

IEA, INC.

2020 - 2021 IAQ Walkthrough



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Fridley ISD #14 Fridley High School

Walkthrough Date & Time:
Wednesday, February 17, 2021
9:00 AM to 2:00 PM

Project Description

IEA conducted an Indoor Air Quality (IAQ) walkthrough at Fridley High School by IEA representative, Brian Bergstrom. 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 Fridley ISD #14 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 was originally constructed in 1960.
- There are additions to the building, in the following year(s): 1961, 1964 and 1971.
- There are operable windows in the exterior rooms within the building.
- 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	Flooring Type	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
OUTDOORS						534	1.4	5.1	7.0
MEZZANINE	0	Tile	No	• Moisture Impacted Materials: See Appendix A	No	495	1.2	4.8	73.0
AUXILIARY GYMNASIUM	0	Wood	No		No	559	1.4	5.8	68.5
MAIN GYMNASIUM	0	Wood	No	• Moisture Impacted Materials: See Appendix A	No	520	1.4	4.8	69.6
GIRLS LOCKER ROOM	0	Concrete	No		Yes Air Supply	562	1.4	6.9	71.0
BOYS LOCKER ROOM	0	Concrete	No		No	581	1.5	7.1	70.8
54	0	Rubber	No		No	542	1.4	4.8	72.0
55	0	Carpet	No		No	566	1.4	7.0	73.3
WRESTLING ROOM	0	Rubber	No		No	572	1.4	4.4	74.7
123	0	Carpet	No		No	590	1.6	5.5	72.8
124	0	Carpet	No		No	583	1.5	5.1	72.1
125	0	Carpet, Rugs	No		No	652	1.5	5.3	70.4
126	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	573	1.4	5.7	70.9
127	0	Carpet	No		No	569	1.3	5.6	71.1

Room / Location	Number of Occupants	Flooring Type	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
128	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	568	1.4	5.7	71.5
129	0	Carpet	No		No	570	1.3	5.8	72.0
130	0	Carpet	No		No	568	1.5	5.3	72.1
131	0	Carpet	No		No	572	1.4	5.4	72.0
132	0	Tile	No	• Stained Ceiling Tiles: See Appendix A	No	566	1.3	5.4	72.3
133	0	Carpet, Rugs	No		No	580	1.4	5.1	72.4
134	0	Concrete	No		No	574	1.3	5.5	72.6
AUDITORIUM	0	Carpet	No		No	579	2.2	4.8	72.6
ART ROOM	0	Concrete	No		No	580	1.2	4.9	72.7
136	0	Carpet, Tile, Rugs	No	• Stained Ceiling Tiles: In storage room; See Appendix A	No	576	1.3	4.5	73.6
136 OFFICE	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	572	1.3	4.4	74.0
137	2	Carpet	No		No	632	1.4	4.8	73.4
ART 135	8	Concrete	No		No	573	1.3	5.0	73.4
138	0	Concrete	No		No	587	1.4	5.2	71.6
138 FINISHING ROOM	0	Concrete	No		No	579	1.4	5.6	73.4
138A	0	Tile, Rugs	No		No	607	1.3	5.6	73.0
139	0	Carpet	No		No	602	1.7	5.7	73.1
140	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A • Plants	No	607	1.8	5.7	73.2

Room / Location	Number of Occupants	Flooring Type	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
138A	1	Tile	No		Yes Air Supply; Vent above desk	631	1.7	5.6	73.5
CAFETERIA	0	Tile	No		No	583	1.2	5.3	73.3
141	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	571	1.2	5.0	73.5
143	0	Carpet	No		No	605	1.4	4.8	72.7
143A	0	Carpet	No		No	610	1.2	4.6	72.3
142	0	Carpet	No		No	590	1.1	4.4	72.5
144	0	Carpet	No		No	590	1.2	4.3	72.6
143B	0	Tile	No	• Stained Ceiling Tiles: See Appendix A	No	634	1.2	5.5	74.0
145	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	573	1.3	4.5	73.2
146	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	556	1.1	4.1	73.4
147	0	Carpet	No		No	550	1.2	4.4	73.7
148	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	560	1.2	4.6	73.6
149	0	Carpet	No		No	577	1.2	4.2	73.8
150	0	Carpet	No		No	566	1.2	4.2	73.6
152	0	Carpet	No		No	566	1.1	4.5	73.1
153	0	Carpet	No		No	562	8.2	4.6	73.3
154	0	Carpet	No		No	557	2.3	4.4	73.2
155	0	Carpet	No	• Plants	No	554	1.4	4.5	73.9
156	0	Carpet	No		No	566	1.2	4.1	74.1
157	1	Carpet	No		No	562	1.2	4.4	74.5
158	2	Carpet	No		No	593	1.2	4.7	74.0

