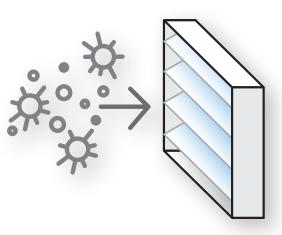


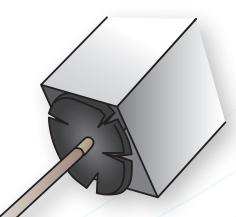
In January 2022 the Winnipeg School Division received a grant of \$2,591,000 from Manitoba Education to make "Operational Improvements" to WSD's ventilation systems. Improvements have been made to the WSD's 434 main ventilation units, ensuring these systems are delivering the best possible air quality to the students and staff.

To date, this project is approximately 70% complete.



#### MERV 13 AIR FILTERS

As recommended by ASHRAE\* air filters upgraded to a MERV 13 air filter throughout WSD.





#### **CO2 SENSORS**

CO2 sensors installed on 109 of WSD's 434 main ventilation units. The addition of these sensors allows the Building Operator to identify "air quality concerns" at a glance and immediately address these issues.

## 6 WAYS

WINNIPEG
SCHOOL
DIVISION
IS IMPROVING
AIR QUALITY
IN SCHOOLS

#### **DUCT CLEANING**

Duct Cleaning in 48 of the 80 WSD schools. This process included cleaning the supply air ductwork, return air ductwork, fresh air intakes, relief air hoods, supply and return air diffusers, heating and cooling coils throughout each ventilation system and the exhaust systems in the buildings identified.



50 portable Air Purifiers were purchased and installed in portable classrooms at 17 schools identified as having poorly designed HVAC equipment. During the summer of 2023, new HVAC units, that meet or exceed todays ASHRAE air quality standards were installed in 20 portable classrooms at six school locations.



# AIR BALANCING, EQUIPMENT OPTIMIZATION AND ENGINEERING REPORTS

A two-step Air Balancing process was put in place. Air Balancing Companies were hired to provide a Preliminary Air Balancing Report and a Final Air Balancing report for each of the ventilation systems in WSD's schools. The preliminary report included the airflow delivery rates to each of the classrooms and offices, along with volume of fresh air entering each ventilation unit and the operating conditions of each ventilation unit. As a result, speed increases requiring higher horsepower motors were installed, leading to larger capacity electrical wiring and new motor starters being required. New ceiling diffusers and/or sidewall supply air grills equipped with balancing dampers were required to allow buildings to be properly air balanced. Upon completion of the operational improvements, the Air Balancing Contractor returned to the school to balance the airflow to the individual rooms throughout the building.

### HVAC EQUIPMENT REPLACEMENT AND VENTILATION IMPROVEMENTS

Additional funding has been provided by Manitoba Education for infrastructure replacement and ventilation upgrades identified by WSD.

**Mulvey School** - In 2023, a second ventilation unit was added to

improve overall air quality in the building and modification to the original 1926 ventilation unit redirects more air flow to the remaining building, greatly improving the overall air quality in the entire building.

**Daniel McIntyre Collegiate Institute** – In 2023, two of the 12 main ventilation units were underperforming and were replaced in the school.

**Sisler High School** – Four roof-top units (RFT) were replaced during the summer of 2023. **Kelvin High School** – One roof-top unit replaced during the summer of 2023. **Carpathia School** – A two-year building envelope upgrade, window replacement, and

classroom ventilation air distribution improvement completed in 2023.

Elmwood High School - A three-year steam heating system replacement and ventilation

improvement project is completed. New hot water heating system/plants were installed including ventilation improvements that included heat/energy recovery ventilators and new heating coils that will improve overall air quality.

**Gordon Bell High School** - A two-year building envelope upgrade, window replacement, heating and ventilation systems replacement/upgrade project has commenced. The overall building energy efficiency and air quality/distribution will be improved once completed. **École Sir William Osler** - In 2022 a building envelope upgrade, window replacement, and classroom ventilation air distribution improvements were completed.