



BASELINE INDOOR AIR QUALITY
ASSESSMENT

February 24, 2022

**Arlington High School
BUILDING D&E
869 Massachusetts Ave, Arlington, MA**

Prepared For:

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1. INTRODUCTION

Cashins & Associates, Inc. was retained by Consigli Construction to provide professional industrial hygiene consulting services. Our scope of work consisted of measuring various basic indoor air quality parameters after construction activities had been completed throughout Buildings D and E of the Arlington High School located at 869 Massachusetts Ave. in Arlington, Massachusetts. Baseline readings of the finished high school buildings were requested before students and staff officially occupy them on Monday, February 28th, 2022.

The air sampling was performed on Thursday, February 24th, 2022. At the time of the sampling, there were active construction activities occurring in the stage and auditorium section of Building E of the school. Air readings were collected from all areas surrounding the sectioned off stage and auditorium areas.

Sampling was conducted throughout four floors over a period of three hours to accurately capture dust, VOC, and CO concentrations.

2. METHODOLOGIES

A Particles Plus™ part per billion photoionization detector (PID) was utilized to screen for the presence of total volatile organic compounds (TVOCs). The PID is a screening tool that provides information as to TVOC loading in the space. The instrument does not provide information pertaining to which specific compounds are present in the air.

Dust concentrations were also measured using the Particles Plus meter. This real-time aerosol monitor measures dust between 0.3 microns and 10 microns.

Carbon monoxide was measured using a BW Gas Alert Max XTII four gas meter.

3. FINDINGS

3.1 Findings: Basic IAQ Parameters

We have listed in Tables 1 and 2 the results of the real-time air sampling. These tables can be found in Appendix A to this report.

4. DISCUSSION

The readings presented in this report can be used as a baseline when additional testing is performed during the construction process.

It must be noted, there was construction work being performed inside the Building E auditorium and stage area. These areas were blocked off from surrounding areas and barrier doors were marked with construction warnings. It was stated that active construction inside these areas will reportedly continue for several months. Indoor air quality readings were collected from outside these barriers and throughout all surrounding parts of Building D & E.

Indoor air quality should be monitored on a regular basis throughout this project in order to ensure that concentrations of various airborne contaminants remain at acceptable levels.

Please call if you have any questions or if we can be of further assistance.

Sincerely,
Cashins & Associates, Inc.



Bret D. Bradley
IH & Building Sciences Consultant

Reviewed by:



Michael R. Cashins, CIH
Director of Consulting Services

APPENDIX A

RESULTS OF REAL-TIME AIR SAMPLING

Table 1: Real-time Air Quality Readings, Round 1

<i>Location</i>	<i>CO (ppm)</i>	<i>TVOC (ppb)</i>	<i>Dust ($\mu\text{g}/\text{m}^3$)</i>
Building D Floor 5			
Locker well outside Stair 2	<1	476	39.7
Classroom 519	<1	555	12.2
Classroom 520	<1	427	5.3
Classroom 522	<1	438	16.8
Office 524	<1	400	22.4
Classroom 525	<1	385	4.5
Classroom 526	<1	375	5.6
Prep Room 527A	<1	365	8.2
Classroom 528	<1	348	1.8
House Dean Office 532	<1	367	17.7
Classroom 531	<1	348	10.6
Building D Floor 4			
Locker well outside Stair 2	<1	370	3.8
Debate room 434	<1	276	62.2
Classroom 435	<1	320	26.5
Classroom 419	<1	254	3.9
Classroom 420	<1	298	2.5
Teacher room 422	<1	237	2.6
Classroom 423	<1	233	2.2
Classroom 425	<1	278	1.6
Classroom 426	<1	270	2.4
Prep room 427A	<1	268	3.1
Classroom 428	<1	283	1.2
Classroom 430	<1	253	1.2
Classroom 433	<1	252	1.7
Building D Floor 3			
Locker well outside Stair 2	<1	323	52.4
Classroom 319	<1	239	1.9
Classroom 320	<1	230	5.6
Teacher room 322	<1	228	15.3
Teacher room 324	<1	215	14.6
Classroom 325	<1	210	6.8
Classroom 326	<1	211	2.6
Prep room 327A	<1	209	5.3

