

# **AIR BALANCING SPECIALTY INC.**

## **GLADSTONE HIGH SCHOOL GLADSTONE, OREGON**

**PROJECT NO: 21-4250-D**

AIR BALANCING SPECIALTY INC. 3532 S.E. MILWAUKIE AVENUE PORTLAND, OREGON 97202-2751  
IN BUSINESS SINCE 1964 CERTIFIED NEBB FIRM - CERTIFICATION NO. 2984  
PHONE (503) 230-2332 FAX (503) 230-2820

PROJECT NAME: **GLADSTONE HIGH SCHOOL - GLADSTONE, OREGON**

ARCHITECT: DATE STARTED: 01/12/2021 DATE FINISHED: 03/09/2021

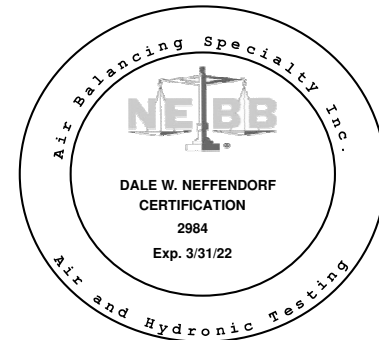
MECHANICAL ENGINEER: WORK PERFORMED BY: DALE NEFFENDORF

GENERAL CONTRACTOR: CERTIFIED BY: \_\_\_\_\_

MECHANICAL CONTRACTOR: DATE: \_\_\_\_\_

SHEET METAL CONTRACTOR:

CONTROL CONTRACTOR: NORTHWEST CONTROL COMPANY  
8750 SE McLOUGHLIN BLVD. #7339  
PORTLAND, OR. 97222



IN BUSINESS SINCE 1964

**AIR BALANCING SPECIALTY INC.**

CERTIFIED NEBB No. 2984

3532 SE Milwaukie Avenue Portland, Oregon 97202-2751 Phone (503) 230-2332 Fax (503) 230-2820

**CERTIFIED TEST AND BALANCE REPORT**

**PROJECT NO.: 21-4250-D**

<b>INSTRUMENT AIR</b>	<b>MODEL NO.</b>	<b>SERIAL NO.</b>	<b>RANGE</b>	<b>CALIBRATION DATE</b>
(D) Shortridge Airdata Multimeter ADM Accessories	ADM860	M98375	0.0001 to 60.00" WC.	1/12/2021
(DH) Datameter Flow Hood	8400		25 - 2500 CFM	
(DP) Datameter Pitot Tube	12", 18", 24", 36", 48" & 60"		50 - 30000 FPM	
(DA) Datameter Airfoil	AFP18		50 - 5000 FPM	
(DG) Datameter Velgrid	VLG84		50 - 2500 FPM	
Rotating Vane Anemometer	A4/-4"	83072B	200 - 10000 FPM	1/14/2021
Amprobe Ammeter	Fluke 335	99330394	0 - 750 Volts / 0 - 300 Amps	1/8/2021
Shimpo Tachometer	DT-207L	D26B0033	6 - 30,000 RPM	1/12/2021
<b>WATER</b>				
Hydrodata Meter	HDM-250	W01025	DP -10 to +300 PSI	1/12/2021

IN BUSINESS SINCE 1964

## AIR BALANCING SPECIALTY INC.

CERTIFIED NEBB No. 2984

3532 SE Milwaukie Avenue Portland, Oregon 97202-2751 Phone (503) 230-2332 Fax (503) 230-2820

### EQUIPMENT USED IN BALANCING

PROJECT: GLADSTONE HIGH SCHOOL - GLADSTONE, OREGON

PROJECT NO.: 21-4250-D

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
										K-Factor										
<b>AHU-1</b>										100%	59%	75%								
<b>TU-101</b> (425 / 300 / 250)(300 CV)(6"O)										(0.60)	(1.11)	(1.11)								
DH		Practice C	C115						105	135	80									
		Cubic Feet							405											
		Air Changes per hour (ACH)									11.85									
DH		Practice B	C114	1					95	115	65									
DH		Practice B	C114	2					95	110	65									
		Cubic Feet							816											
		Air Changes per hour (ACH)									9.96									
DH		Practice A	C113	1					65	85	50									
DH		Practice A	C113	2					65	85	50									
		Cubic Feet							653											
		Air Changes per hour (ACH)									9.19									
		<b>Total</b>							<b>425</b>	<b>530</b>	<b>332</b>									
		(Display)								(235)	(294)	(313)								
		Temp / RH								68.7 / 42.4										
										69%	61%	70%								
<b>TU-102</b> (750 / 530 / 530)(10"O)										(0.37)	(0.57)	(0.57)								
DH		Corridor				4W	1.00	375	375	425	395									
DH		Corridor				4W	1.00	375	375	420	385									
		<b>Total</b>							<b>750</b>	<b>845</b>	<b>780</b>									
		(Display)								(728)	(767)	(733)								

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
										K-Factor										
		<b>AHU-1</b>									100%	100%	100%							
		<b>TU-103</b>	(1800 / 1260 / 1260)		(2300 CV)	(14"O)					(0.52)	(0.64)	(0.64)							
	DH	Band		1		4W	1.00	360	360		400	400								
	DH	Band		2		4W	1.00	360	360		400	400								
	DH	Band		3		4W	1.00	360	360		400	400								
	DH	Band		4		4W	1.00	360	360		400	400								
	DH	Band		5		4W	1.00	360	360		400	400								
		<b>Total</b>							<b>1800</b>		<b>2000</b>	<b>2000</b>								
		(Display)									(1606)	(2017)	(2017)							
		Temp / RH								68.5 / 42.2										
		Cubic Feet							22137											
		Air Changes per hour (ACH)										5.42								
										41%	40%	40%								
		<b>TU-104</b>	(450 / 320 / 320)		(350 CV)	(8"O)					(0.59)	(0.49)	(0.49)							
	DH	Office				4W	1.00				110	110								
		Cubic Feet							861											
		Air Changes per hour (ACH)										7.66								
	DH	Storage				4W	1.00				265	255								
		Cubic Feet							2120											
		Air Changes per hour (ACH)										7.21								
		<b>Total</b>									<b>375</b>	<b>373</b>								
		(Display)									(339)	(358)	(349)							
		Temp / RH								68.7 / 42.0										

