

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](http://www.ieasafety.com)

[info@ieasafety.com](mailto:info@ieasafety.com)

800-233-9513

## Saint Paul Public Schools Education & Operations Services

Walkthrough Date:  
Wednesday, December 14, 2022

---

## Project Description

---

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Education & Operations Services by IEA representative, Nick Lundgren. 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 1938.
- There are additions to the building, in the following year(s): 2020.
- The building does utilize walk-off mats.
- There are below grade floors.
- There are no tunnels under portions of the building.

## Observations Summary and Air Quality Measurements

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO <sub>2</sub> (ppm)	CO (ppm)	RH (%)	Temp (°F)
OUTDOORS					394	0.5	92.0	35.0
2101	0	No		No	445	0.1	29.2	70.2
2104	0	No		No	433	0.3	27.8	69.3
2105	0	No		No	462	0.3	27.9	69.6
2117	1	No		No	502	0.3	27.7	70.5
2119	0	No		No	471	0.3	26.5	71.2
2107	0	No		No	457	0.3	26.0	71.8
2120	0	No		No	441	0.3	25.2	72.1
2121	0	No		No	459	0.3	25.9	72.1
2124	0	No		No	460	0.3	26.3	71.2
2200 NW CORNER	6	No		No	492	0.3	27.0	71.4
2200 NE CORNER	1	No		No	483	0.3	26.9	71.2
2200 SE CORNER	1	No		No	465	0.3	26.3	71.6
2205	0	No		No	449	0.3	26.0	71.6
2200 SW CORNER	1	No		No	491	0.3	26.4	71.6
2112	1	No		No	695	0.3	30.7	71.4
2111	0	No		No	507	0.3	26.9	71.1
2109	0	No		No	592	0.3	27.5	70.9

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO <sub>2</sub> (ppm)	CO (ppm)	RH (%)	Temp (°F)
2100 SW CORNER	3	No		No	557	0.3	27.6	71.1
2100 SE CORNER	8	No		No	562	0.2	28.4	71.4
2100 NE CORNER	3	No		No	561	0.3	27.2	71.8
2100 NW CORNER	2	No		No	476	0.3	26.3	71.8
2108	0	No		No	521	0.3	26.6	72.1
1101	5	No		No	630	0.3	29.5	71.2
1140	2	No		No	551	0.3	28.1	70.9
1140 S HALF	4	No		No	514	0.2	27.8	70.5
1134	0	No		No	433	0.2	27.2	70.2
1133	0	No		No	490	0.2	27.9	69.8
1132	1	No		No	582	0.2	30.4	70.2
1126	0	No	• Plants	No	512	0.2	27.5	70.5
1130	0	No		No	433	0.2	26.3	70.9
1125	0	No		No	505	0.2	27.0	70.7
1124	0	No		No	464	0.2	26.8	70.7
1128	0	No		No	437	0.2	26.5	71.1
1123	0	No		No	472	0.2	26.7	70.9
1127	0	No		No	454	0.2	26.6	71.1
1131	1	No		No	771	0.3	29.7	71.4
1129	1	No		No	808	0.3	28.3	72.3
1102	0	No		No	431	0.3	27.5	72.1
1121	0	No		No	416	0.3	26.7	71.4
2110	2	No		No	1,026	0.3	30.7	70.7

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO <sub>2</sub> (ppm)	CO (ppm)	RH (%)	Temp (°F)
1144	0	No		No	428	0.1	27.2	70.7
1145	0	No		No	422	0.1	27.4	70.5
1100B BY VENDING	0	No		No	448	0.1	27.9	70.3
1105	0	No		No	440	0.1	27.9	70.5
1405	0	No	• Stained Ceiling Tiles	No	407	0.2	27.9	69.6
1409	0	No		No	408	0.1	29.3	68.5
1404 WEST	0	No		No	402	0.1	28.2	68.9
1404 NE	0	No		No	408	0.1	27.9	69.6
1404A	0	No		No	404	0.1	27.8	69.4
1054	1	No	• Stained Ceiling Tiles	Yes Air Supply, Ceiling Tiles Around Air Supply	449	0.1	37.1	69.4
1116B	0	No	• Stained Ceiling Tiles	No	445	0.1	29.7	71.8
1114A	1	No		No	559	0.1	30.6	72.1
1116	1	No	• Stained Ceiling Tiles	No	474	0.2	29.7	72.3
1052	1	No		No	444	0.3	30.9	70.2
1660	3	No		No	585	0.2	29.1	70.2
1663	0	No		No	576	0.2	28.3	70.7
1664	1	No		No	674	0.3	28.1	72.9
1639	10	No		No	643	0.3	28.1	72.7
1644	2	No		No	635	0.3	27.9	72.5
1645	0	No		No	563	0.3	27.0	72.1
1647	1	No		No	628	0.3	28.5	71.4
1648	0	No		No	558	0.3	28.2	70.7
2122	1	No		No	539	0.3	28.0	72.1
1641	3	No		No	612	0.3	29.2	69.8

