Report By:

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Report: Brightview-DOAS1 Analysis

Function: Test, Adjust, & Balance

Date: 09/22/2025

Completed By: National TAB

PROJECT

BVE - Brightview Senior Living (Eatontown, NJ)

201 Wyckoff Road

Eatontown, NJ 07724

Client

D.J. Wagner Heating & Air Conditioning, Inc.

30 Cutler Avenue

Westville, NJ 08093

National TAB

Project: BVE - Brightview Senior Living (Eatontown, NJ)

Table Of Contents

Project Summary

Included in the Report below is data and analysis of DOAS-1 at the Brightview Senior living facility located in Eatontown NJ. The purpose of this analysis was to determine if the unit is meeting design and performance expectations on the Supply and exhaust side of the DOAS.

Unit Condition:

Per DJW DOAS filters have been replaced and Heat wheel cleaned and serviced by Facility staff. Fresh filters were found inside the unit at time of testing. All doors have had additional foam to seal gaps and to prevent leakage. No air supply/exhaust can be felt around any access doors showing the unit is well sealed. The only spot were there could be some short cycling is a bracket piece on the inside of the unit. Pictured:

Exhaust Side:

Due to site access restrictions it was impossible to obtain a traverse of the entire exhaust duct prior to any hits or runouts. The only point for a traverse of multiple hits/runouts was through an access of a supply diffuser in the hallway that has all exhaust runs for Grilles 5-11. The traverse came to 629CFM (@0.07" Static). Summation of Flow hood readings for Exhaust grilles 5-11 came to 472CFM.

Next it was important to triangulate Data in order to confirm that the flow hood is reading airflow correctly. Per the Flow hood manufacturers recommendation hood airflow readings should always be compared to a traverse(s) and K-factor established as needed for correction. Three separate exhaust hit traverses along with the main trunk traverse of Grilles 5-11 came to an average of 129.5% difference in flow hood readings vs Traverse readings with the flow hood reading 30% less than traverse.

The ductwork was inspected from traverse location to the Exhaust grilles and found no sources of potential leakage and Exhaust grilles faces were removed and connection to drywall and plenum box was inspected with no gaps for potential leakages found. It was determined that at such low static pressure it is not possible to have 30% leakage from the traverse points to the grilles and a K-factor of 1.295 is justified for the flow hood readings.



Exhaust side unit performance data was collected and compared to the submittals with the Exhaust fan currently right at design HP and RPM. The pressure drop Actual/Design is close at 0.60"/0.67" keeping in mind that there is slight leakage through the heat wheel bypass that are slightly cracked. All three are indicators that were are performing near design CFM. Total external static design is 1" but this is only applicable when the ductwork is follows the design intent perfectly. Design is to have typical 6x6 Square runouts to the exhaust grilles but actual typical installation is 8" round. The difference in flow area from the square to round is 140% and can be a reason we are seeing lower external static while at design flow.

Supply Side:

It was not possible to obtain a traverse of any part of the trunkline for the supply side of DOAS-1 due to the location of the duct above hard ceiling in the hallway and clearance needed to insert the pitot tube. Flow hood readings were taken on the supply side with three hood configurations types and it was found that there is no consistency and ability to triangulate hood readings or traverses. The hood readings on the supply side we deem as inaccurate. The reason for the discrepancy/inconsistency in readings is from the 1. Supply grille type, and 2. how the supply grille is connected to ductwork with an elbow directly on top of the plenum box. the configuration is creating turbulence across the flow hood grid where the flow hood requires laminar flow in order to read supply air accurately as you would see with a typical 4 way throw diffuser.


A total traverse of the DOAS supply was not possible so for further testing it would be recommended to read the total intake on the roof via alternative methods.

National TAB

Project: BVE - Brightview Senior Living (Eatontown, NJ)

System/Unit: AHU-DUAL FAN

JOE HERTENSTEIN CERTIFICATION 3629 Exp. 12/31/25

Asset: DOAS-1 AREA:AREA A - LEVEL 1

UNIT DATA - SUPPLY		
	Design	**Actual**
Manufacturer	NA	CARRIER
Model Number	NA	62XK10DCMCCAGGBGDU
Serial Number	-	1422V03391
No. Pre-Filters / Size (1)	-	4/24X24X2
No. Final Filters / Size (1)	-	3/20X25X4

MOTOR DATA - SUPPLY	
	Actual
Motor MFG / Frame	BALDOR/145T
Horsepower / RPM	2/1760
Rated Volts / Phase	230/3
Rated Amperage / SF	5.6/2.8

TEST DATA - SUPPLY		
	Design	**Actual**
Total CFM	2605	INCONCLUSIVE
Fan RPM	2297	2256
VFD Speed	-	76.9HZ
RL Voltage	208	208.8/207.2/207.5
RL Amperage	-	4.6/4.7/4.9
Motor B.H.P.	1.66	1.47