Table 1: Real-time Air Quality Readings, Round 1

<i>Location</i>	<i>CO (ppm)</i>	<i>TVOC (ppb)</i>	<i>Dust ($\mu\text{g}/\text{m}^3$)</i>
Classroom 328	<1	203	13.2
Classroom 330	<1	200	2.5
House Dean Office 333	<1	257	12.3
Classroom 332	<1	202	1.3
Building E Floor 3			
Corridor between Building D & E	<1	215	235
Practice room 338	<1	223	126
Office 342	<1	217	56.8
Production studio 345A	<1	218	115
Chorus room 344	<1	244	20.6
Building E Floor 2			
Band Hallway Outside Stage	<1	256	126
Classroom 239	<1	203	39.5
Temporary Connector Passage	<1	172	101
Building D Floor 2			
Main entrance lobby by temp wall	<1	173	56.7
Classroom 219	<1	204	20.2
Light well outside room 220	<1	265	38.4
Classroom 223	<1	195	27.4
Classroom 226	<1	152	32.5
Classroom 227	<1	147	45.6
Office 229	<1	310	29.2
Corridor outside Admin offices	<1	277	39.3
Main office reception	<1	245	25.6
Conference room 232B	<1	264	26.8

Table 2: Real-time Air Quality Readings, Round 2

<i>Location</i>	<i>CO (ppm)</i>	<i>TVOC (ppb)</i>	<i>Dust ($\mu\text{g}/\text{m}^3$)</i>
Building D Floor 5			
Locker well outside Stair 2	<1	280	22.2
Classroom 519	<1	205	12.8
Classroom 520	<1	159	1.9
Classroom 522	<1	162	18.1
Office 524	<1	140	20.8
Classroom 525	<1	124	3.2
Classroom 526	<1	112	6.4
Prep Room 527A	<1	109	17.8
Classroom 528	<1	110	1.9
House Dean Office 532	<1	122	21.6
Classroom 531	<1	116	10.3
Building D Floor 4			
Locker well outside Stair 2	<1	213	25.9
Debate room 434	<1	164	10.8
Classroom 435	<1	132	27.7
Classroom 419	<1	119	5.8
Classroom 420	<1	100	2.1
Teacher room 422	<1	104	1.8
Classroom 423	<1	98	3.1
Classroom 425	<1	94	1.5
Classroom 426	<1	92	2.3
Prep room 427A	<1	98	10.3
Classroom 428	<1	83	2.3
Classroom 430	<1	82	1.9
Classroom 433	<1	90	1.5
Building D Floor 3			
Locker well outside Stair 2	<1	170	69.4
Classroom 319	<1	107	3.5
Classroom 320	<1	96	1.3
Teacher room 322	<1	85	16.7
Teacher room 324	<1	89	8.9
Classroom 325	<1	80	1.9
Classroom 326	<1	80	2.1
Prep room 327A	<1	79	1.6

Table 2: Real-time Air Quality Readings, Round 2

<i>Location</i>	<i>CO (ppm)</i>	<i>TVOC (ppb)</i>	<i>Dust ($\mu\text{g}/\text{m}^3$)</i>
Classroom 328	<1	76	6.7
Classroom 330	<1	79	8.9
House Dean Office 333	<1	83	17.7
Classroom 332	<1	86	2.8
Building E Floor 3			
Corridor between Building D & E	<1	168	105
Practice room 338	<1	111	115
Office 342	<1	108	128
Production studio 345A	<1	121	87.5
Chorus room 344	<1	132	44.6
Building E Floor 2			
Band Hallway Outside Stage	<1	103	112
Classroom 239	<1	118	88.2
Temporary Connector Passage	<1	85	70.9
Building D Floor 2			
Main entrance lobby by temp wall	<1	83	59.1
Classroom 219	<1	85	18.1
Light well outside room 220	<1	99	54.8
Classroom 223	<1	79	33.9
Classroom 226	<1	64	21.4
Classroom 227	<1	57	54.7
Office 229	<1	97	30.2
Corridor outside Admin offices	<1	102	46.7
Main office reception	<1	112	83.2
Conference room 232B	<1	98	8.9