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
<b>AHU-3</b>										100%		100%		100%								
<b>TU-301</b>										(2050 / 700 / 1230)	(2300 CV)	(14"O)										
	DH	Chem. / Physics CR	D123	1	12x10	SW	1.00				435		435									
	DH	Chem. / Physics CR	D123	2	12x10	SW	1.00				390		390									
	DH	Chem. / Physics CR	D123	3	10"O	4W	1.00				260		260									
	DH	Chem. / Physics CR	D123	4	10"O	4W	1.00				275		275									
	DH	Chem. / Physics CR	D123	5	10"O	4W	1.00				290		290									
	DH	Chem. / Physics CR	D123	6	10"O	4W	1.00				290		290									
	Cubic Feet									18677												
	Air Changes per hour (ACH)											6.23										
	DH	Science Prep	D124		12"O	4W	1.00				285		285									
	Cubic Feet									3037												
	Air Changes per hour (ACH)											5.63										
	<b>Total</b>										<b>2225</b>	<b>2231</b>										
	(Display)										(1616)	(2220)		(1718)								
	Temp / RH										68.0 / 32.9											
	Cubic Feet (Chem.)									18677												
										100%		56%		100%								
										(0.63)		(0.68)		(0.68)								
	DH	Science CR	D125	1	12x10	SW	1.00				415		360									
	DH	Science CR	D125	2	12x10	SW	1.00				420		370									
	DH	Science CR	D125	3	12"O	4W	1.00				395		355									
	DH	Science CR	D125	4	12"O	4W	1.00				300		260									
	DH	Science CR	D125	5	12"O	4W	1.00				360		310									
	DH	Science CR	D125	6	12"O	4W	1.00				380		335									
	<b>Total</b>										<b>2270</b>	<b>1990</b>										
	(Display)										(1723)	(2015)		(1767)								
	Temp / RH										69.2 / 35.4											
	Cubic Feet									18400												
	Air Changes per hour (ACH)											6.49		5.69								

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
										K-Factor											
										69%		63%		100%							
										(0.61)		(0.59)		(0.59)							
	DH	Science Classroom	D126	1	12x10	SW	1.00				330		300								
	DH	Science Classroom	D126	2	12x10	SW	1.00				375		350								
	DH	Science Classroom	D126	3	10"O	4W	1.00				390		360								
	DH	Science Classroom	D126	4	10"O	4W	1.00				415		380								
	DH	Science Classroom	D126	5	10"O	4W	1.00				400		370								
	DH	Science Classroom	D126	6	10"O	4W	1.00				380		350								
		Cubic Feet								19287											
		Air Changes per hour (ACH)											6.56		3.68						
	DH	Science Prep	D127		12"O	4W	1.00				305		280								
		Cubic Feet								3037											
		Air Changes per hour (ACH)											8.06		4.52						
		<b>Total</b>									<b>2595</b>		<b>2390</b>								
		(Display)									(2273)		(2305)		(1292)						
		Temp / RH									70.3 / 32.4										
										100%		66%		100%							
										(0.61)		(0.80)		(0.80)							
	DH	Science CR	D125	1	12x10	SW	1.00				445		420								
	DH	Science CR	D125	2	12x10	SW	1.00				435		410								
	DH	Science CR	D125	3	12"O	4W	1.00				335		305								
	DH	Science CR	D125	4	12"O	4W	1.00				360		335								
	DH	Science CR	D125	5	12"O	4W	1.00				350		320								
	DH	Science CR	D125	6	12"O	4W	1.00				350		325								
		<b>Total</b>									<b>2275</b>		<b>2115</b>								
		(Display)									(1436)		(2121)		(1625)						
		Temp / RH									68.9 / 30.8										
		Cubic Feet								19115											
		Air Changes per hour (ACH)											6.64		5.08						

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
											K-Factor											
		<b>AHU-3</b>									51%	56%	100%									
		<b>TU-305</b>	(3000 / 1000 / 2515)(3000 CV)(22"O)								(0.47)	(0.40)	(0.40)									
	DH	Demonstration	F100	1	14"O	4W	1.00				500	570										
	DH	Demonstration	F100	2	14"O	4W	1.00				585	650										
	DH	Demonstration	F100	3	14"O	4W	1.00				670	740										
	DH	Demonstration	F100	4	14"O	4W	1.00				615	690										
	DH	Demonstration	F100	5	14"O	4W	1.00				175	240										
		<b>Total</b>									<b>2545</b>	<b>2890</b>										
		(Display)									(2954)	(2941)	(2631)									
		Temp / RH									68.5 / 31.1											
		Cubic Feet							23830													
		Air Changes per hour (ACH)																				
		Cubic Feet							22431													
		Air Changes per hour (ACH)																				
											100%	100%	100%									
		<b>TU-306</b>	(2300 / 1600 / 1600)(16"O)								(0.50)	(0.43)	(0.43)									
	DH	Gallery	E100		10"O	4W			300		150	150										
	DH	Corridor	D122	1		1W			1000		700	700										
	DH	Corridor	D122	2		1W			1000		620	620										
		<b>Total</b>							<b>2300</b>		<b>1470</b>	<b>1470</b>										
		(Display)									(1006)	(1466)	(1462)									
											55%		55%									
		<b>TU-307</b>	(900 / 270 / 630)(10"O)								(0.71)		(0.71)									
	DH	Vestibule			12"O	4W			650		NA											
	DH	Alcove			6"O	4W			100		90											
	DH	Elec. Rm.			6"O				50		NA											
	DH	IDF			6"O				50		NA											
	DH	Elev. Machine Rm			6"O				50													
		<b>Total</b>							<b>900</b>													
		(Display)									(887)		(883)									



Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-5</b>								100%	100%	100%										
		<b>TU-504</b>	(1300 / 400 / 600)(850 CV)(12"O)							(0.50)	(0.76)	(0.76)										
	R	Classroom	D101	1	18x10	SW	0.88			360	317	320	282									
	R	Classroom	D101	2	18x10	SW	0.88			670	590	640	563									
		<b>Total</b>								<b>906</b>	<b>845</b>											
		(Display)								(824)	(866)											
		Temp / RH								67.8 / 43.1												
		Cubic Feet							7845													
		Air Changes per hour (ACH)										6.46										
										64%	49%	46%										
		<b>TU-506</b>	(1300 / 1000 / 360)(800 CV)(12"O)							(0.57)	(0.63)	(0.49)										
	DH	Computer Cl. Rm.	A112	1		4W	1.00			360		250	215									
	DH	Computer Cl. Rm.	A112	2		4W	1.00			355		250	215									
	DH	Computer Cl. Rm.	A112	3		4W	1.00			360		260	215									
	DH	Computer Cl. Rm.	A112	4		4W	1.00			350		240	210									
		<b>Total</b>								<b>1425</b>	<b>1000</b>	<b>855</b>										
		(Display)								(822)	(809)	(796)										
		Temp / RH								68.1 / 42.6												
		Cubic Feet							6973													
		Air Changes per hour (ACH)										7.35										