Room / Location	Number of Occupants	Flooring Type	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
159	0	Carpet	No		No	576	1.2	4.4	73.1
160	0	Carpet	No		No	567	1.2	4.5	73.3
161	0	Carpet	No		No	561	1.1	4.1	72.6
162	0	Carpet	No		No	584	1.2	4.4	72.5
163	0	Tile	No	• Stained Ceiling Tiles: See Appendix A	No	564	1.1	5.5	73.0
165	0	Carpet	No		No	551	1.0	4.5	73.1
164	0	Carpet	No		No	578	1.1	4.2	73.9
166	0	Carpet	No		No	566	1.1	3.9	73.5
167	0	Carpet	No		No	575	1.2	4.2	73.3
169	0	Carpet	No		No	588	1.1	4.2	73.6
168	0	Carpet	No		No	580	1.1	4.7	73.5
170	0	Carpet	No		No	573	1.0	4.3	73.6
171	0	Carpet	No		No	583	1.0	4.1	73.4
COMPUTER LAB	0	Carpet	No		No	579	1.0	4.2	72.6
MEDIA CENTER	0	Carpet	No		No	590	1.0	3.6	72.7
MEDIA CENTER WORKROOM	0	Carpet	No		No	570	1.0	4.0	73.2
111	0	Carpet	No		No	651	1.0	4.6	73.5
110/110 OFFICE	0	Carpet	No		No	619	1.0	4.3	73.7
109A	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	603	0.8	4.4	73.8
109	3	Carpet	No		No	837	1.1	6.3	74.7
108	0	Tile	No		No	555	0.9	5.1	71.6
HEALTH SERVICES	0	Tile	No	• Stained Ceiling Tiles: See Appendix A	No	653	0.8	5.5	72.7

Room / Location	Number of Occupants	Flooring Type	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
STUDENT SUPPORT SERVICES	1	Carpet	No		No	678	0.9	5.4	72.9
ACTIVITIES OFFICE	1	Carpet	No		No	622	0.9	5.3	72.7
DISTRICT OFFICE BOARD ROOM	0	Carpet	No		No	605	0.8	5.5	73.3
COPIER ROOM	0	Carpet	No		No	624	1.0	5.5	73.4
MAIN OFFICE	1	Carpet	No		No	610	0.8	5.3	73.5
106	0	Tile	No	• Stained Ceiling Tiles: See Appendix A	No	568	1.0	4.8	72.8
107	0	Tile	No		No	564	0.9	5.0	73.2
105	0	Tile	No		No	577	0.8	4.5	73.1
104	0	Tile	No		No	567	1.0	4.4	72.4
103	0	Carpet, Rugs	No		No	581	0.9	4.7	71.4
103A	3	Carpet	No		No	693	0.8	5.6	71.8
102	0	Tile	No	• Plants	No	539	0.8	5.5	72.6
101	0	Tile	No	• Plants	No	590	0.8	5.2	72.8
121	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	550	0.7	4.2	73.3
122	0	Tile	No		No	551	0.9	4.1	73.0
120	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	556	1.0	4.1	72.8
119	0	Carpet	No		No	535	0.9	4.3	72.5
118	0	Carpet	No		No	541	0.8	4.3	72.3
116	0	Carpet	No		No	576	1.0	4.3	72.8
117	0	Carpet	No	• Stained Ceiling Tiles: See Appendix A	No	529	0.7	4.5	73.0

Room / Location	Number of Occupants	Flooring Type	Odor Present	Observations	Dust Accumulation	CO ₂ (ppm)	CO (ppm)	RH (%)	Temp (°F)
115	0	Carpet	No		No	555	0.9	4.3	72.9
114	0	Carpet	No		No	537	0.8	4.3	73.0
113	0	Tile	No		No	539	0.8	4.4	73.3
112	0	Carpet	No		No	906	0.9	6.1	72.3
RECEIVING	1	Concrete, Terrazzo	No		No	575	0.9	4.9	73.7

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 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.

