

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 Jie Ming Mandarin Immersion Academy

Walkthrough Date:
Wednesday, January 18, 2023

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Jie Ming Mandarin Immersion Academy by IEA representative, Sashya Wandmaker. 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 had recent construction.
- There are operable and inoperable windows in the exterior rooms within the building.
- The building was originally constructed in 1921.
- There are additions to the building, in the following year(s): 1954, 1980 and 1986.
- 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					400	0.6	78.0	33.0
1305 CUSTODIAL OFFICE	1	No		No	610	0.5	22.4	74.5
1304	23	No	Plants	No	674	0.5	24.7	71.8
1316	20	No		No	715	0.5	25.7	70.7
1315	6	No	Plants	No	604	0.5	25.5	72.7
1404	16	No	- Aquariums (fish) - Live Animals	No	575	0.5	27.2	68.9
1406	0	No		No	480	0.4	26.3	68.0
1401 KITCHEN	1	No	Stained Ceiling Tiles	No	536	0.4	24.8	69.3
EAST 1402 GYMNASIUM	17	No	Moisture Impacted Materials: Rust throughout ceiling	Yes Horizontal Surfaces	500	0.5	21.8	73.8
WEST 1402 GYMNASIUM	0	No	Moisture Impacted Materials: Rust throughout ceiling	Yes Horizontal Surfaces	453	0.5	22.1	72.5
1205	8	No	- Moisture Impacted Materials: See Appendix A - Plants	No	886	0.5	27.2	71.4
1203	28	No		No	1,162	0.5	28.7	71.4
1201	26	No		No	1,194	0.5	29.0	72.3
1103 MEDIA CENTER	1	No	Stained Ceiling Tiles	No	612	0.5	24.5	70.3
1107	0	Yes Fragrance		No	610	0.4	25.3	69.4
1105	0	No		No	607	0.4	25.5	68.9

Room / Location	Number of Occupants	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
1108	24	No		No	1,075	0.4	29.0	69.8
1109	3	No		No	523	0.4	24.1	69.8
1110	22	No		No	1,047	0.4	28.4	70.9
1114	18	No		No	631	0.4	26.2	70.9
1113	24	No		No	1,054	0.5	27.8	70.9
1112	21	No		No	891	0.4	28.0	71.2
1111	24	No		No	962	0.4	26.8	71.6
1101	0	No		No	698	0.4	24.5	71.6
1001	1	No	• Stained Ceiling Tiles	No	674	0.4	24.2	71.4
1003	0	No		No	628	0.4	24.0	71.4
1004	4	No	• Stained Ceiling Tiles	No	733	0.4	24.9	71.1
1010	2	No	• Stained Ceiling Tiles	Yes Air Return	676	0.4	24.9	70.5
1012	0	No		No	654	0.4	25.1	69.8
2304	23	No	• Stained Ceiling Tiles	No	912	0.4	27.8	70.3
2307	22	No	• Plants	No	663	0.4	26.0	71.2
2310	2	No		No	608	0.4	24.7	72.0
2316	21	No		No	742	0.4	25.3	71.4
2315	23	No		No	635	0.4	24.8	71.6
3315	19	No	• Plants	No	712	0.4	26.0	70.5
3316	16	No		No	834	0.4	27.1	70.2
3312	1	No		No	763	0.4	25.4	72.9
3311	0	No		No	642	0.4	24.3	71.8
3305	20	No		Yes Air Return	727	0.4	25.6	71.1
3304	21	No		No	726	0.4	27.6	70.7

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 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 thirty-nine (39) 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.

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.

- 1107 *Fragrance*

Moisture-Impacted Building Material Concerns

Moisture-impacted building materials should be repaired or replaced when discoloration or water staining is observed. Moisture-impacted building materials can be a source for microbial growth. The source for the moisture infiltration should be investigated and repaired if not easily identified.

- | | | | |
|-------------|------------------------|-------------|------------------------|
| • 1205 | | • WEST 1402 | <i>Rust throughout</i> |
| • EAST 1402 | <i>Rust throughout</i> | GYMNASIUM | <i>ceiling</i> |
| GYMNASIUM | <i>ceiling</i> | | |

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.

- | | |
|--------|---------------------|
| • 1001 | • 1103 MEDIA CENTER |
| • 1004 | • 1401 KITCHEN |
| • 1010 | • 2304 |

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.

- 1205 • 2307
- 1304 • 3315
- 1315

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.

- 1404 • 1404

Dust Accumulation

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

- | | | | |
|-----------------------|----------------------------|-----------------------|----------------------------|
| • 1010 | <i>Air Return</i> | • WEST 1402 GYMNASIUM | <i>Horizontal Surfaces</i> |
| • 3305 | <i>Air Return</i> | | |
| • EAST 1402 GYMNASIUM | <i>Horizontal Surfaces</i> | | |

Appendix A

Photo Documentation



1205

Moisture Impacted Materials