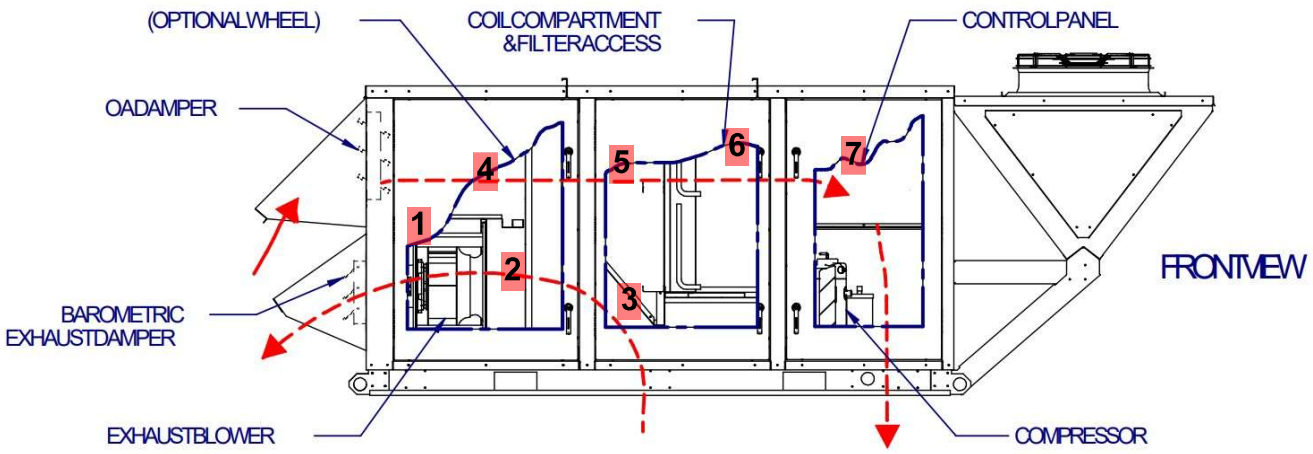
PERFORMANCE DATA - SUPPLY		
	Design	**Actual**
Suction S.P.	-	-1.07"
Discharge S.P.	-	0.52"
Total S.P.	2.77"	1.59"
Chilled Water Coil P.D.	(DX COIL)	*0.25"
Final Filters P.D.	-	*COMBINED
Heat Wheel P.D.	-	0.74"
Pre-Filters P.D.	-	*COMBINED
Total ESP	1.25"	0.60"

UNIT DATA - EXHAUST/RETURN		
	Design	**Actual**
No. Pre-Filters / Size (1)	-	2/20X24X2
No. Pre-Filters / Size (2)	-	1/12X24X2

MOTOR DATA - EXHAUST/RETURN	
	Actual
Motor MFG / FRAME	BALDOR/145T
Horsepower / RPM	1.5/1755
Rated Volts / Phase	230/3
Rated Amperage / SF	4.4/1.15

TEST DATA - EXHAUST/RETURN		
	Design	**Actual**
Total CFM	2330	2307
Fan RPM	1969	1989
VFD Speed	-	68HZ
RL Voltage	230	213.3/213.5/213.8
RL Amperage	4.4	3.3/3.4/3.5
Motor B.H.P.	1.07	1.05

PERFORMANCE DATA - EXHAUST/RETURN		
	Design	**Actual**
Suction S.P.	-	-1.15"
Discharge S.P.	-	0.44"
Total S.P.	1.81"	1.59"
Heat Wheel P.D.	0.67"	*0.55"
Pre-Filters P.D.	-	*COMBINED
Total ESP	1.00	0.60"

