

February 19, 2019

Mr. Dwayne Caisey
Facilities Manager
Ministry of Education
44 Church Street West
Hamilton, HM2

Dear Mr. Caisey,

RE: SITE VISIT AND AIR QUALITY VISUAL ASSESSMENT
TN TATEM MIDDLE SCHOOL

Further to our on-site Environmental and Air Quality walk-through and visual assessment at the TNT Middle school, I submit to you our comments which we believe to be the root cause of the current and past problems of excessive mold and poor indoor air quality.

It is our opinion that everything that we observed is directly related to a inadequate general and routine maintenance at the facility. The issues that we noted today are the same issues which we noted back in 2013 and are the same issues that closed the school in 2017.

- 1) Water leaks associated with poorly maintained roofs, wall cracks, air-conditioning and plumbing
- 2) Windows and window screens which are either inoperable or have limited operation
- 3) Inoperable mechanical systems
- 4) Inappropriate storage
- 5) Accumulation of waste
- 6) Inadequate housekeeping

It is our opinion that if these items are adequately addressed and maintained on an ongoing basis, the issue of mold and poor indoor air quality (IAQ) would not return.

Water leaks associated with poorly maintained roofs, wall cracks, windows and plumbing.

- Library – main front windows in extremely poor condition and major water leaks for years

- Home Economics Kitchen – roof leaks and plumbing leaks
- Math classroom – ceiling leaks
- Upper East Science Lab – plumbing leaks, insecure plumbing taps and fittings
- Lower Central Science Lab – water damaged drywall and mold growth, suspect water leak within east wall
- Gymnasium – wall cracks, water intrusion, rotting gym floors
- D&T workshop – roof leaks
- Music room – foul smell probably related to flooding and water damaged floor platform

Windows and screens which are either inoperable, have limited operation and/or inaccessible

- All classroom and meeting rooms

Inoperable mechanical systems

- D&T workshop – exhaust fan has been inoperable for years
- Upper east science laboratory chemical storage has no exhaust system for venting of hazardous chemical fumes and vapours
- Library east storage room – exhaust fan running but no suction
- No adequate ventilation of art room paints and other volatiles
- Air conditioners throughout all classroom and meeting rooms

Inappropriate storage

- Accumulation of cardboard boxes and papers
- Failure to discard equipment and supplies that are old and no longer in use
- Accumulation of old and unused laboratory chemicals
- Storage of equipment supplies in poorly ventilated areas

Accumulation of waste

- Storage cabinets throughout all classrooms and meeting rooms
- Upper east science laboratory chemical storage – hazardous chemicals many years outdated
- Back entrance to Auditorium – abandoned maintenance works, accumulation of old equipment, accumulation of trash

Inadequate housekeeping

- Laboratory and classroom sinks throughout the premises in filthy condition
- Roach and Insect dropping, and debris throughout draws and cabinetry

- Routine (at least quarterly) cleaning and maintenance of air conditioners

A NOTE ABOUT VENTILATION

The air conditioners in the various classrooms are the split system type and only circulate the air inside the classroom space. They do not introduce new fresh outside air (Ventilation). A good exchange of fresh air will eliminate many of the issues related to molds and poor IAQ. The easiest option for introducing new outside air is by simply opening the windows for at least 30 – 60 minutes each day. The problem appears that teachers are unwilling to open the windows because 1) Windows are stuck/stiff and require great effort to open and close; 2) The windows are blocked by cabinetry and therefore difficult to reach; 3) Many windows have no screens and result in problems with flies and other insects. Repairing the windows and screens would likely resolve much of the problem.

These are our general observations and comments. We are certain that once appropriately addressed the problems that you are experiencing will disappear.

Regards



J. A. Kent Simmons
Environmental Consultant
Bermuda Water Consultants Ltd.