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Subject: **Ventilation Screening**
Helen Barrett Montgomery School No. 50
301 Seneca Ave, Rochester, NY 14621

On Thursday, January 28, 2021, Ed Olmsted and Margaret Sergent, representing the Rochester, NY Teachers Association (RTA) inspected representative classrooms at Helen Barrett Montgomery School No. 50 located at 301 Seneca Ave, Rochester. The survey team also included a representative of the Rochester City School District (RCSD), Matthew Seeger, Schools Facilities Management.

The survey was done as part of the exposure control program for pandemic SARS-CoV-2. RCSD instituted many exposure control measures for the coming year including mandatory wearing of masks, distancing of occupants (reduced occupancy), enhanced cleaning, in-school COVID-19 testing, operating the ventilation systems with a maximum fraction of outside air, installation of ASHRAE MERV 13 filters, where the HVAC units can accommodate them, and the provision of air purifiers to all occupied spaces. Each school will have temperature screening upon entry 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 School No. 50 building is intended to be utilized in the Phase 2 February reopening for blended and in-school classes. This inspection was requested prior to the staff and students' return. The survey included the following:

1. A visual inspection of a number of representative classrooms;
2. A visual inspection of the building ventilation system(s); and
3. Taking airflow measurement at supply outlets, return/exhaust grilles, univents, and open windows using a TSI 9515 VelociCalc Air Velocity Meter (anemometer).

The findings include:

1. School No. 50 has a combination of ventilation methods in its newer and older wing.
    a. In the older wing of the building, most classrooms and offices are served by unit ventilators or univents located under the window in each classroom. The univents are standalone units that have a heating coils and outside air inlet. Return air is drawn in through the base of the unit and outside air through a sleeve that penetrates through the wall to the outside. The outside air grille can be viewed typically outside the building under the windows. Along with the univents, classrooms in the older wing also have passive return. They were typically found in the student closet.
    b. The newer wing has several air handler units located in mechanical rooms. The air handler units consist of supply air fans that can provide heating or cooling. There is also a return fan associated with each supply fan that draws return air from a duct riser serving all floors. The supply fans provide a mixture of outside air and return air modulated by dampers. Mixed air is filtered through MERV 8 filters and heated or cooled in fan coils in the unit. The ventilation supply system is ducted and terminates in a classroom or office at square supply diffusers on the ceiling. Return air from the classrooms or office is returned via a passive return grille into the space above the drop ceiling.
        i. The air handler units that serve the newer wing were noted to have been fitted with MERV-8 filters. RCSD Facilities is waiting for additional shipments of MERV-13 filters. In the meantime, the air handlers not fitted with MERV-13 filters are to be operated with a maximum fraction of outside air and minimum recirculation of indoor air. Outside air is safe and does not require filtration for viral particles. However, recirculated (return) air may contain particles that contain the virus especially if there is an infected person in the building. Operating the system with maximum outside air and exhausting all or most of the return (recirculated air) can bypass the need for filtration until more MERV-13 filters arrive and can be installed in the unit. This was observed and confirmed in the examination of the supply and return dampers in the units.
2. All the above-mentioned components of the school's central mechanical ventilation systems and some classroom univents were examined and found to be working.
3. Classrooms and offices spaces visited included Rooms 106, 152, 178, 206, and 213. The supply outlets or univents were screened with a thermal anemometer to determine whether supply air was discharging from the outlet. All rooms visited were found to have a good flow of ventilation air from the supply diffusers or univents.