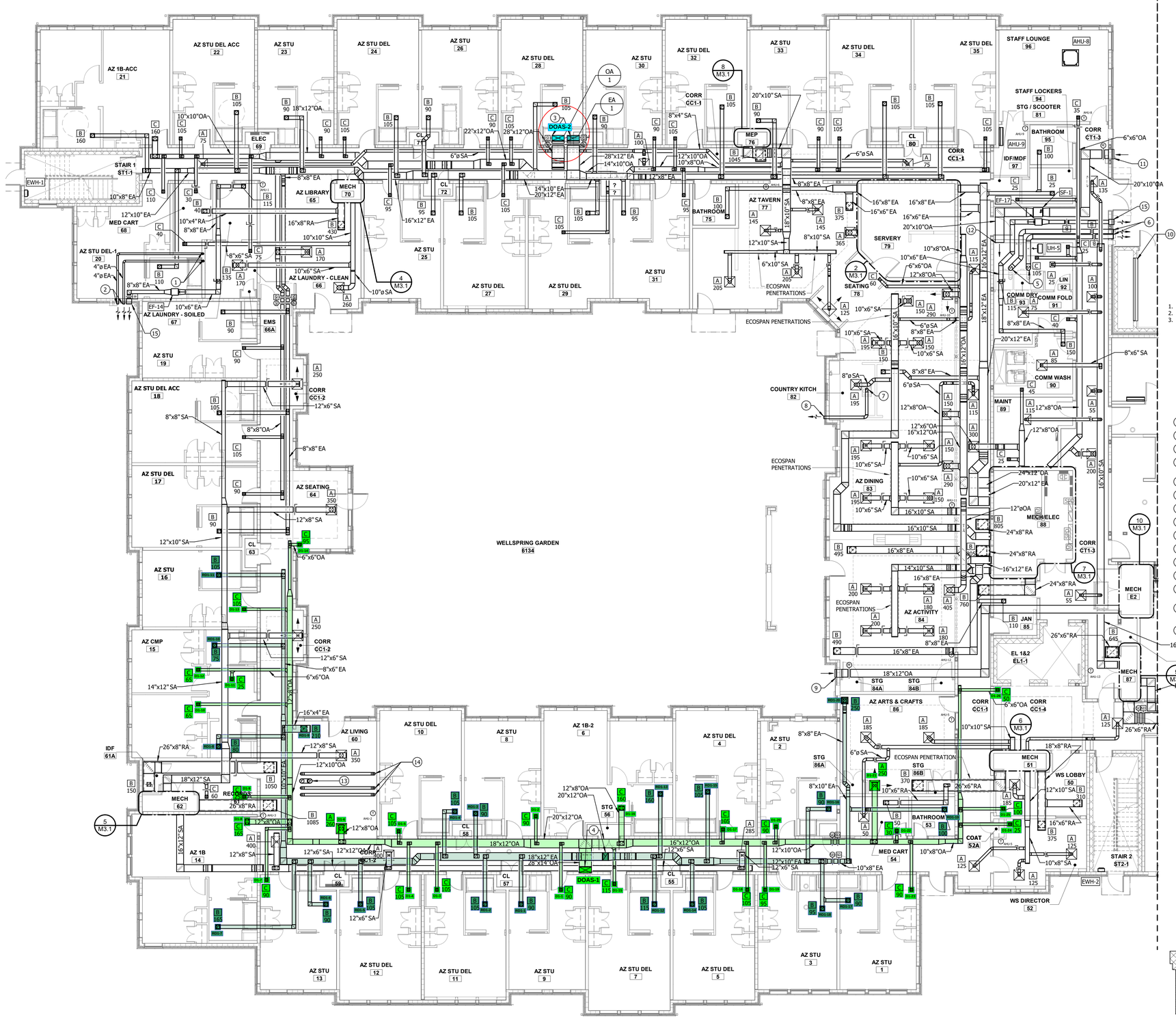


1. 0.44" EF DISCHARGE
2. -1.15" EF SUCTION
3. -0.60" PRESSURE AT EXHAUST DUCT (.55" WHEEL/PREFILTER DROP)
4. -0.08" OA INTAKE
5. -0.82" PRECOIL
6. -1.07" SUPPLY FAN INTAKE
7. 0.52" SUPPLY DISCHARGE

Diffuser Ret/Exh (GRD)

DOAS-1/AREA A - LEVEL 1

Asset						
Asset Name	**Location**	**Type**	**DESIGN CFM**	**AK**	**FINAL CFM**	**% to design**
EGRD1	9	B	90	1.27	250	277.8
EGRD2	11	B	105	1.27	147	140.0
EGRD3	8	B	90	1.27	154	171.1
EGRD4	10	B	105	1.27	142	135.2
EGRD5	12	B	105	1.27	126	120.0
EGRD6	13	B	90	1.27	90	100.0
EGRD7	14	B	165	1.27	86	52.1
EGRD8	15	B	80	1.27	89	111.3
EGRD9	60	B	210	1.27	102	48.6
EGRD10	15	B	75	1.27	57	76.0
EGRD11	16	B	105	1.27	50	47.6
EGRD12	7	B	115	1.27	27	23.5
EGRD13	6	B	160	1.27	196	122.5
EGRD14	5	B	105	1.27	25	23.8
EGRD15	4	B	105	1.27	307	292.4
EGRD16	2	B	90	1.27	204	226.7
EGRD17	1	B	90	1.27	66	73.3
EGRD18	3	B	95	1.27	50	52.6
EGRD19	53	B	100	1.27	44	44.0
EGRD20	86	B	250	1.27	95	38.0
Total			2330		2307	99.01%



GENERAL NOTES:

1. REFER TO PART PLANS ON SHEET M3.1 FOR ADDITIONAL INFORMATION.
2. REFER TO AIR DEVICE SCHEDULE ON SHEET M8.1 FOR ADDITIONAL DUCT SIZES.
3. SIZE AND ROUTE REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS.

DRAWING NOTES:

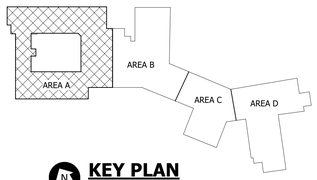
1. 4"Ø DRYER EXHAUST DN TO MECHANICAL EQUIPMENT.
2. 4"Ø DRYER EXHAUST CAP W/ BACKDRAFT DAMPER.
3. 28"x12" OA/EA UP TO DOAS-2.
4. 28"x14" OA AND 12x18 EA UP TO DOAS-1. PROVIDE FLEXIBLE CONNECTION AT UNIT.
5. 10"Ø DRYER EXHAUST DN TO DRYER.
6. 10"Ø DRYER EXHAUST CAP W/ BACKDRAFT DAMPER.
7. 8"Ø EA DN TO COUNTRY KITCHEN HOOD.
8. 8"Ø HOOD EXHAUST CAP W/ BACKDRAFT DAMPER AND BIRDSCREEN.
9. 24"x18" OA INTAKE LOUVER W/ BIRDSCREEN AND 24"x18"x12" PLENUM.
10. 144"x69" GENERATOR INTAKE LOUVER W/ BIRDSCREEN.
11. 22"x22" OA INTAKE LOUVER W/ BIRDSCREEN AND 22"x22"x12" PLENUM.
12. 20"x10" OPEN ENDED DUCT W/ BIRDSCREEN.
13. 10"Ø FIREPLACE FLUE UP TO ROOF. COORDINATE W/ FINAL EQUIPMENT SELECTIONS.
14. 6"Ø FIREPLACE OA INTAKES UP TO ROOF. COORDINATE W/ FINAL EQUIPMENT SELECTIONS.
15. 12"x12" EA LOUVER W/ BIRDSCREEN AND 12"x12"x12" PLENUM.

FIRST FLOOR HVAC - WING A

SCALE: 1/8" = 1'-0"

KEY PLAN

SCALE: NONE



SCALE: 1/8" = 1'-0"

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BRIGHTVIEW SENIOR LIVING

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201 WYCKOFF ROAD
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ARCHITECTURE
LANDSCAPE ARCHITECTURE
PLANNING
INTERIOR DESIGN

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EXPIRATION DATE: 04/30/2022

no.	date	revision
F	03/09/21	VE REVISIONS

Project Name
BRIGHTVIEW EATONTOWN

Project Number
19094.00

Date
08/24/2021

Scale
1/8" = 1'-0"