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
										K-Factor											
		<b>AHU-5</b>									46%										
1		<b>TU-505</b>	(250 / 50/ 80)0	(250 CV)	(5"O)						(0.74)										
	DH	Office	D101	1	18x10	SW	0.88														
		(Display)									(244)										
		Temp / RH									67.2 / 43.0										
		Cubic Feet							2065												
		Air Changes per hour (ACH)																			
		<b>TU-507</b>	(1700 / 1000 / 650)	(1500 CV)	(16"O)						54%	100%	55%								
											(0.57)	(0.33)	(0.48)								
	DH	Computer Lab	A110	1		4W	1.00				230	370	250								
	DH	Computer Lab	A110	2		4W	1.00				225	375	240								
	DH	Computer Lab	A110	3		4W	1.00				245	400	265								
	DH	Computer Lab	A110	4		4W	1.00				185	300	200								
	DH	Computer Lab	A110	3		4W	1.00				280	460	300								
	DH	Computer Lab	A110	4		4W	1.00				250	395	270								
		<b>Total</b>									<b>1415</b>	<b>2300</b>	<b>1525</b>								
		(Display)									(1491)		(1493)								
		Temp / RH									67.8 / 52.2										
		Cubic Feet							13486												
		Air Changes per hour (ACH)											6.78								

Ref. Note: (1) Flex does not reach diffuser can. Needs longer flex, duct section or relocated.

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
K-Factor																				
		<b>AHU-5</b>								50%	45%	43%								
		<b>TU-513</b>	(1300 / 600 / 300)	(800 CV)	(10"O)					(0.79)	(0.67)	(0.71)								
	DH	Classroom	A109	1		4W	1.00			240	220	205								
	DH	Classroom	A109	2		4W	1.00			240	230	210								
	DH	Classroom	A109	3		4W	1.00			235	225	210								
	DH	Classroom	A109	4		4W	1.00			235	220	195								
		<b>Total</b>								<b>950</b>	<b>895</b>	<b>820</b>								
		(Display)								(781)	(809)	(815)								
		Temp / RH								68.3 / 53.3										
		Cubic Feet						6777												
		Air Changes per hour (ACH)											7.26							
										55%	48%									
		<b>TU-512</b>	(1300 / 800 / 800)	(800 CV)	(10"O)					(0.66)	(0.71)									
	DH	Classroom	A108	1		4W	1.00			235	195									
	DH	Classroom	A108	2		4W	1.00			245	205									
	DH	Classroom	A108	3		4W	1.00			225	190									
	DH	Classroom	A108	4		4W	1.00			235	190									
		<b>Total</b>								<b>940</b>	<b>780</b>									
		(Display)								(815)	(817)									
		Temp / RH								68.7 / 53.3										
		Cubic Feet						7078												
		Air Changes per hour (ACH)										6.61								
										44%	43%									
		<b>TU-511</b>	(1300 / 600 / 600)	(850 CV)	(12"O)					(0.53)	(0.45)									
	R	Classroom	A107	1	30x6	SW	0.88			480	422	450	396							
	R	Classroom	A107	2	18x10	SW	0.88			590	519	540	475							
		<b>Total</b>								<b>942</b>	<b>871</b>									
		(Display)								(822)	(864)									
		Temp / RH								67.8 / 53.4										
		Cubic Feet						7840												
		Air Changes per hour (ACH)																		

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-5</b>									42%	42%										
		<b>TU-510</b>	(1300 / 600 / 300)		(800 CV)	(10"O)					(0.42)	(0.48)										
	R	Classroom	A106	1	18x10	SW	0.88				500	440	500	440								
	R	Classroom	A106	2	18x10	SW	0.88				510	449	510	449								
		<b>Total</b>									<b>889</b>	<b>889</b>										
		(Display)									(820)	(876)										
		Temp / RH									67.4 / 54.4											
		Cubic Feet							7980													
		Air Changes per hour (ACH)											6.68									
											41%	38%										
		<b>TU-509</b>	(1300 / 800 / 800)		(800 CV)	(10"O)					(0.52)	(0.53)										
	R	Classroom	A105	1	18x10	SW	0.88				630	554	570	502								
	R	Classroom	A105	2	18x10	SW	0.88				500	440	420	370								
		<b>Total</b>									<b>994</b>	<b>871</b>										
		(Display)									(830)	(868)										
		Temp / RH									68.0 / 54.1											
		Cubic Feet							7896													
		Air Changes per hour (ACH)											6.62									
											34%	32%										
		<b>TU-508</b>	(1300 / 360 / 360)		(850 CV)	(12"O)					(0.52)	(0.44)										
	R	Classroom	A104	1	18x10	SW	0.88				530	466	460	405								
	R	Classroom	A104	2	18x10	SW	0.88				550	484	490	431								
		<b>Total</b>									<b>950</b>	<b>836</b>										
		(Display)									(826)	(860)										
		Temp / RH									68.5 / 52.2											
		Cubic Feet							7868													
		Air Changes per hour (ACH)											6.37									

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
											K-Factor										
		<b>AHU-5</b>																			
		<b>TU-514</b>	(1200 / 450 / 700)	(900 CV)	(16"O)						29%										
	DH	Corridor				4W	1.00				305										
	DH	Corridor				2W	1.00				290										
	DH	Corridor				1W	1.00				285										
		<b>Total</b>									<b>880</b>										
		(Display)									(864)										

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
										K-Factor											
										100%		55%		57%							
										(0.87)		(0.87)		(0.48)							
	R	Classroom	E105	1	30x6	SW	0.88			500	440	300	264	320	282						
	R	Classroom	E105	2	30x6	SW	0.88			840	739	540	475	570	502						
										<b>1179</b>		<b>739</b>		<b>783</b>							
										(1190)		(803)		(784)							
										64.4 / 41.9											
										7607											
										Air Changes per hour (ACH)				10.18							
										35%		36%									
										(0.42)		(0.32)									
	R	Classroom	E106	1	30x6	SW	0.88			340	299	380	334								
	R	Classroom	E106	2	30x6	SW	0.88			560	493	570	502								
										<b>792</b>		<b>836</b>									
										(822)		(820)									
										67.8 / 42.3											
										7821				6.41							
										Air Changes per hour (ACH)											
										100%		61%		59%							
										(0.50)		(1.03)		(0.39)							
	R	Classroom	E107	1	30x6	SW	0.88			1100	968	670	590	420	370						
	R	Classroom	E107	2	30x6	SW	0.88			1260	1109	810	713	540	475						
										<b>2077</b>		<b>1302</b>		<b>845</b>							
										(860)		(845)		(837)							
										68.9 / 38.3											
										7741				6.55							
										Air Changes per hour (ACH)											

