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Subject: **Ventilation System Screening**
School 23 – Francis Parker School
170 Barrington Street 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 23; The Francis Parker School, located at 170 Barrington Street 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. More information on the RCSD reopening plans can be found on the [RCSD website](#).

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 cafeteria, rooms 108, 217, 205, B-4, B-3, B-2, Nurse's room, mechanical room, B-8, B-7B, B-7C, B-7A, and the main office. Observations and measurements are summarized below:

1. School 23 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 a large ventilation blower located in the basement, which provides heated outside air to each classroom. There is no recirculated air. The classrooms are also heated by perimeter steam radiators. There are exhaust fans on the roof that pull air from the classrooms and bathrooms. Each classroom has operable windows that can be opened for outside air. There are exhaust vents in each classroom that exhaust air to the roof.
2. The large blower unit in the basement serves the entire school and provides heated outside air. There is no recirculated air. The outside air is filtered through bag filters that are efficient for aerosol removal. The unit was operating at the time of this survey.
3. Windows were opened in each classroom and found to be working.
4. Room 108 (small cafeteria)- The supply vents and exhaust vents were moving air and working. The windows are operable, and outside airflow through the window was measured at one window opened to a height of 4 inches was 700 cubic feet per minute. This calculates to 2 air changes per hour with outside air.
5. Room 217 - The supply vents and exhaust vents were moving air and working. The windows are operable and when the airflow was measured at one window opened to a height of 2 inches, the flow of outside air through the window was 700 cubic feet per minute. This calculates to 2.5 air changes per hour with outside air.
6. Room 205 - The supply vents and exhaust vents were moving air and working. The windows are operable and airflow was measured at one window opened to a height of 6 inches. The flow of outside air through the window was 405 cubic feet per minute. This calculates to 3.3 air changes per hour with outside air.
7. Rooms B-4, B-5, B-8, B-7C and B-7B all have operable windows and working ventilation from the building supply blower and exhaust fan.
8. Room B-7A has no windows but the supply ventilation system was working well in this room.
9. Room B-3 - The supply vents and exhaust vents were moving air and working. The windows are operable and airflow was measured at one window opened to a height of 6 inches. The flow of outside air through the window is 700 cubic feet per minute. This calculates to 8.5 air changes per hour with outside air.
10. Nurse's Room – This office has a working supply vent and the bathroom has a working exhaust vent and there is a HEPA air cleaner running in the nurse's office.
11. Main Office – There is an individual air handler that serves the main office. The unit was turned on but it tripped off and there were concerns about it remaining running. While running there is air delivered from the ceiling outlets. The windows are operable.

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.



Blower unit provides 100% outside to the classrooms



Bag filters on the blower unit



Supply vents provide ventilation air from the blowers



Exhaust fan is running



Windows can be opened for outside air
Desks are properly distanced



Supply vent in a classroom at ceiling and exhaust at floor