Drawing
LEVEL 1 - WING A - MECHANICAL

M2.1A

100% CD'S - ISSUED FOR ~~CONSTRUCTION~~

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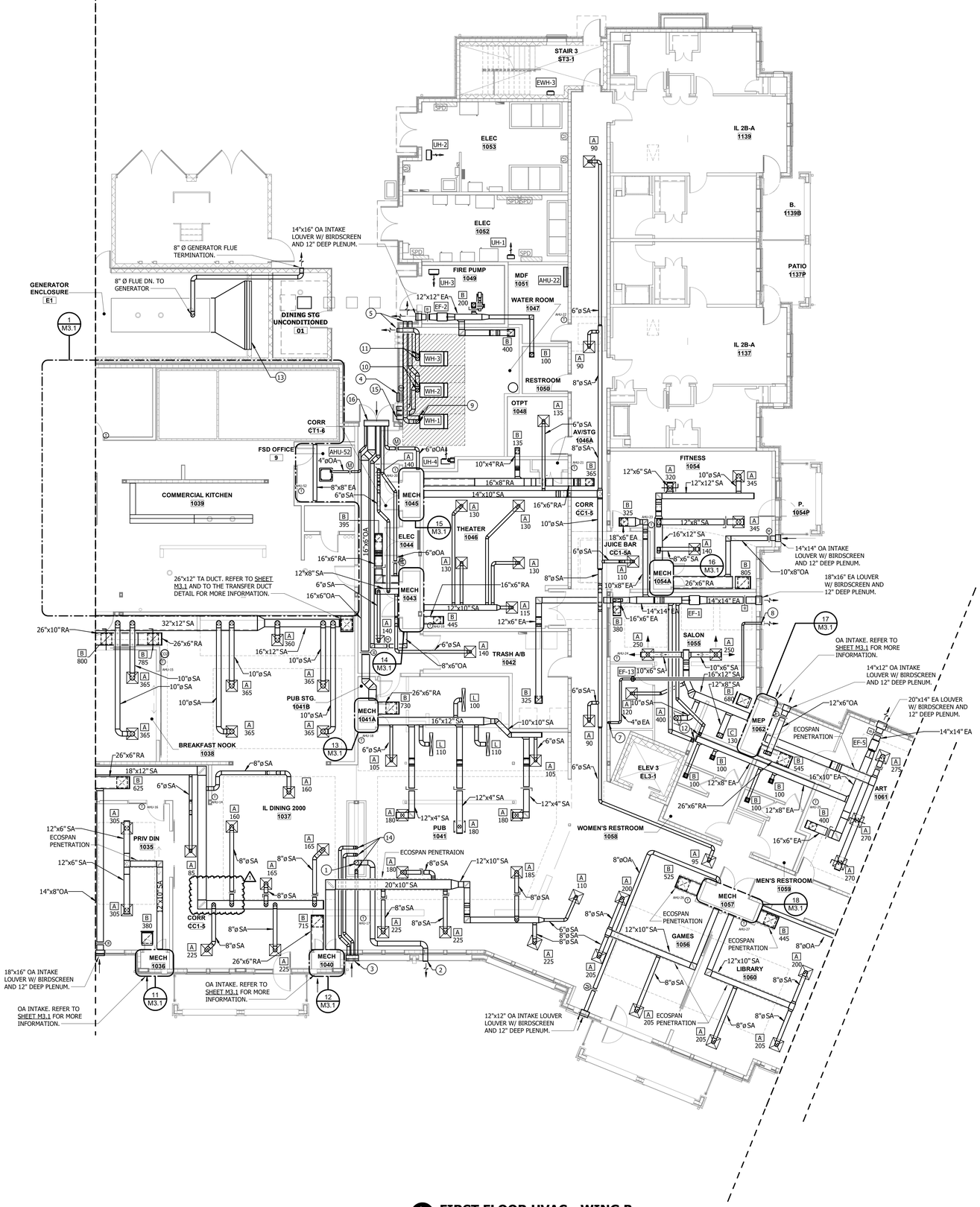


FIRST FLOOR HVAC - WING B

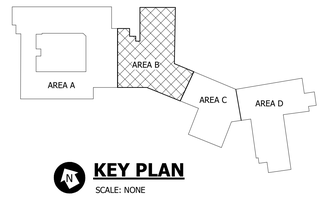
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO PART PLANS ON SHEET M3.1 FOR ADDITIONAL INFORMATION.
2. REFER TO AIR DEVICE SCHEDULE ON SHEET M8.1 FOR ADDITIONAL DUCT SIZES.
3. SIZE AND ROUTE REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS.

DRAWING NOTES:

1. 8"Ø FLUE DN TO FIREPLACE. COORDINATE W/ FINAL EQUIMENT SELECTIONS.
2. 10"Ø FIREPLACE FLUE TERMINATION W/ EXTERIOR POWER VENT. INSTALL PER MANUFACTURER'S REQUIREMENTS.
3. 6" Ø OA INTAKE TERMINATIONS AND LOUVER. LOCATE AND INSTALL PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
4. 18"x12" OA INTAKE LOUVER W/ BIRDSREEN AND 12" DEEP PLENUM.
5. 8" WATER HEATER EXHAUST OUTLETS. LOCATE AND INSTALL PER MANUFACTURER'S REQUIREMENTS.
6. ECOSPAN PENETRATIONS.
7. 4"Ø DRYER EXHAUST DN TO EQUIPMENT CONNECTION.
8. 4"Ø DRYER EXHAUST CAP W/ BACKDRAFT DAMPER.
9. 8"Ø COMBUSTION AIR INTAKE AND 8"Ø FLUE DN TO WH-1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
10. 8"Ø COMBUSTION AIR INTAKE AND 8"Ø FLUE DN TO WH-2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
11. 8"Ø COMBUSTION AIR INTAKE AND 8"Ø FLUE DN TO WH-3. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
12. 8x4 EXHAUST DN TO TYPE B GRILLE AND 6X4 EXHAUST DN TO PEDICURE CHAIR CONNECTION. COORDINATE MOUNTING HEIGHT W/ MANICURE TABLE ELEVATION.
13. 144"x69" GENERATOR EXHAUST LOUVER W/ BIRDSCREEN.
14. 6" Ø OA INTAKES DN TO FIREPLACE. COORDINATE W/ FINAL EUIPMENT SELECTIONS.
15. 8" WATER HEATER OA INTAKES W/ GOOSE NECKS. LOCATE AND INSTALL PER MANUFACTURER'S REQUIREMENTS.
16. 52"x14" OA INTAKE LOUVER W/ BIRDSREEN AND 12" DEEP PLENUM.