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-6</b>									44%	44%										
		<b>TU-604</b>	(1200 / 500 / 800)	(850 CV)	(12"O)						(0.52)	(0.47)										
	R	Classroom	E107	1	30x6	SW	0.88				390	343	390	343								
	R	Classroom	E107	2	30x6	SW	0.88				600	528	600	528								
		<b>Total</b>									<b>871</b>	<b>871</b>										
		(Display)									(826)	(868)										
		Temp / RH									67.4 / 39.3											
		Cubic Feet							7822													
		Air Changes per hour (ACH)																				
		<b>TU-605</b>	(1200 / 355 / 500)	(850 CV)	(12"O)						42%	38%										
		<b>TU-605</b>	(1200 / 355 / 500)	(850 CV)	(12"O)						(0.52)	(0.52)										
	R	Classroom	E104	1	30x6	SW	0.88				510	449	450	396								
	R	Classroom	E104	2	30x6	SW	0.88				630	554	510	449								
		<b>Total</b>									<b>1003</b>	<b>845</b>										
		(Display)									(830)	(858)										
		Temp / RH									65.3 / 40.4											
		Cubic Feet							7895													
		Air Changes per hour (ACH)											6.42									
		<b>TU-606</b>	(1200 / 1000 / 1000)	(850 CV)	(12"O)						43%	43%										
		<b>TU-606</b>	(1200 / 1000 / 1000)	(850 CV)	(12"O)						(0.69)	(0.41)										
	R	Classroom	E103	1	30x6	SW	0.88				420	370	420	370								
	R	Classroom	E103	2	30x6	SW	0.88				530	466	530	466								
		<b>Total</b>									<b>836</b>	<b>836</b>										
		(Display)									(875)	(837)										
		Temp / RH									68.1 / 39.2											
		Cubic Feet							7952													
		Air Changes per hour (ACH)																				

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-6</b>									82%		64%									
		<b>TU-607</b>			(1500 / 800 / 1050)(1100 CV)(14"O)						(0.38)		(0.47)									
	R	Classroom		1	30x6	SW	1.17				480	562	300	351								
	R	Classroom		2	30x6	SW	1.17				960	1123	680	796								
		<b>Total</b>									<b>1685</b>		<b>1147</b>									
		(Display)									(1068)		(1121)									
		Temp / RH									66.7 / 41.1											
		Cubic Feet							10603													
		Air Changes per hour (ACH)											6.49									
											55%		60%									
		<b>TU-608</b>			(750 / 225 / 225)(550 CV)(8"O)						(0.74)		(0.49)									
	R	Math Offices	E101	1	20x6	SW	0.58				350	203	400	232								
	R	Math Offices	E101	2	20x6	SW	0.58				480	278	570	331								
		<b>Total</b>									<b>481</b>		<b>563</b>									
		(Display)									(542)		(540)									
		Temp / RH									66.2 / 38.9											
		Cubic Feet							5320													
		Air Changes per hour (ACH)											6.35									
											49%											
		<b>TU-613</b>			(750 / 250 / 530)(550 CV)(8"O)						(0.66)											
	R	Book Store	D111	1	20x6	SW	0.58				500	290										
	R	Book Store	D111	2	20x6	SW	0.58				460	267										
		<b>Total</b>									<b>557</b>											
		(Display)									(536)											
		Temp / RH									66.9 / 39.7											
		Cubic Feet							5320													
		Air Changes per hour (ACH)																				



Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-6</b>																				
		<b>TU-612</b>	(1500 / 1050 / 1050)(1100 CV)(14"O)																			
	R	Classroom	D110	1	30x8	SW	1.17															
	R	Classroom	D110	2	30x8	SW	1.17															
		<b>Total</b>																				
		(Display)																				
		Temp / RH																				
		Cubic Feet								10534												
		Air Changes per hour (ACH)																				
2		<b>TU-611</b>	(1500 / 500 / 500)(850 CV)(12"O)																			
	R	Classroom	D109	1	30x6	SW	0.88															
	R	Classroom	D109	2	30x6	SW	0.88															
		<b>Total</b>																				
		(Display)																				
		Temp / RH																				
		Cubic Feet								7900												
		Air Changes per hour (ACH)																				
		<b>TU-610</b>	(1200 / 360 / 360)(850 CV)(12"O)																			
	R	Classroom	D108	1	30x6	SW	0.88															
	R	Classroom	D108	2	30x6	SW	0.88															
		<b>Total</b>																				
		(Display)																				
		Temp / RH																				
		Cubic Feet								7817												
		Air Changes per hour (ACH)																				

Ref. Note: (2) Box will not calibrate. Found coil access plate was off. Corrected and still will not calibrate.

AIR BALANCING SPECIALTY, INC. 3532 SE Milwaukie Avenue, Portland, OR 97202-2751

Phone 230-2332 Fax 230-2820

VARIABLE AIR VOLUME FPM

AIR BALANCE DATA SHEET

PROJECT NO. 21-4250-D

PROJECT: GLADSTONE HIGH SCHOOL - GLADSTONE, OREGON

DATE START: 01/12/21 FINISH: 03/01/21

SYSTEM: AHU-6 (TU-612, TU-611 & TU-610)

SECTION: "A"