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO <sub>2</sub> (ppm)	CO (ppm)	RH (%)	Temp (°F)
1656	0	No		No	610	0.2	29.7	70.2
1649A	1	No		No	575	0.2	28.6	70.3
1658	8	No		No	801	0.3	30.4	71.6
1612	0	No		Yes Air Return	486	0.5	26.4	71.1
1613B	0	No	• Stained Ceiling Tiles	Yes Air Return	514	0.5	26.7	71.6
1612A	1	No		No	596	0.5	27.3	71.4
1605A	2	No		Yes Air Supply	555	0.5	27.2	71.2
1605 WEST	0	No		Yes Air Supply	504	0.5	26.8	71.1
1605 EAST	1	No		No	485	0.5	26.6	71.2
1609A	1	No		No	572	0.6	37.9	73.8
1609 WEST	2	No		No	515	0.6	25.0	73.0
1609 EAST	1	No		No	512	0.7	26.5	71.4
1609C	0	No		No	504	0.6	26.4	71.2
1609B	0	No		No	576	0.6	26.0	72.1
1620	0	No		No	493	0.6	26.9	71.2
1620A	1	No		Yes Air Supply	507	0.6	29.1	69.8
1621	0	No		No	500	0.6	28.0	69.3
1664	0	No		No	501	0.6	28.1	69.3
1622	1	No		No	587	1.5	30.4	69.6
1624	1	No		No	606	1.5	32.4	69.8
1638	0	No		No	587	0.6	25.3	72.3
1611A	2	No		No	936	0.9	31.7	71.6

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO <sub>2</sub> (ppm)	CO (ppm)	RH (%)	Temp (°F)
KITCHEN NW CORNER	2	No		No	452	0.7	31.4	69.6
KITCHEN SW CORNER	2	No		No	465	0.6	33.1	70.3
KITCHEN CENTER	3	No		Yes Air Return, Ceiling Tiles Around Air Supply	562	0.5	31.5	70.5
KITCHEN EAST	3	No		Yes Air Return, Ceiling Tiles Around Air Supply	606	0.4	31.2	70.9
1506B	4	No		No	575	1.0	31.0	71.4
KITCHEN NORTH	4	No		Yes Ceiling Tiles Around Air Supply	456	0.4	36.6	71.2
1508B	2	No		No	521	0.4	31.3	71.6
1502	1	No		No	878	0.3	30.7	71.8
1642	2	No		No	645	0.3	29.4	71.4
1503	0	No		No	467	6.5	29.9	70.3
1613A	0	No		No	535	0.9	29.1	69.6
1607A	0	No	• Housekeeping: See Appendix A	No	521	1.0	27.5	70.5
1649	0	No		No	559	0.4	29.4	70.0
1616	1	No		No	547	1.1	28.0	70.3
1617	0	No		No	564	1.0	28.8	69.4
1618	0	No		No	552	1.2	28.1	70.2
1104	24	No		No	945	0.3	33.7	71.2
1103	2	No		No	601	0.3	29.9	72.0
2202	0	No		No	559	0.3	27.2	71.8
2203	0	No		No	558	0.3	27.1	72.1



Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO <sub>2</sub> (ppm)	CO (ppm)	RH (%)	Temp (°F)
2204	0	No		No	547	0.3	26.6	72.1
2206	1	No		No	808	0.3	30.1	72.5

---

## 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 elevated carbon monoxide levels. IEA considers carbon monoxide over 5 ppm to be a possible indication of ventilation and/or equipment issues. The ventilation system and equipment in locations with elevated carbon monoxide should be evaluated.

- 1503

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-seven (87) 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.

### **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.

- 1054
- 1116
- 1116B
- 1405
- 1613B

### **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.

- 1126

**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.

- 1607A

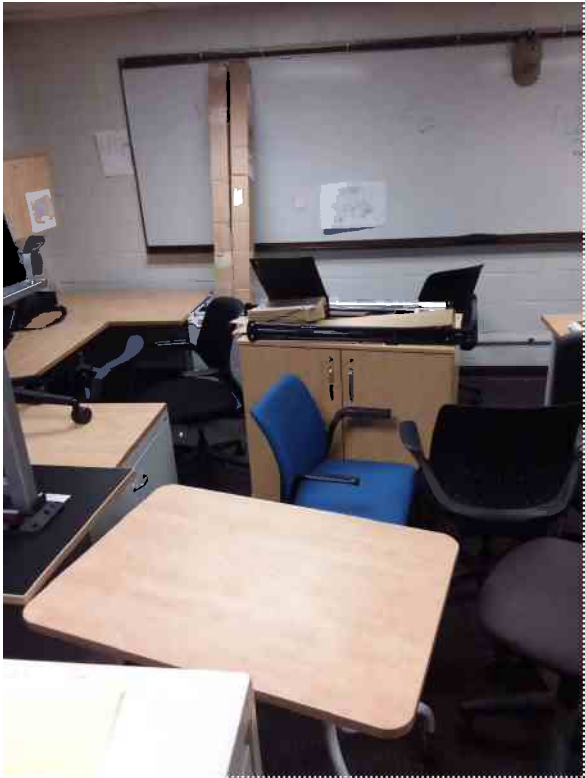
**Dust Accumulation**

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

- |             |  |                     |  |
|-------------|--|---------------------|--|
| • 1054      | <i>Air Supply, Ceiling<br/>Tiles Around Air<br/>Supply</i> | • KITCHEN<br>CENTER | <i>Air Return, Ceiling<br/>Tiles Around Air<br/>Supply</i> |
| • 1605 WEST | <i>Air Supply</i>  | • KITCHEN EAST      | <i>Air Return, Ceiling<br/>Tiles Around Air<br/>Supply</i> |
| • 1605A     | <i>Air Supply</i>  |                     |  |
| • 1612      | <i>Air Return</i>  | • KITCHEN<br>NORTH  | <i>Ceiling Tiles Around<br/>Air Supply</i>                 |
| • 1613B     | <i>Air Return</i>  |                     |  |
| • 1620A     | <i>Air Supply</i>  |                     |  |

# **Appendix A**

## Photo Documentation



1607A

Housekeeping