KEY PLAN

SCALE: NONE

SCALE: 1/8" = 1'-0"

8 0 8 16

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no.	date	revision
1	08/24/21	ASI#001
F	03/09/21	VE REVISIONS

Project Name
BRIGHTVIEW EATONTOWN

Project Number
19094.00

Date
08/24/2021

Scale
1/8" = 1'-0"

Drawing
LEVEL 1 - WING B - MECHANICAL

M2.1B

100% CD'S - ISSUED FOR ~~CONSTRUCTION~~

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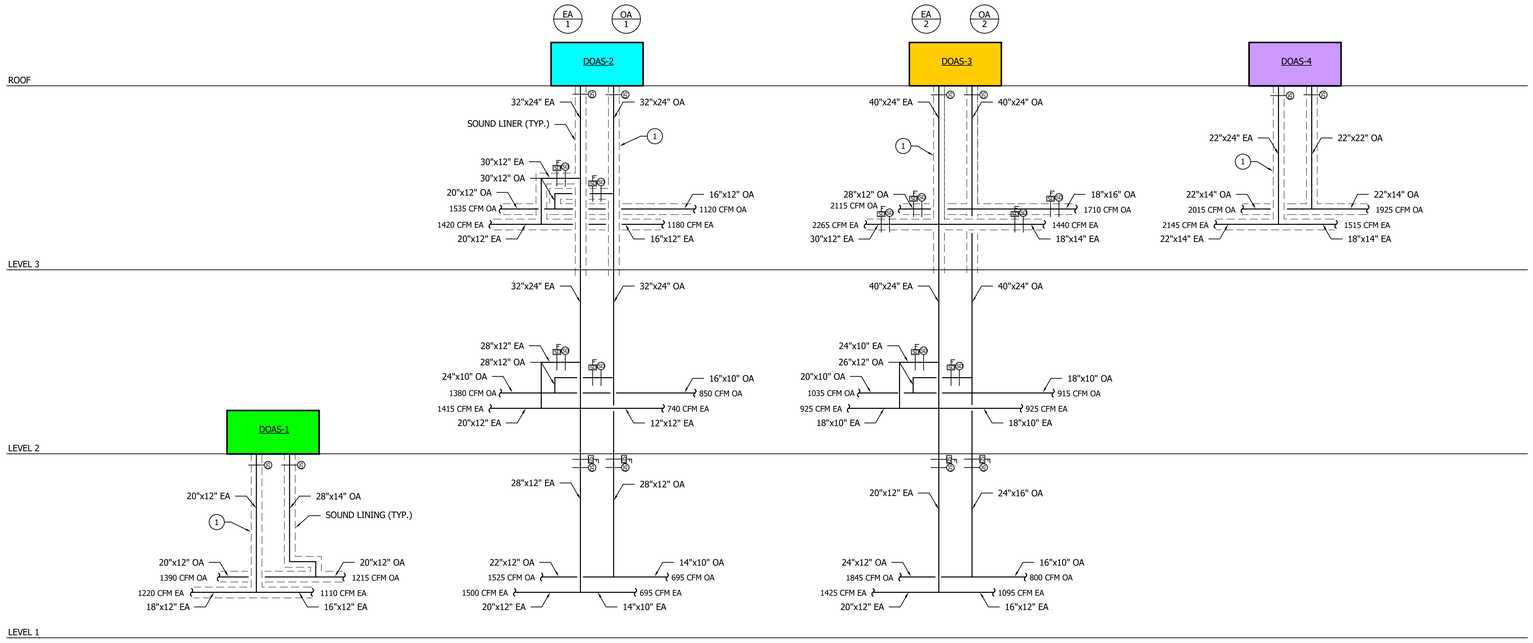

RISERS - HVAC

SCALE: NONE

DRAWING NOTES:

1. PROVIDE 15' OF SOUND LINING IN ALL DIRECTIONS FROM OA AND EA DOAS UNIT CONNECTIONS. (TYP.)

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BRIGHTVIEW EATONTOWN

Project Number
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Date
08/24/2021

Scale
12" = 1'-0"