BY: DN

PAGE: 14 OF 30

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
										K-Factor											
										? %		100%		60%							
		<b>AHU-10</b>																			
	DH	Cafeteria		1	14"O	4W	1.00	1000	1000		785		830								
	DH	Cafeteria		2	14"O	4W	1.00	1000	1000		815		855								
	DH	Cafeteria		3	14"O	4W	1.00	1000	1000		775		820								
	DH	Cafeteria		4	14"O	4W	1.00	1000	1000		775		815								
	DH	Cafeteria		5	14"O	4W	1.00	1000	1000		775		815								
	DH	Cafeteria		6	14"O	4W	1.00	1000	1000		760		830								
	DH	Corridor			14"O	4W	1.00	500	500		400		445								
		<b>Total</b>							<b>6500</b>		<b>5085</b>		<b>5410</b>		<b>3245</b>						
		Cubic Feet							29036												
		Air Changes per hour (ACH)									9.68		11.18		6.70						
										? %											
										100%		60%									
		<b>AHU-4</b>																			
	DH	Library		1		4W	1.00	300	300		140		290								
	DH	Library		2		4W	1.00	300	300		150		300								
	DH	Library		3		4W	1.00	300	300		150		305								
	DH	Library		4		4W	1.00	250	250		110		225								
	DH	Library		5		4W	1.00	50	50		85		185								
	DH	Library		6		4W	1.00	300	300		155		295								
	DH	Library		7		4W	1.00	300	300		205		415								
	DH	Library		8		4W	1.00	300	300		145		295								
	DH	Library		9		4W	1.00	300	300		135		285								
		Traverse			14x14	Slot	1.36	735	1000			717	975								
		Traverse			14x14	Slot	1.36	588	800			580	789								
		Traverse			14x14	Slot	1.36	735	1000			650	884								
		Traverse			14x14	Slot	1.36	735	1000			511	695								
		Traverse			14x14	Slot	1.36	735	1000			510	694								
		<b>Total</b>							<b>7200</b>			<b>6632</b>	<b>3980</b>								
		Cubic Feet							29036												
		Air Changes per hour (ACH)										12.07	7.24								
		OSA Flow Monitor										1294	605								

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
K-Factor																					
<b>MZU-49</b>																					
3	DG	Cafeteria Zone		1	36x12	SW	2.67	412	1100	276	737										
	DG	Cafeteria Zone		2	36x13	SW	2.00	550	1100	279	558										
	DG	Cafeteria Zone		3	36x14	SW	2.00	550	1100	352	704										
	DG	Cafeteria Zone		4	36x15	SW	2.00	550	1100	325	650										
	DG	Cafeteria Zone		5	36x16	SW	2.00	550	1100	331	662										
	DG	Cafeteria Zone		6	36x17	SW	2.00	550	1100	313	626										
	DG	Cafeteria Zone		7	36x18	SW	2.00	550	1100	250	500										
	DG	Cafeteria Zone		8	36x19	SW	2.00	550	1100	337	674										
<b>Total</b>									<b>8800</b>	<b>5111</b>											
Cubic Feet									82953												
Air Changes per hour (ACH)										3.70											

Ref. Note: (3) No grille.

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
										K-Factor											
		<b>AHU-8</b>								100%	100%	100%									
		<b>TU-801</b>	(80 / 30 / 30)	( CV)	(4"O)					(0.37)	(0.42)	(0.42)									
	DH	Classroom			6"O	4W	1.00			90	90										
		(Display)								(78)	(89)		(89)								
		Cubic Feet						944													
		Air Changes per hour (ACH)								5.72	5.72										
										100%	100%	100%									
		<b>TU-802</b>	(300 / 300 / 90)	( CV)	(6"O)					(0.40)	(0.36)	(0.36)									
	DH	Storage			6"O	4W	1.00			30	30										
	DH	Conf.	C138		10"O	4W	1.00			160	160										
		<b>Total</b>								<b>190</b>	<b>190</b>										
		(Display)								(89)	(188)		(188)								
		Temp / RH								68.1 / 38.2											
		Cubic Feet						1836													
		Air Changes per hour (ACH)										5.23									
										100%	100%	100%									
		<b>TU-803</b>	(1000 / 500 / 300)	(1000 CV)	(10"O)					(0.53)	(0.30)	(0.30)									
	R	Career Center	C144	1	10"O	4W	1.00			150	150										
	R	Career Center	C144	2	10"O	4W	1.00			150	150										
	R	Career Reception	C137		10"O	4W	1.00			185	185										
		<b>Total</b>								<b>485</b>	<b>485</b>										
		(Display)								(380)	(483)		(470)								
		Temp / RH								68.3 / 37.2											
		Cubic Feet						9476													
		Air Changes per hour (ACH)										3.07									

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
										K-Factor										
										100%	100%	100%								
										(0.36)	(0.48)	(0.48)								
	DH	Counseling	J116		6"O	4W	1.00			70	70									
		Cubic Feet							1057											
		Air Changes per hour (ACH)									3.97									
	DH	Counseling	J117		6"O	4W	1.00			70	70									
		Cubic Feet							1022											
		Air Changes per hour (ACH)									4.11									
	DH	Counseling	J118		6"O	4W	1.00			65	65									
		Cubic Feet							1021											
		Air Changes per hour (ACH)									3.82									
		<b>Total</b>								<b>205</b>	<b>205</b>									
		(Display)								(120)	(201)			(139)						
		Temp / RH								68.3 / 37.2										
										100%	100%	100%								
										(0.56)	(0.57)	(0.57)								
	DH	Storage	J108		6"O	4W	1.00			40	40									
		Cubic Feet							1220											
		Air Changes per hour (ACH)									1.97									
	DH	Office	J119		6"O	4W	1.00			70	70									
		Cubic Feet							1046											
		Air Changes per hour (ACH)									4.02									
	DH	MDF	J105		6"O	4W	1.00			40	40									
		Cubic Feet							1068											
		Air Changes per hour (ACH)									2.25									
	DH	Work Room	J120		8"O	4W	1.00			150	150									
		Cubic Feet							1806											
		Air Changes per hour (ACH)									4.98									
	DH	Office	J121		6"O	4W	1.00			75	75									
		Cubic Feet							847											
		Air Changes per hour (ACH)									5.31									
		<b>Total</b>								<b>375</b>	<b>375</b>									
		(Display)								(324)	(373)			(256)						
		Temp / RH								69.6 / 38.9										

