

**School/Facility:** Glenwood Middle

**Location:** 17, 20, 21, 22, 28, 29, 35, 37, 38, 40, gymnasium, portable 21, and portable 23

**Date of IEQ Report Form:** February 15, 2017

**Date(s) Investigated:** January 5, 2017 (portable 23 and related art classrooms were previously inspected)  
February 9 and 15, 2017

**Date of Report:** March 31, 2017

**IEQ Concern:**

Parent expressing concern regarding their child's general health symptoms.

**IEQ Investigation Process:**

Identify deficiencies that may impact IEQ and/or sources of odor concerns. Typically includes the following depending on the nature of concern, but not limited to:

- interview/questionnaire of concern individual(s)
- inspection above drop ceiling (condition of roof deck, pipe insulation, return air plenum)
- inspection of ventilation system (operation of variable air volume box and outdoor air dampers, check controls, measurements of carbon dioxide, temperature and relative humidity, sources near outdoor air intake, measure return and supply air volume, cleanliness of coils, liner and condensate pan)
- inspection of exterior
- inspection below drop ceiling (housekeeping, sink and floor drain traps, signs of past and present moisture concern via visual and/or moisture meter, mold growth, ensure connection of current and capping of abandoned sanitary vents, odorizers, excessive plants and fabric items, identify potential pathways, and measure volatile organic compounds, carbon monoxide, and lighting)

**Findings:**

- A faint brown water stained ceiling tile was observed within classroom 35.
- Overall housekeeping was acceptable, but some random surfaces could be improved in rooms 29 and 35.
- An uncapped pipe/sleeve was observed within the glass utility wall chase of another science room unrelated to this investigation. Building Services evaluated and addressed all science rooms' utility chases including room 28.
- A few science islands plumbed with water have cabinets doors (screwed closed) enclosing piping. An odor was not detected upon opening the cabinet doors. Pipes within sleeves were observed and noted to have a space between each other. Most spaces were sealed with exception to one pipe within a sleeve. This

was identified in another science room unrelated to this investigation. Building Services evaluated and addressed all science rooms' islands including room 28.

- The drain traps of sinks within room 28 are designed in a way making it difficult to determine if they are filled with water or dried out. This includes the sink in the fume hood located in the science prep room shared between rooms 28 and 32. The teacher's demonstration island sink is covered with plywood and the faucet removed in order to house audiovisual equipment. Odors were not detected within the sink basins. Dried out traps have the potential to allow for the back flow of sewer gases/odor.
- Five live plants were observed in science room 28, three in room 35, and two in room 20.
- The ceiling HVAC cassette units in classrooms 17, 20, 22, 35, and 38 are beginning to accumulate particulate buildup on the air distribution louvers.
- A cover plate to a roof drain clean out on the wall in room 17 was not secured and left an opening exposing the wall chase.
- Portable 21
  - Signs of animal burrowing under skirting of the portable.
  - The outdoor air louver randomly pops open, but does constantly stay afloat when ventilation system energized.
  - The supply air diffusers are starting to rust and show signs of grime accumulation, especially the first two closest to the ventilation unit.
  - The exterior light at the back door needs to be re-caulked.
- Portable 23.
  - The return air grille was dusty.
  - The supply air diffusers are starting to rust and show signs of grime accumulation.
  - Dirt streaks were observed on the textured ceiling surrounding portions of the supply air diffusers.

#### **Corrective Actions:**

- Building Services replaced the faintly stained ceiling tile in room 35. The cause was not considered water, but a stain from possibly a cleaning rag.
- School administration is to inform custodial personnel to improve housekeeping of horizontal surfaces in rooms 29 and 35.
- Building Service Plumbing Shop checked all science rooms, capped all piping in glass doors, and marked as abandoned gas piping.

- Building Services Plumbing Shop checked all science sinks, removed doors to seal pipe sleeves and unused electrical conduits on 18 island sinks.
- School administration is to inform custodial and science staff to set a schedule to ensure water is used (~ 5 gallons) at least monthly in all science sinks and eyewashes to prevent traps from drying out. This includes the sink in the fume hood within the science prep room.
- School administration is to submit a work order for Building Services to install a faucet for and inform staff to remove the piece of plywood from the demonstration sink in science room 28.
- School administration is to inform custodial personnel to regularly clean the fins of the ceiling HVAC cassettes in all rooms.
- Building Services installed a new cover plate for roof drain clean out in room 17.
- Portable 21
  - Pest Management contractor set up traps and caught one groundhog, but an individual released it before contractor went out to remove the groundhog. Further trapping led to no catches. Work order 23943 was generated for Grounds Services to fill in animal / pest burrows/holes and for pest management to monitor for new activity.
  - The outdoor air louver within the ventilation unit was checked and lubricated.
  - The supply air diffusers and return air grille are to be replaced when new parts arrive.
  - A block was installed behind exterior light fixtures and caulked.
- Portable 23
  - The supply air diffusers and return air grille were replaced.
  - Dirt streaks on textured ceiling around supply air diffusers were cleaned and ceiling area painted.
- It is common for commercial buildings in this region of the country to experience relative humidity below 30% during the winter due to drier ambient and heated interior air. Buildings in this region do not generally implement humidification within their HVAC systems. HCPSS Office of the Environment **prohibits the use of portable humidifiers** because they can become an environmental health concern (produce bacteria causing clinical illnesses, such as humidifier fever) if not properly maintained.