Drawing
MECHANICAL SCHEMATICS

M6.1

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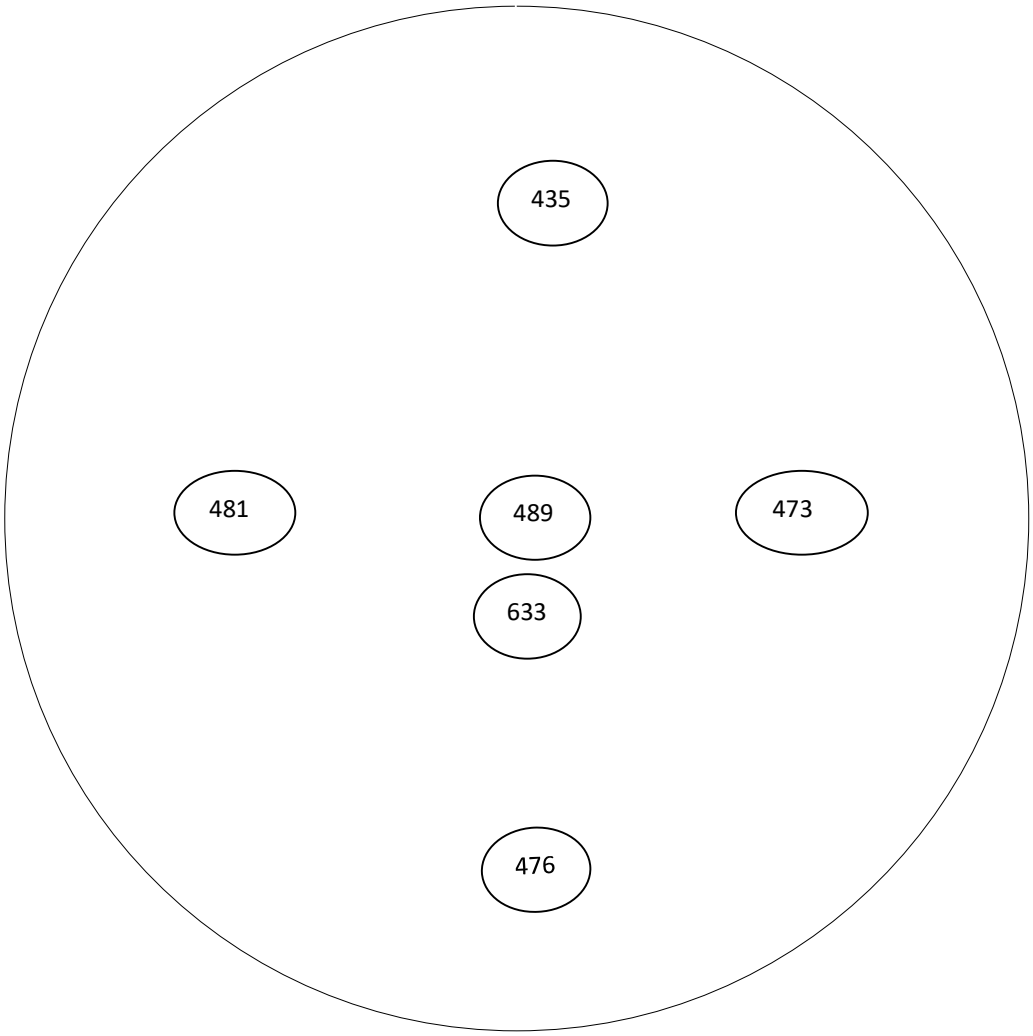
ROUND DUCT TRAVERSE FORM

PROJECT:	Brightview Senior Living			SYSTEM:	DOAS 1
LOCATION - ZONE:	Attic			SERVICE:	Supply Register 11/12
ALTITUDE:		DENSITY:		FACTOR:	

DUCT		REQUIRED		ACTUAL	
S.P.:	0.14"	SCFM:		SCFM:	
SIZE:	6"	FPM:	450	FPM:	498
AREA:	0.35Ft^2	CFM:	90	CFM:	100
TEMP:					



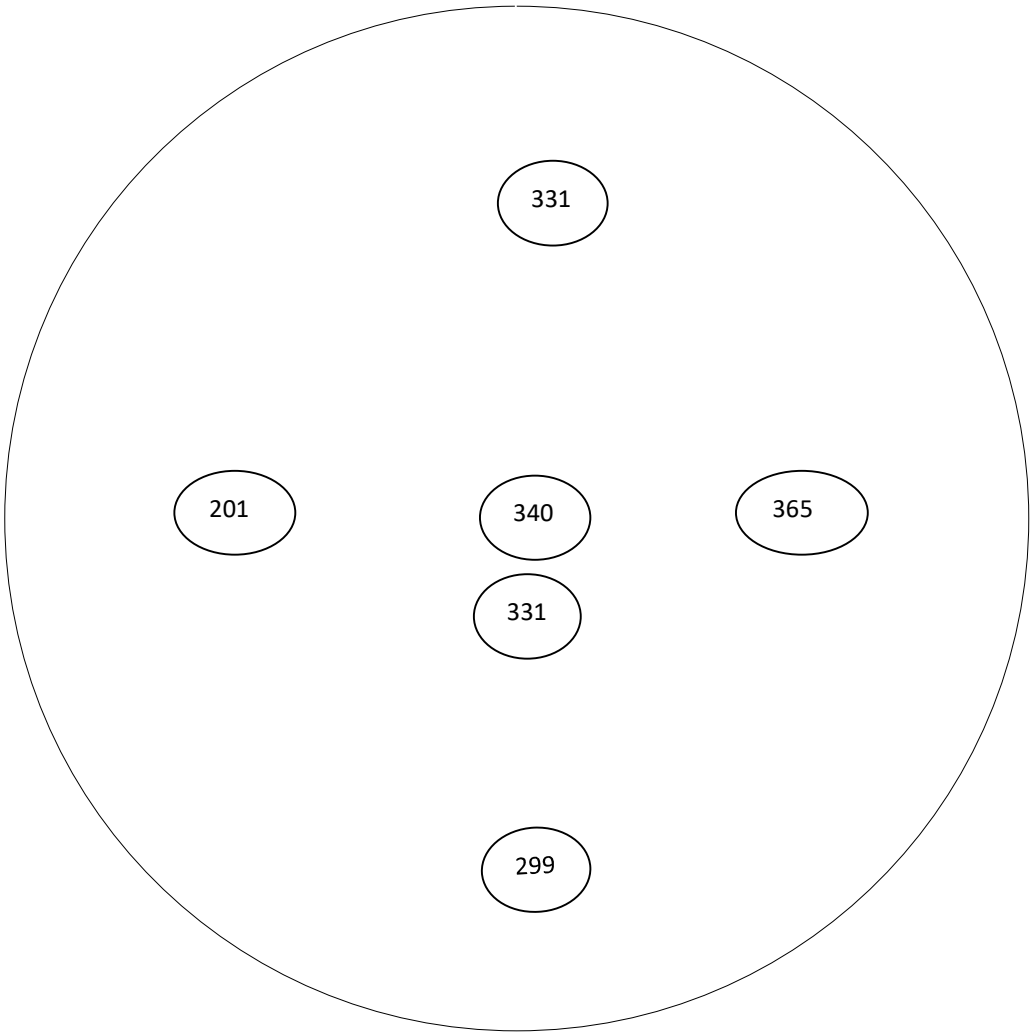
TEST DATE:
9/18/2025
READINGS BY:
Tyler Y