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
K-Factor																				
		<b>AHU-8</b>								100%	100%	100%								
		<b>TU-806</b>	(300 / 145 / 300)	(400 CV)	(6"O)					(0.51)	(0.49)	(0.49)								
	DH	Health	J106		6"O	4W	1.00			85	85									
		Cubic Feet							1502											
		Air Changes per hour (ACH)									3.40									
	DH	Corridor	C131		6"O	4W	1.00			80	80									
	DH	Attendance	J109		6"O	4W	1.00			75	75									
		Cubic Feet							1128											
		Air Changes per hour (ACH)									3.99									
		<b>Total</b>								<b>240</b>	<b>240</b>									
		(Display)								(176)	(239)		(116)							
		Temp / RH								68.3 / 38.4										
										100%	100%	100%								
		<b>TU-807</b>	(1000 / 300 / 300)	(1000 CV)	(10"O)					(0.62)	(0.60)	(0.60)								
	DH	Reception	C125	1	10"O	4W	1.00			320	320									
	DH	Reception	C125	2	10"O	4W	1.00			220	220									
	DH	Reception	C125	3	10"O	4W	1.00			295	295									
		<b>Total</b>								<b>835</b>	<b>835</b>									
		(Display)								(790)	(837)		(288)							
		Cubic Feet							8980											
		Air Changes per hour (ACH)									5.31									
		Temp / RH								69.9 / 37.1										
										100%		100%								
		<b>TU-808</b>	(300 / 90 / 90)	(300 CV)	(6"O)					(0.55)		(0.55)								
	DH	Conference	J102		10"O	4W	1.00			260										
		(Display)								(260)			(104)							
		Cubic Feet							2882											
		Air Changes per hour (ACH)								5.72										
		Temp / RH								69.2 / 37.3										

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-8</b>								38%	35%	100%										
		<b>TU-810</b>	(400 / 145 / 200)	(250 CV)	(8"O)					(0.66)	(0.30)	(0.30)										
	DH	Office - Principal	J125		12"O	4W	1.00			275	255											
		(Display)								(256)	(258)				(210)							
		Temp / RH								69.4 / 37.6												
		Cubic Feet						2254														
		Air Changes per hour (ACH)										6.80										
										39%		100%										
		<b>TU-811</b>	(500 / 150 / 200)	(250 CV)	(7"O)					(0.56)		(0.56)										
	DH	Office	J124		10"O	4W	1.00			260												
		(Display)								(256)					(150)							
		Temp / RH								68.7 / 37.2												
		Cubic Feet						2270														
		Air Changes per hour (ACH)								6.87												
										39%	34%	100%										
		<b>TU-812</b>	(500 / 150 / 275)	(250 CV)	(4"O)					(0.63)	(0.40)	(0.40)										
	DH	Office	J123		12"O	4W	1.00			285	260											
		(Display)								(258)	(258)				(144)							
		Temp / RH								68.5 / 37.3												
		Cubic Feet						2081														
		Air Changes per hour (ACH)										7.50										
										100%		100%										
		<b>TU-809</b>	(90 / 30 / 30)	(100 CV)	(4"O)					(0.36)		(0.36)										
	DH	Office	J122		6"O	4W	1.00			85												
		(Display)								(82)					(53)							
		Temp / RH								69.0 / 37.1												
		Cubic Feet						964														
		Air Changes per hour (ACH)								5.29												

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>AHU-8</b>																		
		<b>TU-813</b>	(1200 / 360 / 360)	(1000 CV)	(12"O)															
	DH	Entry Corridor	C140	1	12"O	4W	1.00													
	DH	Entry Corridor	C140	2	12"O	4W	1.00													
		<b>Total</b>																		
		(Display)																		
		<b>TU-814</b>	(1200 / 360 / 360)	(1000 CV)	(12"O)															
	DH	Entry Corridor	C112	1	12"O	4W	1.00													
	DH	Entry Corridor	C112	2	12"O	4W	1.00													
		<b>Total</b>																		
		(Display)																		

AIR BALANCING SPECIALTY, INC. 3532 SE Milwaukie Avenue, Portland, OR 97202-2751 Phone 230-2332 Fax 230-2820

VARIABLE AIR VOLUME FPM

**AIR BALANCE DATA SHEET**

PROJECT NO. 21-4250-D

PROJECT: GLADSTONE HIGH SCHOOL - GLADSTONE, OREGON

DATE START: 01/12/21 FINISH: 03/01/21

SYSTEM: AHU-8 (TU-813 & TU-814))

SECTION: "C"

BY: DN

PAGE: 21 OF 30



Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct		
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM			
										K-Factor												
		<b>AHU-10</b>								100%		100%		100%								
		<b>TU-1001</b>	(2100 / 1500 / 1470)(2000 CV)(14"O)							(0.50)		(0.76)		(0.76)								
	DH	Corridor				4W	1.00				215		215							210		
	DH	Corridor				4W	1.00				215		215							215		
	R	ESD Classroom	F108		30x8	SW	1.17			580	679	580	679				580	679				
	R	ESD Classroom	F108		30x8	SW	1.17			720	842	720	842				720	842				
		<b>Total</b>								<b>1951</b>	<b>1951</b>	<b>1951</b>	<b>1951</b>				<b>1946</b>					
		(Display)								(767)		(1947)		(1129)								
		Temp / RH								69.0 / 57.4												
		Cubic Feet							13358													
		Air Changes per hour (ACH)										6.83		3.96			6.83					
		<b>TU-1002</b>	(2050 / 1500 / 1490)(1500 CV)(14"O)							100%		100%		100%								
										(0.56)		(0.48)		(0.48)								
	DH	Classroom	F111	1		4W	1.00				300		300							295		
	DH	Classroom	F111	2		4W	1.00				280		280							270		
	DH	Classroom	F111	3		4W	1.00				260		260							255		
	DH	Classroom	F111	4		4W	1.00				260		260							250		
	DH	Corridor									190		190							190		
		<b>Total</b>								<b>1290</b>	<b>1290</b>	<b>1290</b>	<b>1290</b>				<b>1260</b>					
		(Display)								(945)		(1288)		(1131)								
		Temp / RH								69.8 / 56.3												
		Cubic Feet							12436													
		Air Changes per hour (ACH)										6.21		5.46			6.08					
		OSA Flow Monitor Display												1075								

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct	
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM		
										K-Factor											
										29%		52%		52%							
										(0.44)		(0.14)		(0.14)							
	DH	Storage / Office	G109	1		4W	1.00				225		420				475				
	DH	Corridor		2		4W	1.00				90		180				205				
										<b>315</b>		<b>600</b>				<b>680</b>					
										(485)		(618)		(631)							
										65.1 / 49.8											
												6.43				7.27					
										100%		100%		100%							
										(0.51)		(0.62)		(0.62)							
	R	Classroom	F107		18x10	SW	0.88			480	422	480	422			480	422				
	R	Classroom	F107		18x10	SW	0.88			430	378	430	378			430	378				
	R	Classroom	F107		18x10	SW	0.88			520	458	520	458			520	458				
	R	Office	F106		6x6	SW	0.18			210	38	210	38			210	38				
	R	Storage	F105		6x6	SW	0.18			260	47	260	47			260	47				
	R	Storage	F104		6x6	SW	0.18			120	22	120	22			120	22				
										<b>1365</b>		<b>1365</b>				<b>1365</b>					
										(911)		(1362)		(1214)							
										69.0 / 57.3											
												4.36				4.36					

