

IEA, INC.

2022 - 2023 IAQ Walkthrough



Contact Us:

BROOKLYN PARK OFFICE

9201 W. BROADWAY, #600
BROOKLYN PARK, MN 55445
763-315-7900

MANKATO OFFICE

610 N. RIVERFRONT DRIVE
MANKATO, MN 56001
507-345-8818

ROCHESTER OFFICE

210 WOOD LAKE DRIVE SE
ROCHESTER, MN 55904
507-281-6664

BRAINERD OFFICE

601 NW 5TH STREET SUITE #4
BRAINERD, MN 56401
218-454-0703

MARSHALL OFFICE

1420 EAST COLLEGE DRIVE
MARSHALL, MN 56258
507-476-3599

VIRGINIA OFFICE

5525 EMERALD AVENUE
MOUNTAIN IRON, MN 55768
218-410-9521

www.ieasafety.com

info@ieasafety.com

800-233-9513

Saint Paul Public Schools Open World Learning

Walkthrough Date:
Tuesday, February 7, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Open World Learning by IEA representative, Eddie Anderson. This walkthrough was conducted with the intent of gathering basic air quality and visual observations which will assist the District in making informed and proactive decisions to improve and maintain acceptable air quality in the building. This walkthrough is based upon the Environmental Protection Agency's (EPA's) Tools for Schools IAQ guidelines.

Some observations gathered during the walkthrough may identify issues which may require additional testing, evaluation or further investigation.

The findings, conclusions and recommendations presented herein are believed to be accurate and representative of the building on the date and time of the walkthrough.

GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from Saint Paul Public Schools at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted indoor air quality practices. Other than as provided in the preceding sentence, no warranties are extended or made.

Building Information

General information regarding the building was collected during the walkthrough. The information gathered during this process is a vital component, as it is helpful in determining how these items may play a role in possible IAQ related issues.

Below is a summary of the information gathered during the walkthrough:

- The building has three (3) floors.
- The building has not had recent construction.
- There are operable and inoperable windows in the exterior rooms within the building.
- The building was originally constructed in 1909.
- There are additions to the building, in the following year(s): 1959.
- The building does utilize walk-off mats.
- There are below grade floors.
- There are tunnels under portions of the building.

Observations Summary and Air Quality Measurements

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
OUTDOORS					422	0.4	38.3	40.2
1103	1	No		No	741	0.1	22.2	71.6
1104 ART	5	No		No	639	0.1	19.5	72.1
1104A	0	No		No	582	0.2	20.1	70.5
1106	2	No		No	592	0.1	20.3	70.3
1106 STORAGE	0	No		No	601	0.1	22.9	65.8
1108	24	No		No	730	0.1	23.8	67.8
1110	0	No		No	568	0.1	20.6	68.7
1112	26	No		No	1,238	0.1	26.5	70.9
1114	2	No		No	489	0.1	18.4	71.3
1116	0	No		No	497	0.1	19.0	69.6
1101 CAFETERIA	27	No		Yes Air Supply, Ceiling Tiles Around Air Supply	740	0.1	23.2	71.6
KITCHEN	4	No	<ul style="list-style-type: none"> Taxidermy 	Yes Air Supply, Ceiling Tiles Around Air Supply	729	0.1	23.0	72.9
KITCHEN OFFICE	1	No		No	834	0.1	22.5	74.6
1221	34	No		No	1,247	0.1	23.9	75.3
1207	1	No		No	647	0.1	17.8	76.7
1207A	2	No	<ul style="list-style-type: none"> Taxidermy 	No	722	0.1	17.0	78.9
1208	2	No	<ul style="list-style-type: none"> Plants 	No	776	0.1	17.0	79.1
1212	0	No		No	644	0.2	16.0	77.8
1008	1	No		No	730	0.1	17.4	79.4
1008A	2	No		No	687	0.1	16.2	79.4

