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October 31, 2019

Ms. Jane Collins
Interim Superintendent of Schools
Belleville-Henderson CSD
8372 County Route 75
Adams, New York 13605

Dear Jane,

In response to your request, a limited service consultation visit was conducted at your facility on October 9, 2019. The enclosed report details the findings of the visit and the assistance provided. We are pleased to inform you that no hazards were identified during the visit.

Thank you for seeking our assistance. If you would like additional information or assistance, please do not hesitate to contact our office at (518) 457-5508.

Very truly yours,



John Usher
Associate Industrial Hygienist

Enclosure
cc: F. Hauck, R. Filley – Jefferson-Lewis BOCES



**Department
of Labor**

CONSULTATION REPORT

PREPARED FOR:

**Ms. Jane Collins
Interim Superintendent of Schools**

FACILITY:

**Belleville-Henderson CSD
8372 County Route 75
Adams, New York 13605**

VISIT #

**247217
October 9, 2019**

PREPARED BY:

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Introduction

This report provides the results of a limited service health survey. When referring to this report, please reference the Visit Number 247217.

Summary of the Visit

In response to a request made on your behalf by Fred Hauck, Jefferson-Lewis BOCES Health and Safety Coordinator, an industrial hygiene consultation was performed at the subject facility to assist you in evaluating recent employee concerns about indoor air quality (IAQ) and mold. This visit was a follow-up to a similar one (218380) conducted on November 5, 2018. During an opening conference on October 9, 2019 with you, Scott Storey – Principal, Fred Hauck, and Ray Filley – Jefferson-Lewis BOCES Assistant Health and Safety Coordinator, the PESH consultation program was discussed and the following items were noted:

1. The safety and health consultation program is completely separate from the inspection effort. After the visit, the consultant does not issue orders, but makes recommendations to abate any hazards found.
2. The service is confidential. Your name and information about your workplace, and any unsafe or unhealthful working conditions that the consultant may uncover, will not be routinely reported to PESH Enforcement Staff.
3. You will receive a written report explaining the consultant's findings.
4. Your only obligation is a commitment to correct imminent danger and serious safety and health hazards in a timely manner. This commitment was made before the consultant began the consultation. PESH does require completed action on serious hazards so that each consultation visit achieves its objective, which is effective worker protection. If a public employer fails or refuses to eliminate or control an identified serious hazard (or any imminent danger) according to the plan and any extensions granted subsequently, that situation would have to be referred from consultation to PESH enforcement for review and action as appropriate.

Following the opening conference, updated background information on the facility and concerns was provided. The facility is assigned the North American Industrial Classification System (NAICS) Number 611110 (Elementary and Secondary Schools). The one-story, masonry and steel-frame school building was constructed in 1991. The heating, ventilating, and air conditioning (HVAC) system consists of perimeter wall unit ventilators and a forced air system that uses roof top air handling units (RTU) to deliver heated or cooled air to certain spaces through a network of ductwork and ceiling mounted supply diffusers. The system is fed by gas-fired hot water boilers and controlled by a computerized energy management system.

The area of concern was limited to the library area, where concerns about apparent mold growth on books and other surfaces had been reported and addressed at the beginning of the 2018 school year, as described in the earlier consultation report. Since then the air conditioning system serving the library continued to be serviced by a vendor, with much better control of indoor humidity and no problems, except for occasional

reports that the temperature was too low. New equipment added to the library since the last visit to help improve conditions includes two dehumidifiers and two Trio air purifying units equipped with high efficiency filtration and ultraviolet disinfection. A smaller HEPA (High Efficiency Particulate Air) vacuum was obtained and is dedicated to the library for use by the library aide, who is responsible for cleaning.