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
										K-Factor										
										100%	50%	52%								
										(0.42)	(0.54)	(0.54)								
	DH	Home Economics	F103	1		4W	1.00			360	270			270						
	DH	Home Economics	F103	2		4W	1.00			340	250			250						
	DH	Home Economics	F103	3		4W	1.00			375	275			275						
	DH	Home Economics	F103	4		4W	1.00			355	265			265						
										<b>1430</b>	<b>1060</b>			<b>1060</b>						
										(843)	(1093)	(1106)								
										67.8 / 60.2										
												6.39								
										100%	100%	100%								
										(0.44)	(0.44)	(0.44)								
	DH	Kitchen Serve	G107			4W	1.00			375	375			390						
	DH	Kitchen Serve	G107			4W	1.00			360	360			380						
	DH	Kitchen Prep				4W	1.00			240	240			255						
	DH	Dishwasher Area				4W	1.00			285	285			290						
										<b>1260</b>	<b>1260</b>			<b>1315</b>						
										(962)	(1261)	(1176)								
										68.7 / 58.5										
												7.23		6.75		7.54				

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>AHU-11</b>																		
	DP	Traverse West				28"O	4.27	984	4200	472	2015									
	DP	Traverse East				18x18	2.25	1156	2600	514	1157									
		<b>Total</b>							<b>6800</b>	<b>3172</b>										
		Cubic Feet							26688											
		Air Changes per hour (ACH)								7.13										
		<b>AHU-12</b>																		
	DP	Traverse West				24"O	3.14	876	2750	641	2013									
	DP	Traverse East				24"O	3.14	876	2750	898	2820									
		<b>Total</b>							<b>5500</b>	<b>4832</b>										
		Cubic Feet							35558											
		Air Changes per hour (ACH)								8.15										
		<b>AHU-13</b>																		
	DP	Traverse West				24"O	3.14	908	2850	965	3030									
	DP	Traverse East				24"O	3.14	908	2850	794	2493									
		<b>Total</b>							<b>5700</b>	<b>5523</b>										
		Cubic Feet							46236											
		Air Changes per hour (ACH)								7.18										

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
<b>MZU-1974</b>																				
4	DH	Dressing	E131	1			1.00				90									
	DH	Dressing	E131	2			1.00				45									
		<b>Total</b>									<b>135</b>									
		<b>Cubic Feet</b>																		
		<b>Air Changes per hour (ACH)</b>									<b>4.82</b>									
	DH	Dressing	E127				1.00				110									
		<b>Cubic Feet</b>																		
		<b>Air Changes per hour (ACH)</b>									<b>5.61</b>									
	DH	Practice	E126				1.00				60									
		<b>Cubic Feet</b>									<b>804</b>									
		<b>Air Changes per hour (ACH)</b>									<b>4.48</b>									
	DH	Practice	E126A				1.00				40									
		<b>Cubic Feet</b>									<b>780</b>									
		<b>Air Changes per hour (ACH)</b>									<b>3.08</b>									
	DH	Corridor	E129				1.00				290									
	DH	Boys RR	E128				1.00				195									
		<b>Cubic Feet</b>									<b>1167</b>									
		<b>Air Changes per hour (ACH)</b>									<b>10.03</b>									
	DH	Girls RR	E130				1.00				230									
		<b>Cubic Feet</b>									<b>1167</b>									
		<b>Air Changes per hour (ACH)</b>									<b>11.83</b>									
		Office	E111				1.00				140									
		<b>Cubic Feet</b>									<b>756</b>									
		<b>Air Changes per hour (ACH)</b>									<b>11.11</b>									

Ref. Note: (4) Return outlet with supply shown on plans as supply.

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
<b>MZU-1974</b>																				
	DH	Corridor	E139	1		4W	1.00													
	DH	Corridor	E139	2		4W	1.00				355									
	DH	Corridor	E139	3		4W	1.00				270									
	DH	Corridor	E139	4		4W	1.00				300									
		<b>Total</b>									225									
		<b>Cubic Feet</b>									<b>1150</b>									
		<b>Air Changes per hour (ACH)</b>																		
	R	Classroom	E107	1	14x8	SW	0.54				180	97								
	R	Classroom	E107	2	14x8	SW	0.54				840	454								
	R	Classroom	E107	3	14x8	SW	0.54				100	54								
	R	Classroom	E107	4	14x8	SW	0.54				1070	578								
		<b>Total</b>									<b>1183</b>									
		<b>Cubic Feet</b>									<b>9407</b>									
		<b>Air Changes per hour (ACH)</b>									<b>7.55</b>									
	R	Classroom	E109	1	14x8	SW	0.54				300	162								
	R	Classroom	E109	2	14x8	SW	0.54				240	130								
	R	Classroom	E109	3	14x8	SW	0.54				1260	680								
	R	Classroom	E109	4	14x8	SW	0.54				1390	751								
		<b>Total</b>									<b>1723</b>									
		<b>Cubic Feet</b>									<b>11760</b>									
		<b>Air Changes per hour (ACH)</b>									<b>8.79</b>									
		Office									0									
		Office									0									
	R	Classroom	E103	1	28x8	SW	1.09				840	916								
	R	Classroom	E103	2	28x8	SW	1.09				540	589								
	R	Classroom	E103	3	28x8	SW	1.09				420	458								
		<b>Total</b>									<b>1962</b>									
		<b>Cubic Feet</b>									<b>23216</b>									
		<b>Air Changes per hour (ACH)</b>									<b>5.07</b>									

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>MZU-1974</b>																		
		Storage	E101								0									
	R	Classroom	E102	1	22x8	SW	1.09			130	142									
	R	Classroom	E102	2	22x8	SW	1.09			60	65									
	R	Classroom	E102	3	22x8	SW	1.09			240	262									
		<b>Total</b>									<b>469</b>									
		<b>Cubic Feet</b>									<b>13601</b>									
		<b>Air Changes per hour (ACH)</b>									<b>2.07</b>									
		Girls RR	E113																	

Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
	DG	Gym		1	36x24	SW	4.20				410	1722								
	DG	Gym		2	36x24	SW	4.20				517	2171								
	DG	Gym		3	36x24	SW	4.20				344	1445								
	DG	Gym		4	36x24	SW	4.20				361	1516								
	DG	Gym		5	36x24	SW	4.20				344	1445								
	DG	Gym		6	36x24	SW	4.20				324	1361								
		<b>Total</b>										<b>9660</b>								
		Cubic Feet							200376											
		Air Changes per hour (ACH)										2.89								
	DG	Wrestling		1	36x12	SW	2.10				86	181								
	DG	Wrestling		2	36x12	SW	2.10				78	164								
	DG	Wrestling		3	36x12	SW	2.10				76	160								
	DG	Wrestling		4	30x12	SW	1.75				59	103								
	DG	Wrestling		5	30x12	SW	1.75				0	0								
	DG	Wrestling		6	30x12	SW	1.75				33	58								
		<b>Total</b>										<b>665</b>								
		Cubic Feet							84346											
		Air Changes per hour (ACH)										0.47								
	DG	Upper Gym		1	24x30	SW	3.50				556	1946								
	DG	Upper Gym		2	30x36	SW	5.30				307	1627								
		<b>Total</b>										<b>3574</b>								
		Cubic Feet							88549											
		Air Changes per hour (ACH)										2.40								
	DH	Weight Room				4W	1.00					4025								
		Cubic Feet							29266											
		Air Changes per hour (ACH)										8.25								



Ref	Ins	AREA SERVED	OUTLETS			Blow	DESIGN			TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size		AK	Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
	DG	Lower Gym		1	24x12	SW	1.40			1036	1450									
	DG	Lower Gym		2	24x12	SW	1.40			1081	1513									
	DG	Lower Gym		3	24x12	SW	1.40			1217	1704									
	DG	Lower Gym		4	24x12	SW	1.40			897	1256									
	DG	Lower Gym		5	24x12	SW	1.40			243	340									
	DG	Lower Gym		6	24x12	SW	1.40			1350	1890									
		<b>Total</b>									<b>8154</b>									
		Cubic Feet							200970											
		Air Changes per hour (ACH)									2.43									
	DH	Girls Restroom Supply		H116							175									
	DH	Girls Restroom Exhaust		H116							70									
		Cubic Feet							1353											
		Air Changes per hour (ACH)																		
	DH	Boys Restroom Supply		H123							0									
	DH	Boys Restroom Exhaust		H123							40									
		Cubic Feet							1222											
		Air Changes per hour (ACH)																		
		Restroom Exhaust Pressure		B114			1.00				100									
										0.014"										

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>M 2.14</b>																		
	DH	Boys Restroom Supply	E125							195										
	DH	Boys Restroom Exhaust	E125							230										
		Cubic Feet							1167											
		Air Changes per hour (ACH)								11.82										
		Pressure								-0.015"										
	DH	Girls Restroom Supply	E130							240										
	DH	Girls Restroom Exhaust	E130							235										
		Cubic Feet							1158											
		Air Changes per hour (ACH)								12.17										
		Pressure								-0.020"										
	DH	Auditorium Girls Supply	E113							50										
	DH	Auditorium Girls Exhaust	E113							50										
		Cubic Feet							1503											
		Air Changes per hour (ACH)								2.00										
		Pressure								-0.002"										
	DH	Auditorium Boys Supply	E121							35										
	DH	Auditorium Boys Exhaust	E121							45										
		Cubic Feet							1344											
		Air Changes per hour (ACH)								2.01										
		Pressure								-0.003"										
		<b>M 2.15</b>																		
		<b>EF-12</b>																		
		Toilet Unisex Exhaust	F103							25										
		Cubic Feet							368											
		Air Changes per hour (ACH)								4.07										
		Pressure								-0.0001"										

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>M 2.11</b>																		
		<b>EF-13</b>																		
	DH	Toilet Exhaust		G114							100									
		Cubic Feet							216											
		Air Changes per hour (ACH)									27.78									
		Pressure									-0.021"									
		<b>EF-14</b>																		
	DH	Toilet Exhaust		G113							110									
		Cubic Feet							216											
		Air Changes per hour (ACH)									30.56									
		Pressure									-0.024"									
		<b>EF-15</b>																		
	DH	Toilet Exhaust		B108																
		Cubic Feet							245	FAN NEEDS REPAIRED										
		Air Changes per hour (ACH)																		
		Pressure																		
		<b>M 2.10</b>																		
		<b>EF-17</b>																		
	DH	Toilet Exhaust		F109							90									
		Cubic Feet							270											
		Air Changes per hour (ACH)									20.00									
		Pressure									-0.013"									

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>M 2.12</b>																		
		<b>EF-03</b>																		
	DH	Health Restroom Exhaust	J103								65									
	DH	Separate EF									NA									
		<b>Total</b>									<b>65</b>									
		Cubic Feet							313											
		Air Changes per hour (ACH)									12.46									
		Pressure									-0.005"									
	DH	Women's Restroom Exh.	J107								30									
	DH	Separate EF									0									
		<b>Total</b>									<b>30</b>									
		Cubic Feet							627											
		Air Changes per hour (ACH)									2.87									
		Pressure									-0.001"									
	DH	Men's Restroom Exh.	J104								20									
	DH	Separate EF									30									
		<b>Total</b>									<b>50</b>									
		Cubic Feet							432											
		Air Changes per hour (ACH)									6.94									
		Pressure									-0.010"									

Ref	Ins	AREA SERVED	OUTLETS			Blow	AK	DESIGN		TEST #1		TEST #2		TEST #3		TEST #4		FINAL		Pct
			Rm.#	No.	Size			Vel	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM	
		<b>M 2.13</b>																		
		<b>EF-205</b>																		
	DH	Boys Restroom Exhaust	A116							420										
		Cubic Feet							1744											
		Air Changes per hour (ACH)								14.45										
		Pressure								-0.034"										
	DH	Girls Restroom Exhaust	A114							350										
		Cubic Feet							1665											
		Air Changes per hour (ACH)								12.61										
		Pressure								-0.036"										
		<b>EF-16</b>																		
	DH	Boys Restroom Exhaust	D104							260										
		Cubic Feet							1558											
		Air Changes per hour (ACH)								10.01										
		Pressure								-0.029"										
	DH	Girls Restroom Exhaust	D106							250										
		Cubic Feet							1650											
		Air Changes per hour (ACH)								9.09										
		Pressure								-0.037"										