

IEA, INC.

2022 - 2023 IAQ Walkthrough



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Saint Paul Public Schools Battle Creek Middle School

Walkthrough Date:
Thursday, February 16, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Battle Creek Middle School 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 two (2) 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 1971.
- 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					462	0.4	6.6	13.2
2204	6	No		No	722	0.1	11.1	69.4
2205	1	No		No	691	0.1	10.8	69.5
2206	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	662	0.1	10.2	69.1
2104 CAFETERIA	1	No		No	960	0.1	16.6	67.9
KITCHEN	4	No		No	704	0.1	12.9	67.6
KITCHEN OFFICE	1	No		No	796	0.1	14.8	67.9
2105 KITCHEN	4	No		No	884	0.1	14.3	68.1
2208	14	No		No	832	0.1	12.5	69.1
2601	21	No		No	907	0.1	12.8	71.4
2602	1	No	<ul style="list-style-type: none"> Bubbling/Peeling Paint: See Appendix A 	No	864	0.1	11.6	72.4
2504	19	No		No	703	0.1	8.3	69.7
2603	8	No		No	858	0.1	12.4	70.5
2503	26	No		No	779	0.1	9.2	70.6
2502	4	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	619	0.1	7.9	70.2
2604	1	No		No	775	0.1	11.3	70.6
2605	1	No	<ul style="list-style-type: none"> Plants 	No	741	0.1	10.7	70.6
2606	1	No	<ul style="list-style-type: none"> Plants 	No	797	0.1	11.4	70.5
CUSTODIAL OFFICE	1	No		No	783	0.1	12.4	62.8
1509	1	No		No	642	0.1	12.2	67.6
1510	1	No		No	671	0.1	10.8	69.8
1507	0	No		No	706	0.1	11.1	70.2
1508	0	No	<ul style="list-style-type: none"> Stained Ceiling Tiles 	No	755	0.1	9.6	70.6

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1501	17	No		No	787	0.3	9.5	75.8
1506	1	No		No	782	0.1	10.7	73.4
1505	1	No		No	683	0.1	9.5	72.1
1504	0	No		No	708	0.1	10.3	71.9
1607	21	No		No	835	0.1	12.6	71.9
1606	9	No		No	731	0.1	10.0	72.0
1608	14	No	• Taxidermy	No	783	0.1	12.2	72.3
1609	0	No		No	649	0.1	10.1	72.4
1610	24	No		No	864	0.1	12.6	73.1
AUDITORIUM	8	No		No	554	0.1	9.5	71.8
2304	18	No		Yes Air Supply	592	0.1	8.8	71.7
1312 GIRLS LOCKER ROOM OFFICE	0	No	• Stained Ceiling Tiles	No	505	0.1	9.2	70.2
1307 BOYS LOCKER ROOM OFFICE	1	No		No	513	0.1	9.1	70.1
1304/1305	1	No		No	688	0.1	10.2	70.8
1208	27	No	• Plants	No	727	0.1	11.7	71.1
1206	24	No	• Plants	No	813	0.1	11.8	71.9
1205	0	No		Yes Air Return, Air Supply	584	0.1	9.4	70.5
1204	19	No		Yes Air Return, Air Supply	1,029	0.1	13.0	69.6
1114	23	No	• Stained Ceiling Tiles	No	1,153	0.1	17.3	69.8
1113	14	No	• Stained Ceiling Tiles	No	1,142	0.1	15.5	70.0
1106	2	No		No	726	0.1	11.5	69.8
1107	1	No		No	718	0.1	12.0	70.0
1109	0	No		No	688	0.1	12.5	69.7

