/12/2024	7/12/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	7/12/2024	7/12/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	7/12/2024	7/12/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 071118034	7/12/2024	7/12/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	7/12/2024	7/12/2025
	AMPERAGE MEASUREMENT	0 Amperes to 100 Amperes	2 % reading +/- 5 digits	Fluke 373 True RMS, S/N: 33290686	7/12/2024	7/12/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	SHIMPO DT-207LR S/N: D1530081R	7/12/2024	7/12/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Alnor HM680 S/N: 70807241	5/11/2024	5/31/2025
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Alnor HM680 S/N: 70807241	5/11/2024	5/31/2025

## Abbreviation List

A = Area (ft <sup>2</sup> )	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A <sub>k</sub> = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T <sub>ma</sub> = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T <sub>oa</sub> = Outside Air Temperature
CD = Ceiling Diffuser	T <sub>ra</sub> = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO <sub>2</sub> = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C <sub>v</sub> = Flow Constant	K <sub>v</sub> = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T <sub>ra</sub> = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
% <sub>ra</sub> = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

**DRAWING NOTES**

- EXISTING DUCTWORK TO REMAIN (TYPICAL).
- EXISTING VAV BOX TO REMAIN (TYPICAL).
- EXISTING HOT WATER PIPING TO REMAIN (TYPICAL).
- EXISTING THERMOSTAT TO REMAIN (TYPICAL).
- EXISTING PERIMETER FINITUBE TO REMAIN (TYPICAL).
- EXISTING EXHAUST SYSTEM TO REMAIN (TYPICAL).
- EXISTING RETURN AIR DUCT STUB FOR PLENUM RETURN AIR TO REMAIN.
- PROVIDE TRANSFER AIR DUCT.
- RELOCATED EXISTING VAV THERMOSTAT.
- RELOCATED EXISTING FINITUBE THERMOSTAT.
- EXISTING SLOT DIFFUSER AND ASSOCIATED DUCTWORK TO REMAIN.
- PROVIDE NEW VAV BOX THERMOSTAT WITH FINITUBE CONTROL INTERLOCK WITH VAV BOX.



① HVAC FLOOR PLAN - NEW WORK  
1/8" = 1'-0"

**Miamisburg Office Renovation**

Sierra Nevada Corporation

9555 Springboro Pike  
Miamisburg, Ohio  
45342

**ISSUANCES**

No.	Description	Date
FOR BID/PERMIT		10/21/2024

Drawn By	KDB
Checked By	DST
Client No.	818
Project No.	JEFFREY WETZEL PE-76872 EXPIRATION DATE 12/31/2025

HVAC FLOOR PLAN - NEW WORK

H102



# National TAB

Project: SNC Office Improvements (Miamisburg, OH)

## VAV - Single Duct

### VAVs/

Asset									
Asset Name	Type	Inlet Size	Design Max CFM	Max CFM	Design Min CFM	Min CFM	Design Heat CFM	Heat CFM	Ak (max)
3A-01	VAV	EXISTING	1000	1017	100	100	0	0	2330
3A-02	VAV	EXISTING	1100	1075	110	115	0	0	1902
3A-03	VAV	EXISTING	1500	1486	150	153	0	0	1884
3A-04	VAV	EXISTING	200	210	20	20	0	0	448
3A-06	VAV	EXISTING	1100	1113	110	109	0	0	2711
3A-07	VAV	EXISTING	800	789	80	80	0	0	1444
3A-08	VAV	EXISTING	800	774	80	82	0	0	1846
3A-09	VAV	EXISTING	1500	1550	150	152	0	0	3669
3A-10	VAV	EXISTING	500	497	50	52	0	0	2015
3A-11	VAV	EXISTING	1500	1533	150	1506	0	0	3839
3A-12	VAV	EXISTING	1300	1341	130	134	0	0	1891
3A-13	VAV	EXISTING	600	577	60	59	0	0	1412
3A-14	VAV	EXISTING	1100	1156	110	114	0	0	3745
3A-15	VAV	EXISTING	2000	2100	200	209	0	0	3849
3A-16	VAV	EXISTING	1100	1083	110	112	0	0	1900
3B-01	VAV	EXISTING	1100	1154	110	115	0	0	1447
3B-02	VAV	EXISTING	1000	992	190	190	0	0	1899
3B-03	VAV	EXISTING	1525	1536	150	153	0	0	3654
3B-04	VAV	EXISTING	800	828	80	80	0	0	1881
3B-05	VAV	EXISTING	150	300	15	15	0	0	919
3B-06	VAV	EXISTING	75	75	7.5	7.5	0	0	506
3B-07	VAV	EXISTING	1100	1084	110	110	0	0	1453
3B-08	VAV	EXISTING	1500	1470	150	150	0	0	3839
3B-09	VAV	EXISTING	800	767	80	80	0	0	2158
3B-10	VAV	EXISTING	900	893	90	92	0	0	1891
3B-11	VAV	EXISTING	1200	1258	120	120	0	0	1669
3B-12	VAV	EXISTING	1000	1021	100	108	0	0	1891
3B-13	VAV	EXISTING	300	280	30	30	0	0	1563
3B-14	VAV	EXISTING	475	448	47	50	0	0	904
3B-15	VAV	EXISTING	1100	1085	110	114	0	0	1296
3B-16	VAV	EXISTING	600	542	110	110	550	555	771
3B-17	VAV	EXISTING	800	811	80	80	400	408	1897
3B-18	VAV	EXISTING	1500	1491	150	150	0	0	2524
VAV 03-312	VAV	EXISTING	400	394	40	43	0	0	944

Completed By: Aaron Cosby on 03/28/2025

Asset	Notes	Date	Written By
3A-13	DIFFUSERS 1 AND 2 ARE SERVED BY VAV 03-312 AIRFLOW TOTAL ADJUSTED TO REFLECT CONNECTED LOAD. GM	03/27/2025	Gabe Merk
3A-14	EXCESS AIR STUCK AT DIFFUSER 3&4 DUE TO DAMPERS THAT DONT FULLY OPEN/CLOSE	03/28/2025	Aaron Cosby
3B-01	diffuser 1 missing grille. unable to properly reduce airflow on duct sidewall diffusers due to damper not covering entire face. GM 3/26/25	03/26/2025	Gabe Merk
3B-08	.54 kfactor	03/26/2025	Aaron Cosby
3B-09	UNABLE TO BALANCE. WITH ALL DAMPERS CLOSED, AIR STILL TOO LOW ON DIFFUSER 1	03/28/2025	Aaron Cosby
3B-10	DIFFUSER 1 REMOVED FROM PRINTS AND CAPPED. GM	03/27/2025	Gabe Merk