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1007	1	No		No	717	0.1	15.9	79.4
1003	1	No		No	670	0.1	16.6	77.3
1005	0	No		No	695	0.1	17.4	77.1
1002	0	No		No	659	0.1	17.0	76.1
1001	3	No		No	708	0.1	18.8	76.3
1304	0	No		No	1	0.1	17.4	75.3
1304A	0	No		Yes Air Return, Air Supply, Ceiling Tiles Around Air Supply	592	0.1	15.8	75.1
1305A	0	No		No	447	0.1	15.0	74.4
1305B	0	No		No	493	0.1	15.1	74.1
1602	0	No		No	654	0.1	15.3	79.5
1601	0	No		No	527	0.1	18.2	73.9
1601A	0	Yes Musty	<ul style="list-style-type: none"> Stained Ceiling Tiles 	Yes Air Return	506	0.1	16.1	73.3
1604	0	Yes Musty		No	507	0.1	17.2	72.1
1004	1	No		No	709	0.1	16.1	78.4
1608	3	No		Yes Air Supply	573	0.1	17.8	75.4
1301	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	816	0.1	26.2	73.3
1504A	0	No		No	453	0.1	15.2	73.0
1503	0	No		No	578	0.1	16.2	71.8
2609	0	No	<ul style="list-style-type: none"> Housekeeping: Storage 	No	506	0.1	18.4	69.4
2610	1	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	537	0.1	18.2	70.5
2608	0	No		No	518	0.1	17.8	71.5
2606	11	No		No	617	0.1	18.8	71.9
2602	1	No		No	705	0.1	19.3	74.5

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2601 STAFF LOUNGE	0	Yes		No	553	0.1	16.0	74.9
2210	0	No	• Stained Ceiling Tiles	No	668	0.1	17.7	76.4
2208	1	No		No	726	0.1	16.9	77.3
2206	0	No		No	675	0.1	16.5	77.6
2204	0	No		No	808	0.1	18.2	77.8
2202	18	No	• Taxidermy	No	1,017	0.1	21.1	78.4
2106	0	No		No	689	0.3	16.6	74.6
2108	0	No		No	851	0.1	19.2	73.0
2110	18	No		No	1,551	0.1	27.8	73.3
2105	3	No	• Stained Ceiling Tiles	No	742	0.1	19.2	75.1
2103	0	No		No	720	0.1	19.3	72.3
2107	0	No		No	707	0.1	19.0	72.0
2112	26	No	• Taxidermy	No	1,438	0.1	24.6	71.8
2109	0	No		No	726	0.1	20.1	70.2
2111	0	No		No	698	0.1	20.0	70.4
2114	27	No	• Plants	No	881	0.1	23.5	70.6
2116	1	No		No	873	0.1	22.8	71.1
2116	0	No		No	843	0.1	21.6	71.4
2116B	0	No		No	886	0.1	22.1	71.4
2116A	0	No		No	889	0.1	21.7	71.6
2118	12	No		No	905	0.1	22.8	71.7
2115	0	No		No	743	0.1	20.6	72.5
2209	26	No		No	991	0.1	22.4	73.7
2215	26	No		No	1,187	0.1	24.8	74.0
2207	7	No		No	917	0.1	20.7	77.1
2300	0	No		No	509	0.4	16.4	73.5
STAGE	0	No	• Taxidermy	No	504	0.1	16.7	73.0

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
2205	0	No		No	761	0.1	18.9	75.0
2105A	0	No		No	823	0.1	18.6	76.9
3202	11	No		No	689	0.1	17.1	77.3
3204	12	No		No	988	0.1	18.6	77.6
3206	14	No		No	903	0.1	19.9	78.1
3201	0	No		No	718	0.2	17.8	75.9
3210	16	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	Yes Air Return, Air Supply	841	0.1	20.1	75.6
3203	0	No		No	566	0.1	15.9	75.2
3205	5	No		No	751	0.1	19.0	74.6
3212	1	No		No	674	0.1	17.3	74.9
3214	0	No		No	679	0.1	17.5	74.8
3215	16	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	895	0.1	21.6	74.6
GREENHOUSE	1	No	<ul style="list-style-type: none"> Plants 	No	719	0.1	17.1	82.1
3209	16	No	<ul style="list-style-type: none"> Aquariums (fish) 	No	1,017	0.3	18.3	79.1
1504	0	No		No	470	0.1	15.6	72.7

Summary of Concerns & Recommendations

See below for IEA's list of concern areas and recommendations:

Indoor Air Quality Parameters/Guidelines

IEA recorded area(s) with carbon dioxide measurements above 1,200 ppm in the room(s) listed below. IEA considers carbon dioxide measurements above 1,200 ppm as an indication of a possible ventilation issue. The ventilation system(s) serving the location(s) with these levels should be evaluated.

