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Subject: **Ventilation System Screening**
School 39 – Andrew J Townson School
145 Midland Avenue Rochester, NY

On Friday, January 29th, 2021 Ed Olmsted and Margaret Sergent, representing the Rochester NY Teachers Association and Matthew Seeger, representing the Rochester City School District Facilities Management office, inspected representative classrooms, and the ventilation systems at School 39, which is the Andrew J Townson School, and located at 145 Midland Avenue Rochester, NY

The ventilation survey was done as part of the exposure control program for pandemic SARS-CoV-2. The Rochester City Schools District instituted many exposure control measures for the coming year including mandatory wearing of masks, distancing of occupants (reduced occupancy), enhanced cleaning, operating the ventilation systems with a maximum fraction of outside air, and installation of ASHRAE MERV 13 filters, where the HVAC units can accommodate them. Each school will temperature screen entrants and have a nurse's office. Students with symptoms or suspected of having COVID-19 will be isolated in an isolation room.

The building will be utilized for in-school classes for elementary school students. This inspection was requested prior to the students return in mid-February 2021. The survey included the following:

1. A visual inspection of a number of representative classrooms, nurses office and isolation room as well as the mechanical rooms.
2. Taking airflow measurement at exhaust grilles and open windows using a TSI 9515 VelociCalc Air Velocity Meter (anemometer); and
3. A visual inspection of the building ventilation system(s).

Rooms inspected include the basement mechanical room, rooms 221, 217, 220, nurses office, and Principal's office. Observations and measurements are summarized below:

1. School 39 is a pre-war building and was partially renovated in the last few years. The school building has a masonry exterior and is of concrete and steel construction. The building is served by two large ventilation blowers located in the basement, which provide heated outside air to each classroom. The blowers are original to the building but have been upgraded. They both have bag filters, which are efficient and exceed MERV 13 rating. The blowers provide all outside air and there is no recirculated air. The classrooms are also heated by perimeter steam radiators.
2. There are exhaust fans on the roof that pull air from the building.
3. Each classroom has operable windows that can be opened for outside air.
4. The large blower units in the basement serve the entire school and provide heated outside air. There is no recirculated air. The outside air is filtered through bag filters that are efficient for aerosol removal. The units were operating at the time of this survey.
5. Windows were opened in each classroom and found to be working.
6. Room 221- The supply vents were moving air and working. The windows are operable, and airflow was measured at one window opened to a height of 3 inches.Tthe flow of outside air through the window is 600 cubic feet per minute (cfm). This calculates to 5 air changes per hour with outside air.
7. Room 217 - The supply vents were moving air and working. The windows are operable and airflow was measured at one window opened to a height of 2.5 inches. The flow of outside air through the window is 460 cubic feet per minute. This calculates to 10 air changes per hour with outside air.
8. Room 220 - The supply vents were moving air and working. The windows are operable and airflow was measured at one window opened to a height of 2 inches. The flow of outside air through the window is 660 cubic feet per minute. This calculates to 5.7 air changes per hour with outside air.
9. Nurse's Room 112– This office has a working supply vent that is served by the blower unit in the basement. The vent was found to be supplying air. There is a HEPA air cleaner running in the nurse's office.
10. Main Office – There is an individual air handler that serves the main office located above the ceiling. The unit was turned on and has an outside air inlet. The supply vets were found to be working and providing air.

CONCLUSIONS

The school has a central ventilation blower that provides 100% outside air and no recirculated air. The unit has high efficiency bag filters and that provide a mixture of outside air taken from the roof and return air. All air is filtered and heated. Opening a window a few inches was found to provide sufficient air changes through natural ventilation. The school is ready for occupancy. The operable windows, ventilation system in combination with wearing of masks, screening students, social distancing and sanitizing of surfaces as well as other controls provide a sufficient level of infection prevention.

Bag filters on the air handler / blower are efficient

Fresh air duct serving the main office air handler

HEPA air filter in the nurses office


BULLYING

One of the blower units

Testing of airflow through the open window provides 772 feet per minute