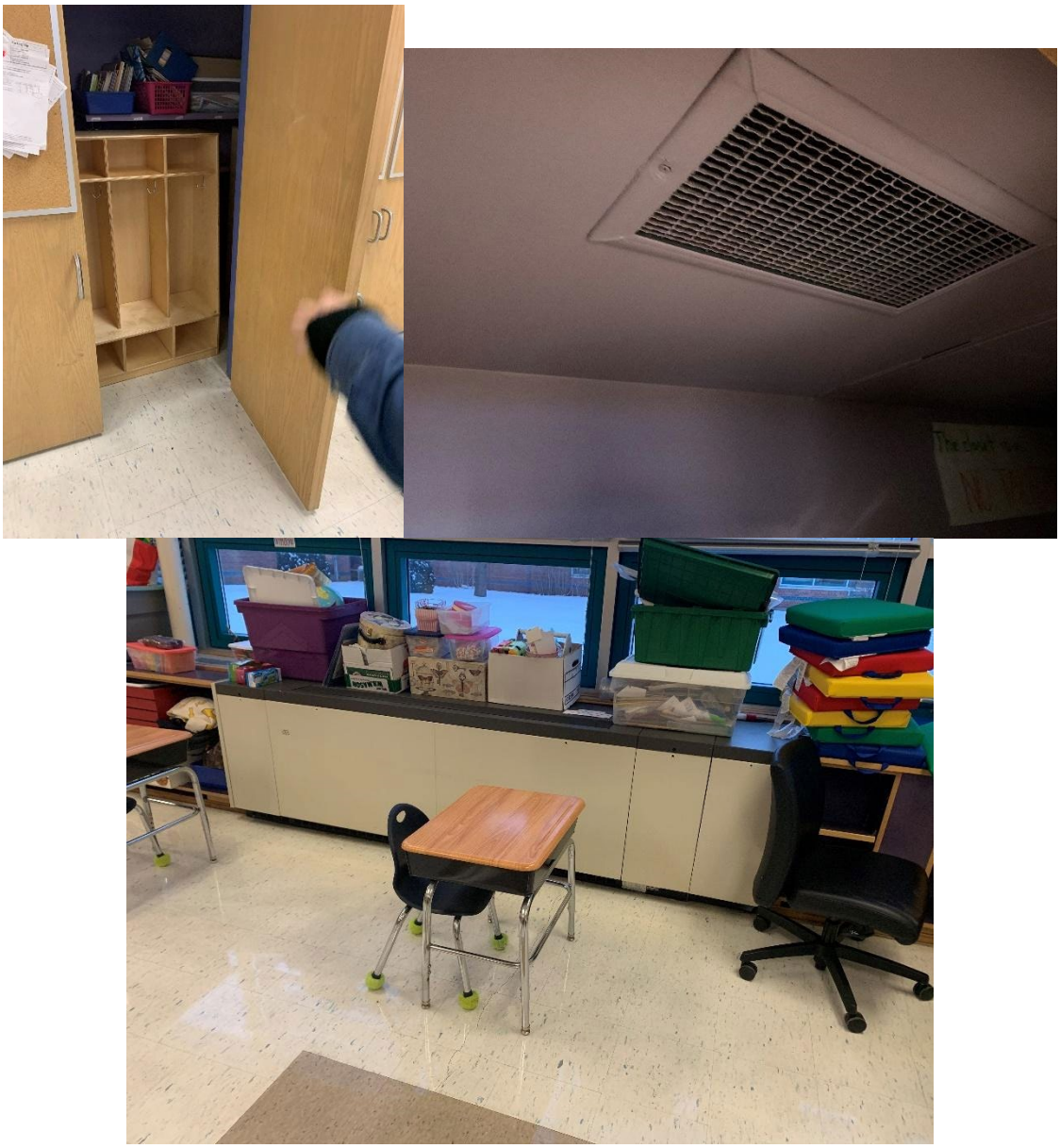
CONCLUSIONS

The classrooms have univents, operable windows and central air handler units that provide outside air. It was found at the time of the inspection that School No. 50's ventilation system was operational and is capable of providing sufficient ventilation capacity to be occupied. In light of the findings the following recommendations are made.

1) The univents should be run continuously when the classroom is occupied. In addition, pedagogical staff should not tamper with the univent to turn them off, instead consult the building engineer to address excess temperatures.
2) Do not block exhaust intakes and keep the tops of the univents clear of stored materials.

3) The univents and central system provide outside air in most classrooms. However, where possible and if necessary, teachers can open two windows in each room to an opening of two inches. This will provide natural ventilation without causing the room to become cold.
4) Install MERV 13 filter as soon as they arrive. Until they have been installed and for the building to be safely occupied, RCSD Facilities should continue to adjust and operate the building's ventilation system so that it minimized or as closely as possible eliminate the amount of recirculated air mixed with the outside air.

Inside the mixing box of air handler unit serving the new wing. As noted in the report, the unit currently utilizes MERV 8 filters until incoming MERV 13 filter are delivered. To bypass need for filtration, systems are operating to maximum outside air (dampers open) and minimize return air (dampers closed).



Typical ventilation scheme in a room served by a univent. The univent is located under the windows with a passive return or exhaust in the student closet.