REMARKS:
[1] Accessed in attic space

ROUND DUCT TRAVERSE FORM

PROJECT:	Brightview Senior Living	SYSTEM:	DOAS 1
LOCATION - ZONE:	Attic	SERVICE:	Supply Register 10
ALTITUDE:		DENSITY:	FACTOR:

DUCT		REQUIRED		ACTUAL	
S.P.:	0.14"	SCFM:		SCFM:	
SIZE:	6"	FPM:	326	FPM:	311
AREA:	0.35Ft^2	CFM:	65	CFM:	61
TEMP:					



TEST DATE:
9/18/2025
READINGS BY:
Tyler Y

REMARKS:
[1] Accessed in attic space

SQUARE DUCT TRAVERSE FORM

PROJECT	Brightview Senior Living			SYSTEM	DOAS-1
LOCATION	Eatontown, NJ			SERVICE	Exhaust Register 7
ALTITUDE	52ft ASL	DENSITY	-	FACTOR	-

DUCT				REQUIRED		ACTUAL	
S.P.	0.013"	TEMP	-	SCFM	-	SCFM	-
SIZE	11"X6"			FPM	360	FPM	207
AREA	0.458Ft^2			CFM	165	CFM	95

DISTANCE FROM BOTTOM	*POSITION*	1	2	3	4	5	6	7	8	9	10	11	12
1.5"	1	283	156	182									
4.5"	2	226	202	195									
	3												
	4												
	5												
	6												
	7												
	8												
	9												
	10												
	11												
	12												
	13												
DISTANCE FROM DUCT EDGE		1.83"	5.5"	9.15"									
VELOCITY SUB - TOTALS													

REMARKS:

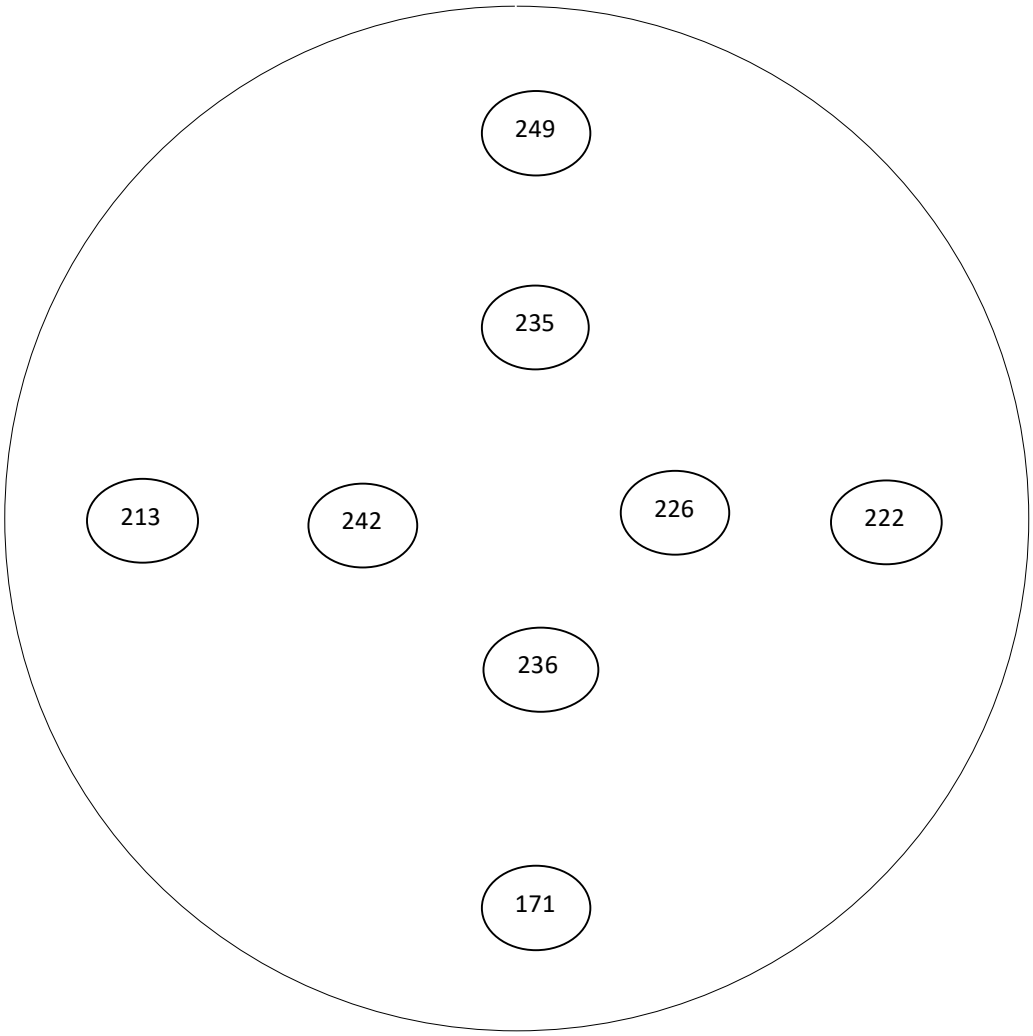
[1] TRAVERSE TAKEN FROM ATTIC, NO SIGNS OF LEAKAGE ALONG DUCTWORK.