- 153

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-nine (99) 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.

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.

- MAIN
GYMNASIUM
- MEZZANINE

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.

- | | | |
|--------------|------------------------|----------|
| • 106 | | • 140 |
| • 109A | | • 141 |
| • 117 | | • 143B |
| • 120 | | • 145 |
| • 121 | | • 146 |
| • 126 | | • 148 |
| • 128 | | • 163 |
| • 132 | | • HEALTH |
| • 136 | <i>In storage room</i> | SERVICES |
| • 136 OFFICE | | |

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.

- | | |
|-------|-------|
| • 101 | • 140 |
| • 102 | • 155 |

Dust Accumulation

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

- | | | |
|--------|--|--|
| • 138A | <i>Air Supply; Vent
above desk</i> | • GIRLS LOCKER <i>Air Supply</i>
ROOM |
|--------|--|--|

Appendix A

Photo Documentation



MEZZANINE

Moisture Impacted Materials



MAIN GYMNASIUM

Moisture Impacted Materials



GIRLS LOCKER ROOM

Dust



126

Stained Ceiling Tiles



126

Stained Ceiling Tiles



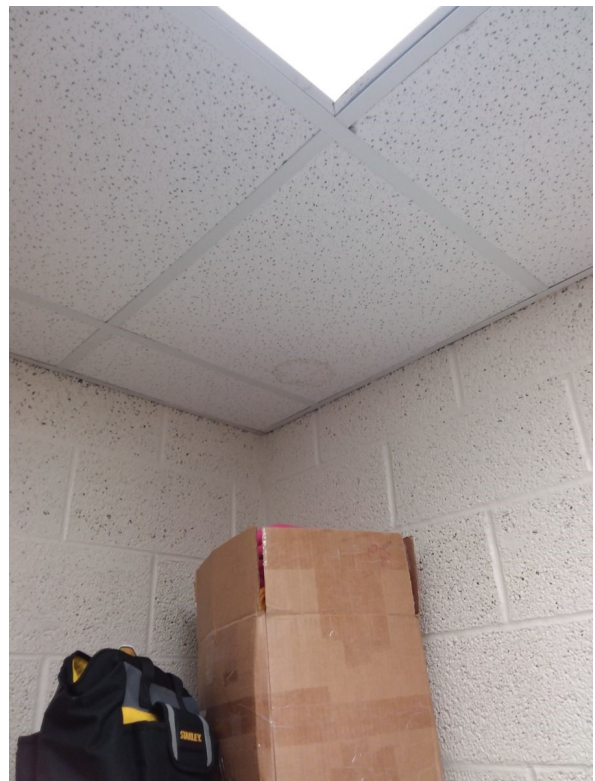
128

Stained Ceiling Tiles



132

Stained Ceiling Tiles



136

Stained Ceiling Tiles



136 OFFICE
Stained Ceiling Tiles



140
Stained Ceiling Tiles



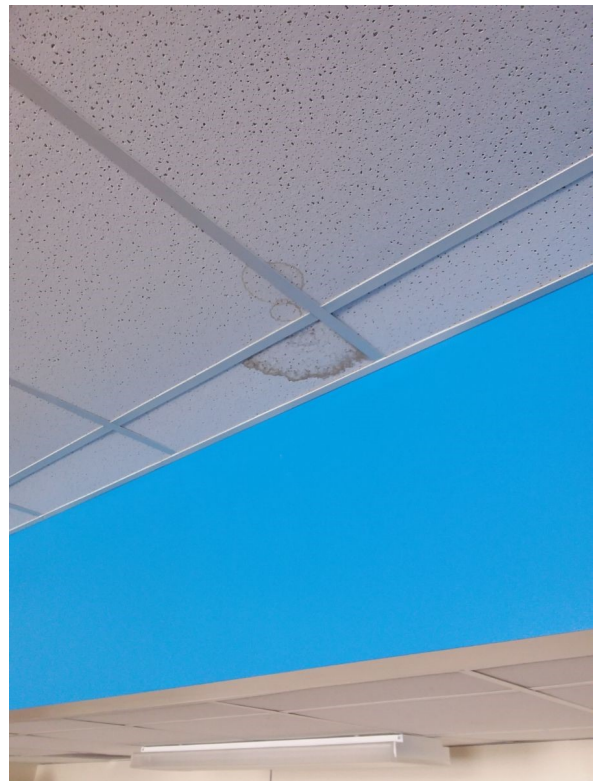
141
Stained Ceiling Tiles



143B
Stained Ceiling Tiles



145
Stained Ceiling Tiles



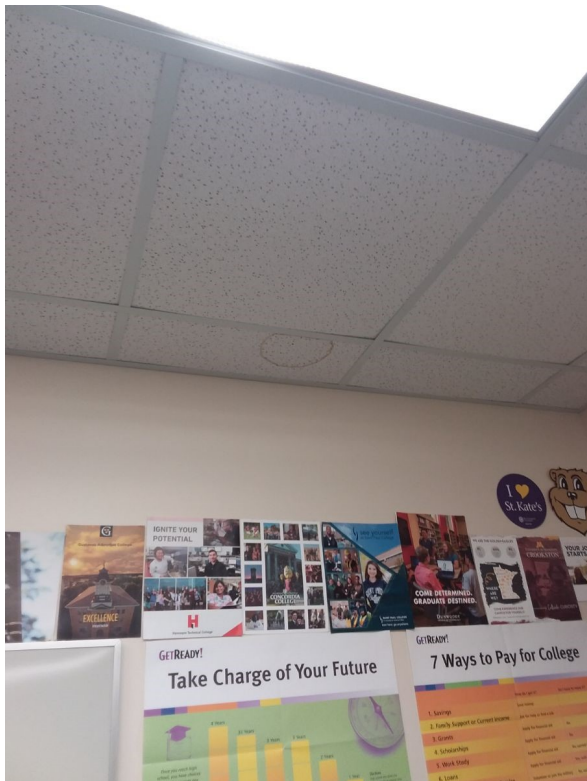
146
Stained Ceiling Tiles



148
Stained Ceiling Tiles



163
Stained Ceiling Tiles



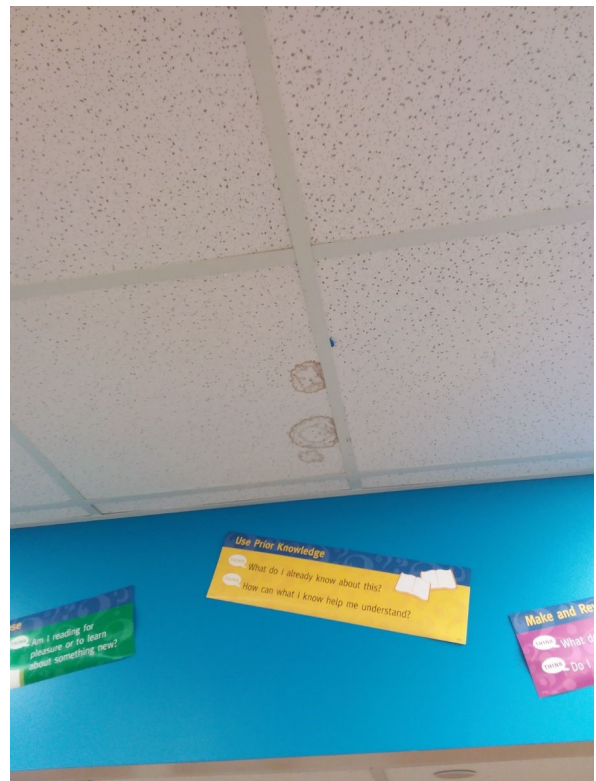
109A
Stained Ceiling Tiles



HEALTH SERVICES
Stained Ceiling Tiles



106
Stained Ceiling Tiles



121
Stained Ceiling Tiles



120

Stained Ceiling Tiles



117

Stained Ceiling Tiles