- 1112 • 2110
- 1221 • 2112

IEA recorded area(s) with humidity levels outside the ASHRAE recommended range of 30 - 60%. Relative humidity levels identified in area(s) listed below were found to be outside these guidelines. Low humidity levels tend to dry mucous membranes which may result in increased susceptibility to irritation. Elevated humidity levels can lead to condensation and provide conditions conducive to fungal growth. Low relative humidity is common in buildings during the heating season. An evaluation of the ventilation system controls, performance and operation is recommended.

- IEA identified eighty-five (85) rooms with relative humidity levels below 30%. However, this is common for non-humidified buildings during the heating season and is not considered an issue.

IEA recorded area(s) with temperatures outside the recommended range. During the heating season, ASHRAE recommends that temperatures be between 68°F and 75°F. Evaluation of temperature controls and/or ventilation system performance and operation is recommended.

- 1001
- 1002
- 1003
- 1004
- 1005
- 1007
- 1008
- 1008A
- 1106 STORAGE
- 1108
- 1207
- 1207A
- 1208
- 1212
- 1221
- 1304
- 1304A
- 1602
- 1608
- 2105
- 2105A
- 2202
- 2204
- 2206
- 2207
- 2208
- 2210
- 3201
- 3202
- 3203
- 3204
- 3206
- 3209
- 3210
- GREENHOUSE

Odors

Odors were detected during the site visit in the building. If the source of the odor cannot be easily identified, IEA can provide further investigation or recommendations.

- 1601A *Musty*
- 1604 *Musty*
- 2601 STAFF LOUNGE

Stained Ceiling Tiles

Stained ceiling tiles were found in the room(s) shown below. The impacted ceiling tiles should be removed and replaced, and the cause of the moisture repaired.

- 1301
- 1601A
- 2105
- 2210
- 2610
- 3210
- 3215

Plants

Plants in an occupied location can be a source of allergens to sensitized individuals due to the pollen and soil mold. It is recommended that plants be removed from locations occupied by sensitized individuals. If plants are to remain in the area, IEA recommends that plants should not be placed near air unit ventilators or air supply diffusers. Additionally, plants should be watered from the bottom. These measures will help control pollen and mold spores from becoming airborne.

- 1208 • GREENHOUSE
- 2114

Taxidermy

IEA observed area(s) with taxidermy mounts present. Individuals with allergies or asthma may be sensitive to dust, animal fur, or dander, and may have a reaction when exposed to these allergens. IEA recommends using an alternative to taxidermy mounts if allergen symptoms are found by occupants within the classroom.

- 1207A • KITCHEN
- 2112 • STAGE
- 2202

Live Animals / Aquariums

IEA observed live animal(s). Prior to having animals, the Building Principal should be consulted. Consult parents about potential allergies in a take-home note with students or during parent-teacher conferences. IEA recommends that the animal and cages/cases are regularly cleaned/maintained and stored away from air supply and return vents.

- 3209

Poor Housekeeping

Area(s) identified by IEA as having poor housekeeping (excessive clutter, excessive dust/debris on horizontal surfaces, etc.) were documented within the building. Poor housekeeping can limit building maintenance from conducting a proper cleaning of the area. This can result in elevated potential for allergen issues in sensitized individuals due to dirt and debris loading. Poor housekeeping can also allow for pest (insects and rodents) issues in the space.

- 2609 *Storage*

Dust Accumulation

IEA observed dust accumulation in the following room(s) and recommend that the specified area is wiped clean using a damp rag.

- | | | | |
|-----------|--|-----------|--|
| • 1101 | <i>Air Supply, Ceiling Tiles Around Air Supply</i> | • 1608 | <i>Air Supply</i> |
| CAFETERIA | | • 3210 | <i>Air Return, Air Supply</i> |
| • 1304A | <i>Air Return, Air Supply, Ceiling Tiles Around Air Supply</i> | • KITCHEN | <i>Air Supply, Ceiling Tiles Around Air Supply</i> |
| • 1601A | <i>Air Return</i> | | |