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Subject: **Ventilation System Screening**
OACES - 30 Hart St, Rochester, NY 14605

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 (RCSD) Facilities Management office, inspected representative classrooms, and the ventilation systems at OACES, which is the adult learning center located at 30 Hart Street in Rochester, NY. The portions of the building occupied by the RCSD is leased space and the landlord building engineer was included in this survey and provided access.

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 Rochester School District leases space in this commercial office building for the OACES program and other vocational programs. The building will be utilized for in-school classes and 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 included shop areas in the vocational school and classrooms. Observations and measurements are summarized below:

1. The building housing the OACES school is originally a garment factory building that has reinforced concrete construction. The school building has a concrete exterior and is of concrete and steel construction. The classrooms are on the 2nd and 3rd floors and each classroom is served by the central ventilation units and has operable windows.
2. All classrooms are served by a central ventilation system that include rooftop packaged air-handlers. The supply ventilation provides air through ceiling diffusers located in each classroom. In some areas the ventilation system has variable air volume dampers that modulate the volume of air provided to each classroom. In other areas this system is a constant volume supply. The rooftop units have a return duct and an outside air duct. Return air is drawn back to the fan unit through a plenum above the drop ceiling in each classroom. The system is run to provide a fraction of outside air and return air. The air handlers currently have MERV 8 filters. The landlord indicated that MERV 13 filters can be installed if requested by RCSD.
3. The shop areas have a ceiling mounted air handler that has an outside air duct. The air handler has MERV 8 filters.
4. Most classrooms have windows, which can be opened for outside air. If MERV 13 filters are installed opening windows is not necessary since the ventilation units provide efficient filtration of recirculated air. There are some classrooms that do not have windows and rely on the mechanical ventilation for outside air.
5. Windows were checked in some classrooms and found to be working.
6. Classroom inspections revealed the following:
    a. 1st floor shops (room 144) - The windows are not openable in the shops. The mechanical ventilation system was operated and found to work well. The system provides sufficient ventilation air. The two supply vents are 12 square feet in area and the velocity flow was 400 feet per minute (fpm). This is over 8000 cubic feet per minute (cfm) of ventilation air. The system is set to draw 10% outside air. The shop area is well ventilated. It is recommended that MERV 13 filters be installed on the air handler.
    b. 1st floor Cafeteria – This is an interior room that does not have windows. The supply vents were moving air and working. There are 4 rooftop air handlers serving the cafeteria and these provide a significant amount of ventilation.
    c. Classroom 273 - The four supply vents were moving air and working. Measured velocity at the outlets were 99, 300, 290 and 70 fpm. There are also operable windows that can be opened for outside air.
    d. Main Office (Room 218) - The supply vent was moving air through 8 supply diffusers. Flow ranged from 40 to 100 fpm at each outlet. There are operable windows in the private offices.
    e. Room 215 (isolation room)- Since this is an adult education facility there is limited need for an isolation room. The supply diffuser was providing air and measured at 170 fpm. .
    f. Rooms 344 and 357 – Both classrooms were receiving ventilation air through the ceiling supply diffusers. The air flow was good measuring between 100 and 1,000 fpm from the four diffusers. The windows are operable in these rooms.

g. Room 132 – there are two supply diffusers but no movement of air from them. The system was checked and the air handler placed in the fan on mode and airflow was restored. The engineer reports that the system is operated in the fan auto position when the classrooms are not in use.
h. Room 132A – this is a small office on the same air handler as room 132.
i. Room 134 – There are to supply diffusers, which were receiving ventilation air. The air flow was good, measuring between 170 and 250 fpm. The windows are operable in this room.

CONCLUSIONS

The areas used by the schools all have mechanical ventilation that provides a mixture of outside air and return air. All outside air is filtered through MERV 8 filters and heated. It is recommended that the filters be upgraded to MERV 13. Windows can be opened for additional fresh air. Teachers are permitted to open a window a small amount during winter months. 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.

Cafeteria is well ventilated

Typical classroom has operable windows and mechanical ventilation

Typical drop ceiling and supply vent in classroom

Shop area ventilation unit