Following is a summary of the timeline of recent events related to this issue, as provided during the opening. In early June 2019, Librarian Patty Nortz requested that the heat be turned on as she felt it was too cold in the library. The temperature had been set at 69 degrees Fahrenheit to maintain lower relative humidity (warmer air can hold more moisture). At the end of June, Ms. Nortz requested that her work location be changed to the Tech Lab across the hall. During the summer a thorough cleaning of the library was completed by custodial staff using methods and materials similar to those used in 2018. In mid-August, she requested in writing that her work location be changed to the Tech Lab. The permanent location change request was not approved by management. Ms. Nortz then requested documentation indicating that the library was safe for occupancy. Mold air samples collected by BOCES on August 15, 2019 and analyzed by an accredited laboratory (EMSL) demonstrated significantly (4 times) lower spore count levels in the indoor library areas than outdoors (ambient), and the species found inside were comparable to those found outdoors. These results indicate favorable conditions. There have been no reports of visible mold this year, and the school nurse reported that no students had been impacted by the conditions reported in the library.

A walkaround of the library and adjacent rooms (back room and server room) was then conducted with the opening conference attendees and Sandra Guymon – Substitute Librarian. Ms. Nortz was not available as she was not at work at the time of the visit. Ms. Guymon indicated during an interview that she did not have any health or safety concerns, aside from feeling that the temperature was a bit low. Interior construction of the library consisted of drywall walls, lay-in acoustic tile drop ceiling, and carpet tile flooring. No unusual odors were noticed, only those that are characteristic of a library. Overall housekeeping was observed to be excellent and no evidence of excessive moisture, water damage, or apparent mold growth was noticed.

Discussion

Due to the lack of any enforceable standards against which to evaluate the results, PESH does not conduct mold sampling. Reasons for the lack of a mold-level standard include the fact that various types of mold always exist in outdoor environments, and these outdoor levels vary significantly with seasonal conditions, as well as the lack of consensus distinguishing “safe” and “unsafe” exposures. Although there has been ongoing debate regarding the potential health effects of different mold species, the Centers for Disease Control and Prevention (CDC), in its publication, Facts about Stachybotrys and Other Molds, states “It is not necessary to determine what type of mold you may have. All molds should be treated the same with respect to potential health risks and removal.” Despite the lack of mold-specific standards, PESH would cite parts of the sanitation standard (29 CFR 10910.141) for visible mold growth and wet working surfaces. In this case, there were no observed violations of those standards. The key to preventing mold growth is to correct water intrusion and other moisture problems and remove or promptly dry impacted materials before mold growth develops.

Different types of screening measurements were also taken by this hygienist to evaluate general IAQ. Carbon dioxide (CO₂) is a normal constituent of exhaled breath and, if monitored, can be used as a screening

technique to evaluate whether adequate amounts of fresh air are being introduced to the work area. Temperature and relative humidity in workplaces also directly affect the comfort of occupants, and elevated relative humidity readings can also be indicative of moisture problems which contribute to mold growth. The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) has published guidelines for indoor air parameters including CO₂ and relative humidity (ASHRAE Standard 62-1989, Ventilation for Acceptable Indoor Air Quality – Atlanta, GA 1989), as well as temperature (ASHRAE Standard 55-1981, Thermal Environmental Conditions for Human Occupancy – Atlanta, GA 1981). The ASHRAE guidelines for these parameters are 1,000 ppm for CO₂, 30 to 60 percent relative humidity, and 68 to 74.5 degrees Fahrenheit in winter for temperature and 73 to 79 degrees Fahrenheit in summer. The goal of the ASHRAE temperature guidelines is 80 percent occupant satisfaction. Therefore, it is recommended that employees dress in layers to maintain comfort and allow for adjustment to varying conditions. When CO₂ concentrations are more than 1,000 ppm (3 to 4 times normally observed outdoor levels), there is usually a problem of inadequate ventilation. A high CO₂ level indicates that other contaminants could also be increased and could be responsible for occupant complaints such as headaches, fatigue, and eye and throat irritation. Some people are more sensitive to various air contaminants than others. These sensitized individuals could develop the previously mentioned and other symptoms when exposed to air contaminant levels well below occupational exposure limits. Screening sampling was also done for respirable airborne particulates. All the test results were within the ASHRAE guidelines and well below the applicable PESH Permissible Exposure Limits (PEL). It must be noted that the ASHRAE guidelines are not enforceable as PESH standards. Additional information on the methods used can be found in Appendix A, and specific results and locations are presented in the Tables found in Appendix B.

Conclusion

During a closing conference with the opening conference participants on October 9, 2019, the screening results and other findings of the visit were discussed. The results were comparable to those obtained during the previous visit and did not reveal the presence of air contaminants approaching PESH PELs. No OSHA/PESH violations were identified. We suggest that you continue your ongoing cleaning program whereby any accumulated dust is vacuumed from horizontal surfaces in the library, including books, as needed using a HEPA vacuum with suitable attachments.

If clarification is necessary concerning this report, or if you would like any additional assistance in abating safety and health hazards, do not hesitate to call me at (518) 457-5508.

The Public Employee Safety and Health Bureau is pleased that you are using our consultative services for the welfare of your personnel and welcome any additional requests you may have for safety or industrial hygiene consultations.

Sincerely,



John Usher
Associate Industrial Hygienist

Appendix A

Sampling Methods and Equipment

Indoor Air Quality (IAQ) Parameter Screening

Screening measurements for carbon dioxide, temperature and relative humidity were taken at various locations using a TSI Q-Trak Model 8550 IAQ Monitor. It must be noted that the ASHRAE guidelines referenced earlier are not enforceable as PESH standards. The PESH enforceable eight-hour Time Weighted Average (TWA) Permissible Exposure Limit (PEL) for carbon dioxide is 10,000 parts per million (ppm) (enforced under 12 NYCRR Part 800.5). Refer to Table 1 in Appendix B for specific sampling locations and results.

Airborne Respirable Nuisance Dust Screening

Screening measurements for nuisance dust were taken using a Personal DATA RAM Airborne Particulate Monitor Model PDR-1000 AN. This device is optimized for the measurement of the respirable fraction of airborne dust, smoke, fumes, and mists. The PESH enforceable eight-hour Time Weighted Average (TWA) Permissible Exposure Limit (PEL) for respirable nuisance dust is 5 milligrams per cubic meter (enforced under 12 NYCRR Part 800.5). Refer to Table 2 in Appendix B for specific sampling locations and results.

Appendix B

Table 1 – Indoor Air Quality (IAQ) Parameter Screening Data

FACILITY: Belleville-Henderson CSD, 8372 County Route 75, Adams, NY 13605

Date	Time	Location	Temperature ¹ (°F)	Relative Humidity ¹ (%)	Carbon Dioxide ² (ppm)
10/09/19	9:51AM	Outdoors	---	---	384
	11:11AM	Library, Circulation Desk	71.6	39.8	812
	11:13AM	Library, Elementary Side at 398.2	71.6	40.0	753
	11:15AM	Library, Back Room	71.8	38.7	794
	11:17AM	Library, Server Room	72.8	38.4	898

ppm = Parts per million

PEL = Permissible Exposure Limit

¹ = There are no PESH/OSHA standards for temperature or relative humidity

² = PESH PEL for CO₂ is 10,000 ppm for an 8-hour TWA (enforced under 12 NYCRR Part 800.5)

TWA = Time Weighted Average

Direct reading measurements taken by John Usher, PESH Associate Industrial Hygienist, using TSI Q-Trak Model 8550 IAQ Monitor

Table 2 - Airborne Respirable Nuisance Dust Screening Data

FACILITY: Belleville-Henderson CSD, 8372 County Route 75, Adams, NY 13605

Date	Time	Location	Concentration (mg/m ³)	PEL - TWA (mg/m ³)	Violation
10/09/19	11:11AM	Library, Circulation Desk	0.002	5	No
	11:13AM	Library, Elementary Side at 398.2	0.002		
	11:15AM	Library, Back Room	0.003		
	11:17AM	Library, Server Room	0.004		

mg/m³ = Milligrams per cubic meter

PEL = PESH Permissible Exposure Limit (enforced under 12 NYCRR Part 800.5)

TWA = 8-hour Time Weighted Average

Direct reading measurements taken by John Usher, PESH Associate Industrial Hygienist, using MIE Personal DATA RAM Airborne Particulate Monitor Model PDR-1000 AN