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1108	2	No		No	736	0.1	11.8	70.2
1103	1	No		No	752	0.1	11.8	70.3
1112	0	No		No	737	0.1	12.3	70.0
1104	28	No		Yes Air Return, Air Supply	810	0.1	12.5	69.5
1104A	1	No	• Plants	No	835	0.1	13.4	69.8
1106	1	No		No	781	0.1	12.8	69.8
1105	0	No		No	678	0.1	12.6	67.2
1104C	0	No		No	701	0.1	11.7	70.7
1203	0	Yes Fragrance	• Taxidermy	Yes Air Return	658	0.1	10.2	70.5
1202	24	No		No	997	0.1	13.1	71.2
1201	25	No	• Taxidermy	No	915	0.1	13.5	71.4
1103	1	No		No	849	0.1	12.4	71.1
1601	12	No	• Plants	No	897	0.1	12.1	70.0
1602	1	No		No	808	0.1	11.4	68.8
1603	21	No		No	907	0.1	12.9	68.0
1604	22	No		No	1,089	0.1	15.2	68.4
1605	14	No		No	1,111	0.1	14.7	68.3
1014	0	No		No	50	0.1	11.9	68.7
1013	0	No	• Plants	No	758	0.1	11.3	69.0
1015	0	No	• Plants	No	764	0.1	11.7	71.2
1916	2	No		No	1,175	0.1	15.4	70.8
1017	2	No		No	1,054	0.1	15.6	70.9
1018	2	No		No	830	0.1	12.1	71.8
198	1	No		No	772	0.1	10.9	71.8
282 NURSE	1	No		No	844	0.1	11.8	71.0
1003 NURSES OFFICE	1	No		No	886	0.1	12.5	70.9
COT ROOM 1020	0	No		No	744	0.1	11.0	69.6

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
COT ROOM 1021	1	No		No	848	0.1	13.0	69.5
1011	1	No		No	801	0.1	11.8	70.1
1010	0	No		No	798	0.1	11.2	70.3
ROOM 1109	0	No		No	773	0.1	11.4	70.3
1008	2	No	• Plants	No	794	0.1	11.2	70.6
1007 PRINCIPALS	2	No	• Plants	No	885	0.1	12.4	70.0
1005	0	No		No	766	0.1	11.0	70.3
1001 MAIN OFFICE	5	No	• Plants	No	846	0.1	11.9	70.3
2617	1	No		No	915	0.1	13.1	69.9
2618	1	No		No	979	0.1	14.1	70.0
2607	2	No	• Plants	No	849	0.1	12.4	69.4
2608	17	No		No	1,122	0.1	14.8	70.1
2614	2	No		No	904	0.1	13.1	70.1
2615	0	No		No	910	0.1	13.3	70.1
2609	14	No		No	966	0.1	13.7	69.5
2611	2	No	• Plants	No	877	0.1	13.4	69.0
2612	2	No		No	1,028	0.1	16.2	69.7
2610	21	No		No	1,023	0.1	14.5	69.3
2201	8	Yes Fragrance	• Stained Ceiling Tiles	No	819	0.1	12.3	69.1
2202/2203 TEACHERS LOUNGE	1	No		No	865	0.1	13.2	68.9
2619	0	No		No	944	0.1	13.4	69.8

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 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 ninety-three (93) 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.

- 1105
- 1501
- 1509
- 2104 CAFETERIA
- CUSTODIAL OFFICE
- KITCHEN
- KITCHEN OFFICE

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.

- 1203 *Fragrance*
- 2201 *Fragrance*

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.

- 1113
- 1114
- 1312 GIRLS LOCKER ROOM OFFICE
- 1508
- 2201
- 2206
- 2502

Bubbling/Peeling Paint Concerns

IEA observed bubbling/peeling paint in area(s) within the room(s) listed below. Bubbling/peeling paint can be caused by moisture issues. IEA recommends investigating the cause and repairing the paint. IEA recommends ensuring that the paint is not lead-based prior to disturbance.

- 2602

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.

- 1001 MAIN OFFICE
- 1007 PRINCIPALS
- 1008
- 1013
- 1015
- 1104A
- 1206
- 1208
- 1601
- 2605
- 2606
- 2607
- 2611

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.

- 1201
- 1203
- 1608

Dust Accumulation

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

- 1104 *Air Return, Air Supply*
- 1203 *Air Return*
- 1204 *Air Return, Air Supply*
- 1205 *Air Return, Air Supply*
- 2304 *Air Supply*

Appendix A

Photo Documentation



2602

Bubbling/Peeling Paint