

ODOR ASSESSMENT

**Veterans Memorial Elementary School
39 Hurd Ave
Saugus, MA**



Prepared by:
Massachusetts Department of Public Health
Bureau of Environmental Health
Indoor Air Quality Program
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Background/Introduction

At the request of Donna McNeil, Executive Assistant to the Superintendent of Saugus Public Schools (SPS), the Massachusetts Department of Public Health (MDPH), Bureau of Environmental Health (BEH) provided assistance and consultation regarding indoor air quality (IAQ) concerns at Veterans Memorial Elementary School (VMES), 39 Hurd Street, Saugus, MA. The request was prompted by an evacuation of the school on October 26, 2011, due to vapors/odors entering the building from a nearby sewer re-lining project on Hurd Street.

On October 27, 2011, the VMES was visited by Michael Feeney, Director of BEH's IAQ Program, to conduct total volatile organic compound (TVOC) air sampling for residual contamination from the sewer re-lining project that may have migrated into the building. Prior to this assessment, SPS staff reported that the building was vented to purge residual odors.

Methods

Screening for TVOCs was conducted using a MiniRAE 2000 Photo Ionization Detector (PID).

Results

The school houses a student population of approximately 560 and a staff of approximately 75. The TVOC air samples were taken prior to the beginning of the school day with the building empty of students and faculty.

Discussion

Odor Investigation

As reported, the sewer system along Hurd Street was being re-lined using a styrene-containing product, which had a significant odor (MDEP, 2011). Styrene is a VOC with a pungent odor and is irritating to the eyes, nose and respiratory system (ATSDR, 2010).

BEH staff conducted TVOC sampling in all halls, classrooms and common areas throughout the school. At the time of the assessment, there were no measureable levels of TVOCs in the building (Table 1) nor were any odors detected associated with the re-lining project. BEH staff did detect a strong plastic odor from a manhole cover across the street from the VMES, but no measurable levels of TVOCs were detected above the manhole cover or in the outdoor environment.

Conclusions/Recommendations

Based on the TVOC air sampling results and the lack of detectable odors at the time of the assessment, BEH staff recommended no further actions (e.g., venting of the building). The school opened under normal conditions the day of the assessment. In view of the findings at the time of the visit, the following recommendations were made verbally on the day of the assessment but are provided here as a matter of record:

1. Care should be taken regarding weather conditions and potential effects of sewer re-lining activities on public buildings, particularly those downwind from projects. All public buildings in close proximity to sewer re-lining should be informed prior to commencement of application of re-lining materials.

2. Fresh air intakes for mechanical ventilation systems in public buildings should be temporarily deactivated during the course of the re-lining application to prevent odor entrainment. Windows should also remain closed.

References

ATSDR. 2010. Toxicological Profile for Styrene. Agency for Toxic Substances and Disease Registry, Atlanta, GA. November 2010.
(<http://www.atsdr.cdc.gov/toxprofiles/TP.asp?id=421&tid=74>)

MDEP. 2011. Saugus Veteran's Memorial School, 39 Hurd Avenue, Odor Issue, October 26, 2011. Massachusetts Department of Environmental Protection, Boston, MA.

Table 1

Location/ Room	TVOCs (ppm)	Location/ Room	TVOCs (ppm)
Background	ND	112	ND
1st Floor Reading Room	ND	113	ND
Art	ND	114	ND
Art Office	ND	200	ND
Cafeteria	ND	201	ND
Kitchen	ND	204	ND
Media Center	ND	205	ND
Music	ND	207	ND
Occupational Therapy	ND	208	ND
Main Office	ND	209	ND
Small Group Room	ND	210	ND
Tech Lab	ND	211	ND
101	ND	212	ND
102	ND	213	ND
103	ND	214	ND
104	ND	215	ND
105	ND	217	ND
106	ND	216	ND
107	ND	Lobby	ND
108	ND	Gym	ND
109	ND	Gym stage	ND
110	ND	Modular classrooms	ND
111	ND	Reading	ND

ND = non-detect
ppm = parts per million