TEST DATE: READINGS BY: PAGE:

ROUND DUCT TRAVERSE FORM

PROJECT:	Brightview Senior Living	SYSTEM:	DOAS-1
LOCATION - ZONE:	Attic	SERVICE:	Exhaust Register 7
ALTITUDE:		DENSITY:	FACTOR:

DUCT		REQUIRED		ACTUAL	
S.P.:	0.02"	SCFM:		SCFM:	
SIZE:	8"	FPM:	229	FPM:	223
AREA:	0.35Ft^2	CFM:	80	CFM:	78
TEMP:					



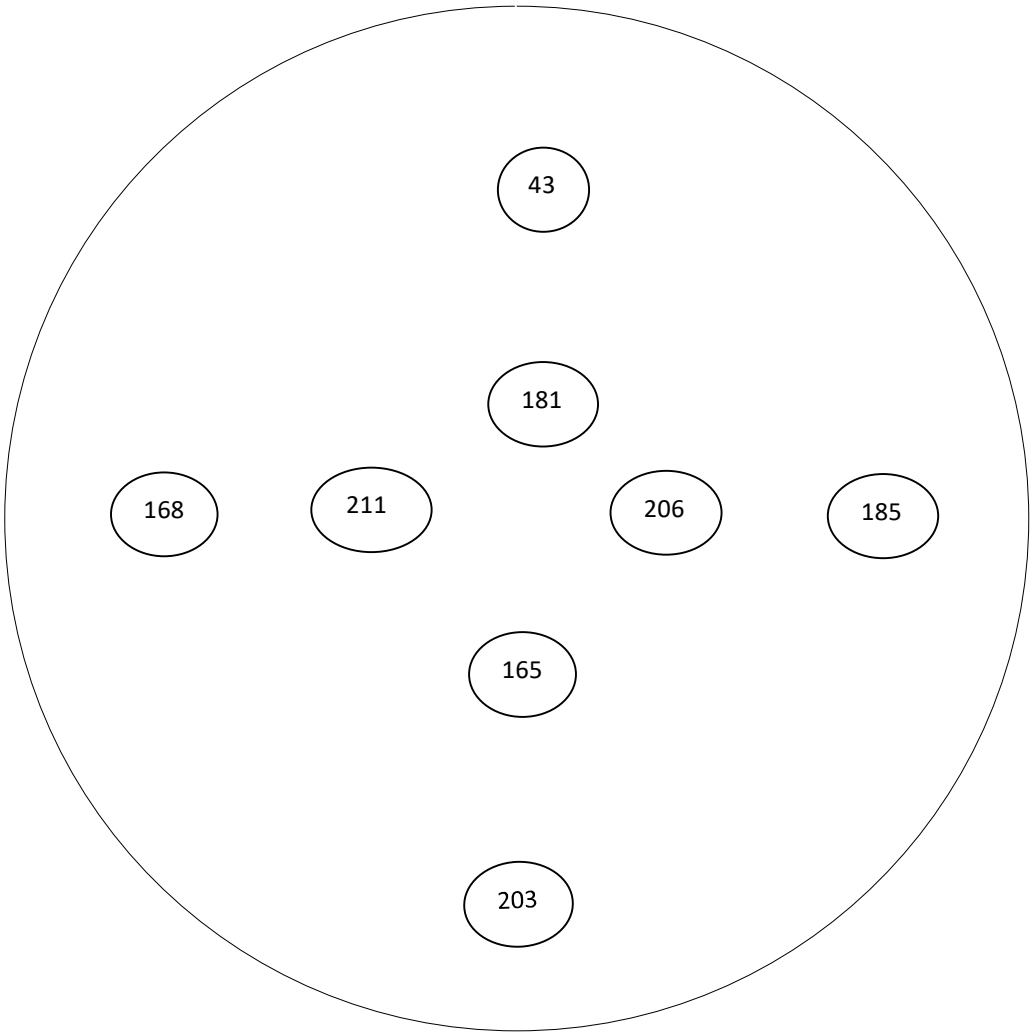
TEST DATE:
9/18/2025
READINGS BY:
Tyler Y

REMARKS:
[1] Accessed in attic space

ROUND DUCT TRAVERSE FORM

PROJECT:	Brightview Senior Living	SYSTEM:	DOAS 1
LOCATION - ZONE:	Attic	SERVICE:	Exhaust Register 10
ALTITUDE:		DENSITY:	FACTOR:

DUCT		REQUIRED		ACTUAL	
S.P.:	0.008"	SCFM:		SCFM:	
SIZE:	8"	FPM:	214	FPM:	170
AREA:	0.35Ft^2	CFM:	75	CFM:	59
TEMP:					



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REMARKS:
[1] Accessed in attic space

PAGE:

SQUARE DUCT TRAVERSE FORM

PROJECT	Brightview Senior Living	SYSTEM	DOAS-1
LOCATION	Hallway-diffuser access	SERVICE	Exhaust Grilles 5-11
ALTITUDE	-	DENSITY	-
		FACTOR	-

DUCT				REQUIRED		ACTUAL	
S.P.	0.07"	TEMP	-	SCFM	-	SCFM	-
SIZE	14"x12"			FPM	711	FPM	539
AREA	1.167Ft^2			CFM	830	CFM	629

DISTANCE FROM BOTTOM	*POSITION*	1	2	3	4	5	6	7	8	9	10	11	12
2"	1	579	600	589	560								
6"	2	612	603	626	420								
10"	3	616	620	441	206								
	4												
	5												
	6												
	7												
	8												
	9												
	10												
	11												
	12												
	13												
DISTANCE FROM DUCT EDGE		1.75"	5.25"	8.75"	12.5"								
VELOCITY SUB - TOTALS													

REMARKS:

Traverse total of the duct serving 6 of the exhaust grilles is 630 CFM. Total flow hoods readings sum of 472CFM

TEST DATE: READINGS BY: PAGE: