Limestone DISTRICT SCHOOL BOARD

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AGENDA – COMMITTEE OF THE WHOLE

(EDUCATION, POLICY AND OPERATIONS)

Wednesday, October 28, 2020 - 5:00 PM
Limestone Education Centre
220 Portsmouth Avenue, Kingston, ON

Link: http://bit.ly/EPOCMtgOct28

Public Meeting – 5:00 PM

Acknowledgement of Territory: "The Limestone District School Board is situated on the traditional territories of the Anishinaabe and Haudenosaunee. We acknowledge their enduring presence on this land, as well as the presence of Métis, Inuit and other First Nations from across Turtle Island. We honour their cultures and celebrate their commitment to this land."

1. ADOPTION OF AGENDA

2. DECLARATION OF CONFLICT OF INTEREST

Section A – Matters Requiring Action at the Meeting

3. REPORTS FOR INFORMATION

3.1 Module Vanier and Kingston Secondary School Transition – Associate Superintendent Hedderson (Pages 3-4)

3.2 Ventilation Systems – Superintendent Young (Pages 5-23)

4. REPORTS FOR ACTION

4.1 Recommended Policy Revisions – Director Burra (Pages 24-27)

Section B – Information

5. INTERNAL REPORTS AND OTHER COMMUNICATIONS

None at this time.

6. EXTERNAL REPORTS AND OTHER COMMUNICATIONS

None at this time.

7. OTHER BUSINESS

None at this time.

8. NEXT MEETING DATE: **Regular Board Meeting – November 11, 2020**

9. ADJOURNMENT

ADMINISTRATIVE REPORT:
MODULE VANIER & KINGSTON SECONDARY SCHOOL TRANSITION
EDUCATION, POLICY & OPERATIONS COMMITTEE

October 28, 2020

Purpose

The purpose of this report is to outline the plan for students and staff to move from the current Module Vanier, and Kingston Collegiate Vocational Institute building to the new Module Vanier and Kingston Secondary School (KSS) site.

Background

Different scenarios have been discussed and considered related to the transition of students and staff to KSS. Among options considered, a phased-in approach moving only some grades of students at different points in time, had significant implications. This option would require a temporary, additional pickup and drop off point at KSS on existing KCVI bus routes. Upon further investigation, a phased-in approach is not recommended given the impact a temporary additional stop would cause for bus routes that are already connected to other schools. Contracting additional buses to shuttle class cohorts between KCVI and KSS in a phased-in approach would result in increased costs of approximately $15,000 per week and would require the students going to KSS to lose up to two hours of instructional time per day due to COVID-19 cleaning protocols that are required on the buses. In addition, there would be additional costs to support administrative and custodial responsibilities in two buildings for the period of a phased-in transition.

Current Status

Construction is nearing completion at KSS and we are approaching the projected window of late October to mid-November to receive occupancy of the building.

Multiple factors must be considered prior to the final approval of the move-in date(s):

i) new school occupancy date;
ii) completion of necessary work prior to a move (e.g. network, phone system, installation of

classroom projectors);

iii) minimizing program impact (e.g. octomester timelines, reporting periods);

iv) timing and logistics of the movement of learning materials, technology, furniture and equipment between KCVI & KSS so the new building is prepared for learning required at the time; and

v) logistics related to COVID-19 to prepare the new building to safely receive students and staff (e.g. appropriate signage, designated entry/exit plans similar to work required to open all LDSB schools in late August).

There are two potential windows of time approaching to make the transition from KCVI site to KSS site:

Option 1

Classes to begin at the new Module Vanier and KSS December 15, 2020 (beginning of Octomester 4). The last day of classes at the current Module Vanier and KCVI would be December 11, 2020. Students at Module Vanier and KCVI would have an asynchronous remote learning/turnaround day on December 14, 2020 to allow for the set-up of physical classrooms at the new building to welcome students to school the next day.

Option 2

Classes to begin at the new Module Vanier and KSS February 2, 2021 (beginning of Octomester 5). The last day of classes at the current Module Vanier would be January 28, 2021. There is a PA Day January 29, 2021 designated for elementary reporting/secondary turnaround. February 1, 2021 would be an asynchronous remote learning day to allow for the set-up of physical classrooms at the new building to welcome students to school the next day.

Next Steps

We are expecting additional updates from the contractor in the next two week which should provide additional insight in terms of the occupancy date and help determine whether Option 1 or 2 will be recommended to transition students and staff to their new school building.

Recommendations

That this report be received for information and the transition plan be confirmed as soon as the occupancy date is confirmed.

Prepared by: Steve Hedderson, Associate Superintendent
Reviewed by: Krishna Burra, Director of Education

ADMINISTRATIVE REPORT: VENTILATION SYSTEMS
EDUCATION POLICY AND OPERATIONS COMMITTEE

October 28, 2020

Purpose

To provide Trustees with an update on the potential purchase of stand-alone HEPA filter units for windowless classrooms and to update trustees on the potential of reprioritizing unassigned school renewal projects from the 2019-2020 Capital and School Renewal Plan.

Background

At the Board meeting on August 26, 2020 staff was asked to investigate the purchase of stand-alone HEPA filters for windowless classrooms, prioritize ventilation improvements over any unassigned capital school renewal projects from the 2019-2020 plan, and bring forward a report to Trustees.

At the present time, there is still very limited direct evidence available through peer-reviewed academic studies supporting the positive linkage between the spread of COVID-19 and ventilation systems. While scientific analysis has established a connection between increased fresh air exchanges within a confined space impacting the dilution rates of contaminants, additional academic study on the spread of COVID-19 through ventilation systems is still required to draw firm conclusions. Additional supplemental ventilation systems, such as stand-alone HEPA filtration systems, are successful in removing contaminants but their effectiveness as the main source of protection against the spread of COVID-19 is strongly discouraged. Stand-alone HEPA filters can only be viewed as another layer of protective controls in the battle against COVID-19 spread. If a stand-alone filter unit is being used in a confined space, careful attention needs to be placed on where the discharge air is directed so as to not increase the field of spread of any potential airborne COVID-19 particles.

LDSB currently owns five HEPA filtration units that have been distributed to schools to address indoor air quality concerns where higher levels of indoor air quality sensitivity may occur among staff.

At the January 15, 2020 Board Meeting, Trustees approved the Multi-year Capital and Renewal

Project Plan. This project plan utilized the entire 2019-2020 School Renewal Funding and School Condition Improvement allocations while addressing the many high and urgent replacement needs within Limestone schools for a total expenditure of $19.2 million. This included $3.94 million of planned expenditures in the heating category (HVAC & Boilers) as well as $2.4 million of exterior window and door replacement projects. As this ambitious plan exceeds the total value of construction work generally completed by LDSB on an annual basis, these projects are in the various stages of design, tendering, and construction.

Current Status

Staff conducted a study of all classrooms within the board that are windowless or have been designed with inoperable windows. There are currently 50 classrooms within the board that meet that criteria and are as follows:

Location:	# of Rooms	Ventilation System
KCVI	8 classrooms	Full ventilation system providing fresh air and exhaust to all affected classrooms
La Salle Intermediate & Secondary School	5 classrooms	Full ventilation system providing fresh air and exhaust to all affected classrooms
Land O' Lakes Public School	6 classrooms	Full ventilation system providing fresh air and exhaust to all affected classrooms
Truedell Public School	7 classrooms	Full ventilation system providing fresh air and exhaust to all affected classrooms
Amherstview Public School	2 classrooms	Full ventilation system providing fresh air, exhaust and air conditioning to all affected classrooms
Bayridge Secondary School	22 classrooms	Full ventilation system providing fresh air, exhaust and air conditioning to all affected classrooms

Through the investigation of each of the classrooms and associated ventilation systems, it was determined that all the identified classrooms have full ventilation systems providing fresh air (and in some cases conditioned air) to each of these spaces.

Institutional single-room HEPA filtration systems cost approximately $2,000 each and require routine maintenance to address the required filter changes. Filters are often proprietary and must be purchased from the manufacturer. Given the current demand throughout North America, there is currently a 12-16 week lead time on the delivery of new purchases. LDSB will continue to review the requirement for HEPA filtration to address increased sensitivity to indoor air quality concerns.

The entire 2019-2020 school renewal and school condition funding of $19.2 million was allocated to high and urgent projects within the system. As described earlier, these projects are currently in the various stages of completion. As staff continue to develop the 2020-2021 project list for approval by Trustees in January 2021, a higher emphasis will be placed on the ventilation projects to ensure that the ventilation needs within LDSB are being addressed.

Next Steps

As outlined in the Limestone District School Board Ventilation Overview Executive Summary, LDSB will continue to do the following: conduct engineer studies for the feasibility of increasing HVAC filtering efficiencies within the schools, repair/replace inoperable equipment, and design and replace aging HVAC systems.

Recommendations

That this report be received for information.

Prepared by: Craig Young, Superintendent of Business
Reviewed by: Krishna Burra, Director of Education
Attachments: LDSB Ventilation Overview

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Limestone District School Board

Ventilation Overview

Reducing the spread of COVID-19

Author: Cedric Pepelea, CRE
Title: Energy & Environmental Technologist

LDSB Ventilation Overview Fall 2020

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Definition of Terms/Abbreviations

HVAC – Heating Ventilation Air Conditioning

CFM – Cubic feet per minute (a standard unit of measurement to measure airflow rates)

BAS – Building Automation System

IAQ – Indoor air quality

ASHRAE - American Society of Heating, Refrigeration and Air-Conditioning Engineers

ANSI – American National Standards Institute

AHU – Air Handling Unit (piece of equipment that contains fans, dampers, and heating and cooling coils that treat and move air around a building/section of a building)

RTU – Rooftop unit (basically an AHU installed on the roof, they can come in a large variety of configurations)

MAU – Makeup air unit – a simplified version of AHU that only brings in fresh air

RH – Relative humidity – represented as a percentage of humidity in the air

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Supply Air – Supply air is the outside air that has been filtered then conditioned (heated or cooled) through an air handling unit consisting of large fans that send the supply air to various parts of the school via ductwork. In hot and cold outdoor temperatures, the supply air is mixed with the return air.

Return Air – Return air is indoor air that is drawn out through a return grills and is sent back to the air handler where a series of 3 connected dampers will choose how much of the air will be exhausted to the outside and how much of the air will be mixed with the supply air and be redistributed through the school.

Supply Diffuser – Supply diffusers are the final distribution point for the supply air. Supply diffusers come in various shapes, sizes and locations such as ceilings, bulkheads, or floors. Each room should have at least one supply diffuser if it is connected to an air handling system. The number of diffusers per room will vary based on the size of the room.

Return Grills – Return grills should also be found in every room connected to an air handling system. It draws in indoor air and returns it to the air handling system where it is exhausted and recirculated.

Static pressure – describes the resistance experienced by air as it travels through an HVAC system. In other words, it is the pressure a fan must overcome to move air through ducts, as needed for heating, ventilation, and cooling. In particular, air handling systems must be capable of overcoming the static pressure of the filters and still have sufficient pressure to deliver sufficient fresh air to each room.

Air Filter Loading – As an air filter collects dust and other particles from the air it begins to pile up and get clogged, this is knows as Filter Loading. Finer filters will load faster and as filters load the static pressure increases.

Executive Summary

Indoor air quality is a piece of puzzle with regards to the overall spread of COVID-19. We know the main methods the virus is spread are through: close contact, surfaces and objects, asymptomatic carriers and through respiratory droplets. These respiratory droplets can be transmitted through building ventilation systems and could potentially spread the virus. This document provides detailed information and references to better understand ventilation system operation and ventilation related measures to reduce the potential spread of the coronavirus.

School readiness ventilation guidelines are focused on four main areas: Increase Outside Air, Treat Return Air, Mechanical Filtration and Relative Humidity. The general message is to maximize outside air intake by controlling ventilation equipment. However, as temperatures begin to drop, schools may have issues maintaining comfortable indoor temperatures while introducing large amounts of cold dry air. This cold dry air also lowers the relative humidity (RH) in the school causing potential virus caring droplets to evaporate at which point the virus becomes much smaller and harder to capture even by the highest MERV rated filters. The alternative to running 100% outside air in the winter is that return air can be recirculated through the school that would help maintain humidity levels and retain heat. The challenge is to properly treat this air and reduce the chance of the virus potentially spreading from one room to another. The return air is treated by passing though a series of air filters, therefore additional care must be taken with regards to filter changes. It is recommended that filters be upgraded to highest possible MERV rating, the ideal rating being a MERV rating of 13. There are many technical and logistical challenges in upgrading from MERV 10 to 13 at this time. Options are being investigated and additional air filter details can be found in the "Mechanical Filtration" subheading.

Through the 56 buildings LDSB operates, a variety of ventilation systems can be found. They can be categorized by their general type of ventilation equipment installed. LDSB has 35 buildings with air handling system and exhaust fans. These Schools have systems capable of mechanically introducing outside air and after being filtered and conditioned the air is supplied to the entire School. They also have the ability to recirculate indoor air, this mode of operation is currently disabled through a control system where possible. This will need to be adjusted again as outdoor temperatures drop. Seven other Schools have unit ventilators that provide outside air to each room individually, effectively eliminating the potential to spread the virus to other rooms through the ventilation system. All Schools have exhaust fans that draw air out of the school this causes the outside air to naturally infiltrate into the building. There are 14 schools that only have a series of exhaust fans.

Immediate action has been taken to meet COVID-19 ventilation guidelines. To further improve our ventilation system the focus will be to conduct engineered studies to assess increasing filter MERV ratings, ensure all existing equipment is functioning optimally, identify spaces that require additional ventilation. With priority on conducting studies on the 14 schools that only have exhaust fans. Once we receive the results of these studies, decisions will need to be made on what sites require immediate action repairing/recommissioning existing systems or sourcing detailed engineered design services for future capital projects. Depending on the scope and funding availability, capital projects could be implemented as soon as summer 2021.

COVID-19 general ventilation and filtration information

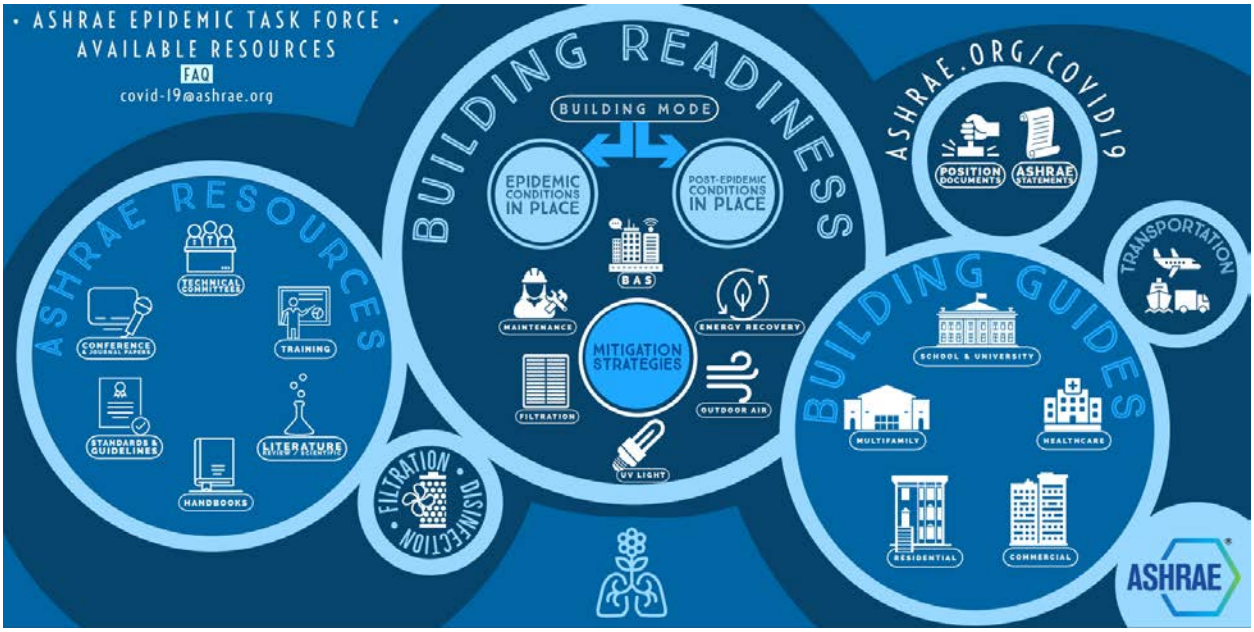
Overview of Current Landscape

A lot of information has been distributed regarding COVID-19. The challenge is that our understanding of COVID-19 changes rapidly. Indoor air quality is a piece of puzzle with regards to the overall spread of the Virus. We know the main methods the Virus is spread through: close contact, surfaces and objects, asymptomatic carriers and through respiratory droplets. These respiratory droplets can be transmitted though building ventilation systems and could potentially spread the virus.

ASHRAE's Position and Recommendations

The American Society of Heating, Refrigeration and Air-Conditioning Engineers more commonly known as ASHRAE. ASHRAE is an organization devoted to the advancement of indoor-environment-control technology in the heating, ventilation, and air conditioning (HVAC) industry. Its goal is to serve as a source of technical standards and guidelines. The international society offers educational information, courses, seminars, career guidance and publications. The organization promotes a code of ethics for HVAC professionals and provides for liaison with the general public.

They have created a COVID task force to provide technical guidelines:



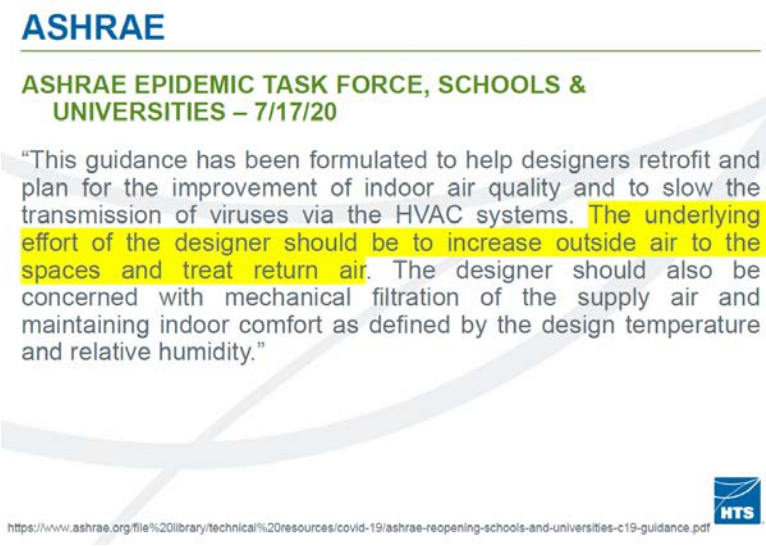
https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-covid19-infographic-.pdf

Many manufacturer and consultant documentation will reference ASHRAE standards, specifically ASHRAE Standard 62.1-2019 -- Ventilation for Acceptable Indoor Air Quality

https://ashrae.iwrapper.com/ASHRAE_PREVIEW_ONLY_STANDARDS/STD_62.1_2019

This is a highly detailed 92-page document providing recommendation for specific types of ventilation systems and specific building operating types, such as schools.

ASHRAE Position Summary



Highlights:

- Increase Outside Air
- Treat Return Air
- Mechanical Filtration
- Relative Humidity

Many of these points are directly related. As we increase outside air intake during dry conditions it will decrease the relative humidity. Increased filtration can also reduce fresh air if not correctly planed for.

Increasing Outside Air

The concept seems simple but in practice can be challenging, especially during heating season. Air handling units, unit ventilators, and natural air infiltration are some of the ways outside air is introduced. Units with dampers and fans can be adjusted to maximize fresh air intake.

Treat Return Air

The return air in most cases is in direct correlation with the outside air. As the return air recirculation is increased by opening the mixed air damper, the outside air damper will close. Typical winter operating range would be 70-90% recirculation with 10-30% outdoor air. Increasing the outdoor intake in cold temperature may lead to interior temperatures dropping. Therefore, realistically the return air would need to be recirculated to maintain interior temperatures. This now put the emphasis on treating the air via filtration. There various methods for treating return, including UV lamps, chemicals, and filters. Most commonly used in schools are air filters.

Mechanical Filtration

Mechanical filtration is a system where fans pull air though air filters to remove particulate matter. Air filters are rated by the Minimum Efficiency Reporting Value (MERV) rating system that ranges from 1 to 16. The higher the MERV rating the finer the filter material is, allowing it to catch smaller particles at higher efficiency.

Standard 52.2 Minimum Efficiency Reporting Value	COMPOSITE Average Particle Size Efficiency % in Size Range, µm			Average Arrestance %
	Range 1 (0.3-1.0)	Range 2 (1.0-3.0)	Range 3 (3.0-10.0)	
1	n/a	n/a	Ea < 20	
2	n/a	n/a	E3 < 20	65 ≤ Aavg < 70
3	n/a	n/a	E3 < 20	70 ≤ Aavg < 75
4	n/a	n/a	E3 < 20	75 ≤ Avg
5	n/a	n/a	20 ≤ E3<35	n/a
6	n/a	n/a	35 ≤ E3< 50	n/a
7	n/a	n/a	50 ≤ E3 <70	n/a
8	n/a	20 ≤ E2	70 ≤ E3	n/a
9	n/a	35 ≤E2	75 ≤ E3	n/a
10	n/a	50 ≤ E2 < 65	80 ≤ E3	n/a
11	20 ≤ E1	65 ≤ E2 < 80	85 ≤ E3	n/a
12	35 ≤ E1	80 ≤ E2	90 ≤ E3	n/a
13	50 ≤ E1	85 ≤ E2	90 ≤ E3	n/a
14	75 ≤ E1 < 85	90 ≤ E2	95 ≤ E3	n/a
15	85 ≤ F1 <95	90 ≤ F2	95 ≤ E3	n/a
16	95 ≤ E1	95 ≤ E2	95 ≤ E3	n/a

- Remember the virus travels on droplet nuclei from sneezes, coughs and breathing. 0.3µm to 1.5µm
- Range 1
- MERV 13 still lets 50% of potentially dangerous particles pass but it's a reasonable first step.
- MERV 14 allows 15-25% to pass

Air filters have four major categories each with their own benefits and applications. These categories are as follows:

Flat-Paneled Fiberglass Filters –This disposable type of HVAC filter is at the lowest end, meaning it's ineffective at improving your indoor air quality despite being able to trap dust and debris. However, due to its affordability, it's a popular choice for protecting tools from dust and debris.

Pleated Media Filter – The pleated media filters have a MERV rating between 5 and 13. The pleats are designed to increase the filter's surface area and increase its efficiency. These are the most common type of filters used by the commercial buildings.

HEPA Filter – HVAC replacement companies often recommend HEPA filters since they can provide the highest protection level when it comes to airborne particles. This type of filter is capable of capturing small microns and has a MERV rating between 17 and 20. However, this is typically only used in stand alone application as the air flow is relatively low due to the extremely high static pressure.

Electrostatic Reusable filter - Electrostatic air filters are made of filter media that undergoes a process to "charge" it, thereby creating that attractive quality. These multi-layer washable filters contain layers of materials meant to charge particles as they pass through, effectively increase their MERV rating while having a low static pressure compared to similar MERV rated media filters.

Filter Recommendation

The recommendation is the increase air filter MERV rating the "highest possible" this is in reference to the added static pressure the higher MERV rated filters have. This drop in pressure in the system may deliver less air to certain areas of the building. Air handling system will need to be assessed by an engineer to see if the system can handle the upgrade of the filter MERV rating. In some cases, the motor, fan, and ductwork may need to be modified.

Velocity, fpm	MERV rating	Pressure drop, in. wc
500	14	0.55
500	13	0.38
500	11	0.29

TABLE 1. Clean pressure drop.

Maximum Dust Loading

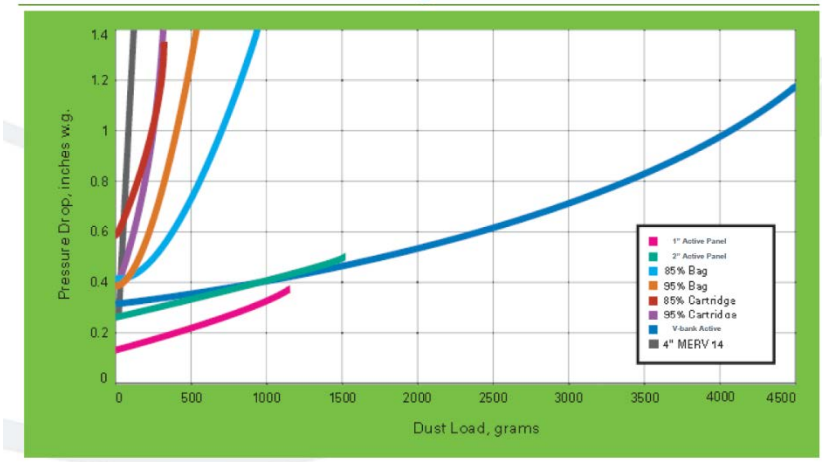


Photo Reference: https://www.dynamicaqs.com/commercial

Additionally, high MERV rated media filers "load" much faster, meaning that it would need to be changed much more frequently. As a filter becomes "loaded" their static pressure significantly increases reducing airflow. With high demand and low supply on MERV 13 filters frequent changes may lead to availability issues. Alternatively, Electrostatic filters are able to achieve high MERV 15+ rating with power on while having a very low static pressure. Additionally, electrostatic filters "load" about 40 times slower than static filters with similar MERV ratings.

Relative Humidity

Low humidity can make it more difficult to capture virus caring bacteria, as the droplets they are originally attached to evaporate in dry environments (as we see in winter). It is recommended that Relative Humidity (RH) levels remain between 40-60% RH.

ASHRAE – Recommend Humidification?

Keep the droplets big

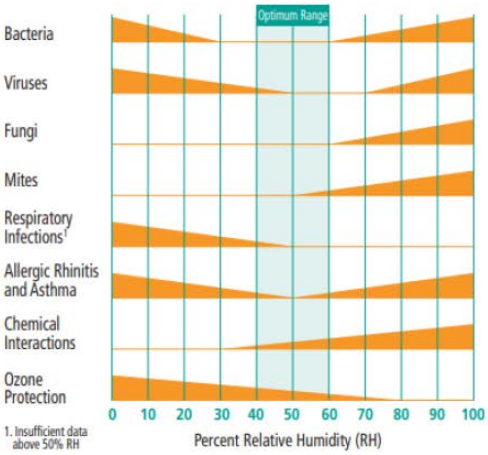
- As moisture evaporates from particles they get more mobile in air systems

Aim for 40-60%RH

- Easy in the summer
- Can be very difficult in the winter (<35%RH)

ASHRAE says confidence level B

Studies have shown that when room relative humidity (RH) drops below 40 percent, absenteeism increases due to respiratory illness.



A decrease in the bar width indicates a decrease in negative indoor air quality factors and complaints.

Source: E.M. Sterling study

Photo References: https://dristeem.azureedge.net/public-documents/docs/default-source/azure-public/more-literature/whyhumidify.pdf?sfvrsn=2

Current School Ventilation Overview

Across Limestone's 56 buildings a large variety in ventilation equipment is in place. These can be categorized into four main categories of mechanical ventilation equipment with regards to the introduction of Fresh Air.

5 - Schools with Air Handlers, Unit Ventilators and Exhaust fans

35 - schools with Air Handlers and Exhaust fans

2 - Schools with Unit Ventilators and Exhaust fans

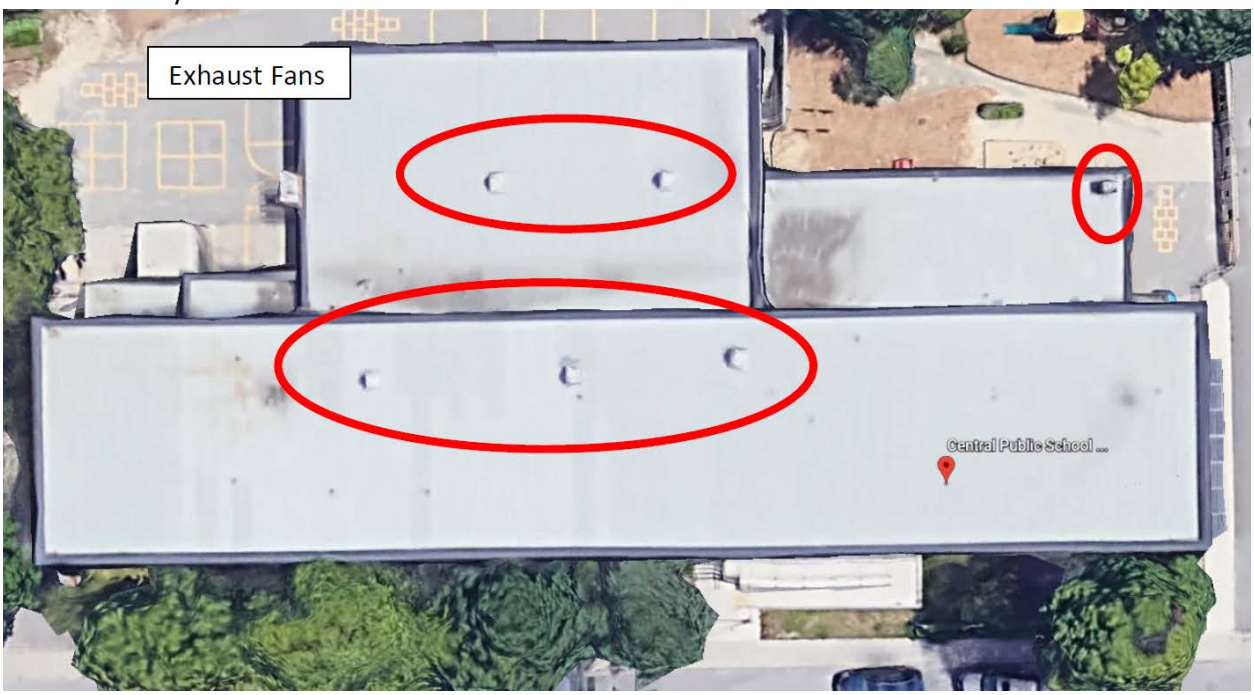
14 - Schools with Exhaust Fans

All Schools are currently using MERV 10 air filters

A detailed breakdown for each building can be found in the Appendix

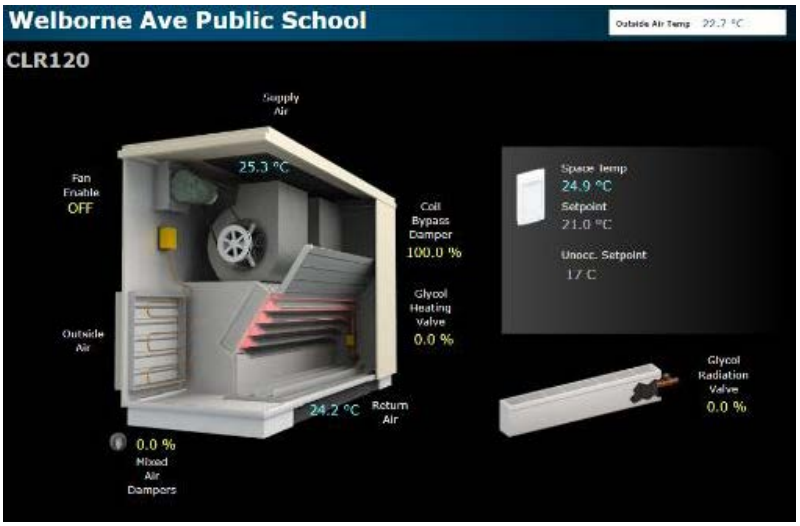
Exhaust Fans

The first and most basic mechanical ventilation system is the Exhaust fan. This is the most basic form of ventilation and is present at ALL LDSB schools. Exhaust fans are strategically placed around a school and draw in air from inside the school and exhaust it out through the roof. When all the exhaust fans are running it creates a negative pressure in the building pulling in fresh air through the windows, doors and basically any and every opening in the building. Even when all windows are closed, natural air infiltration still finds a way in.



Unit Ventilators

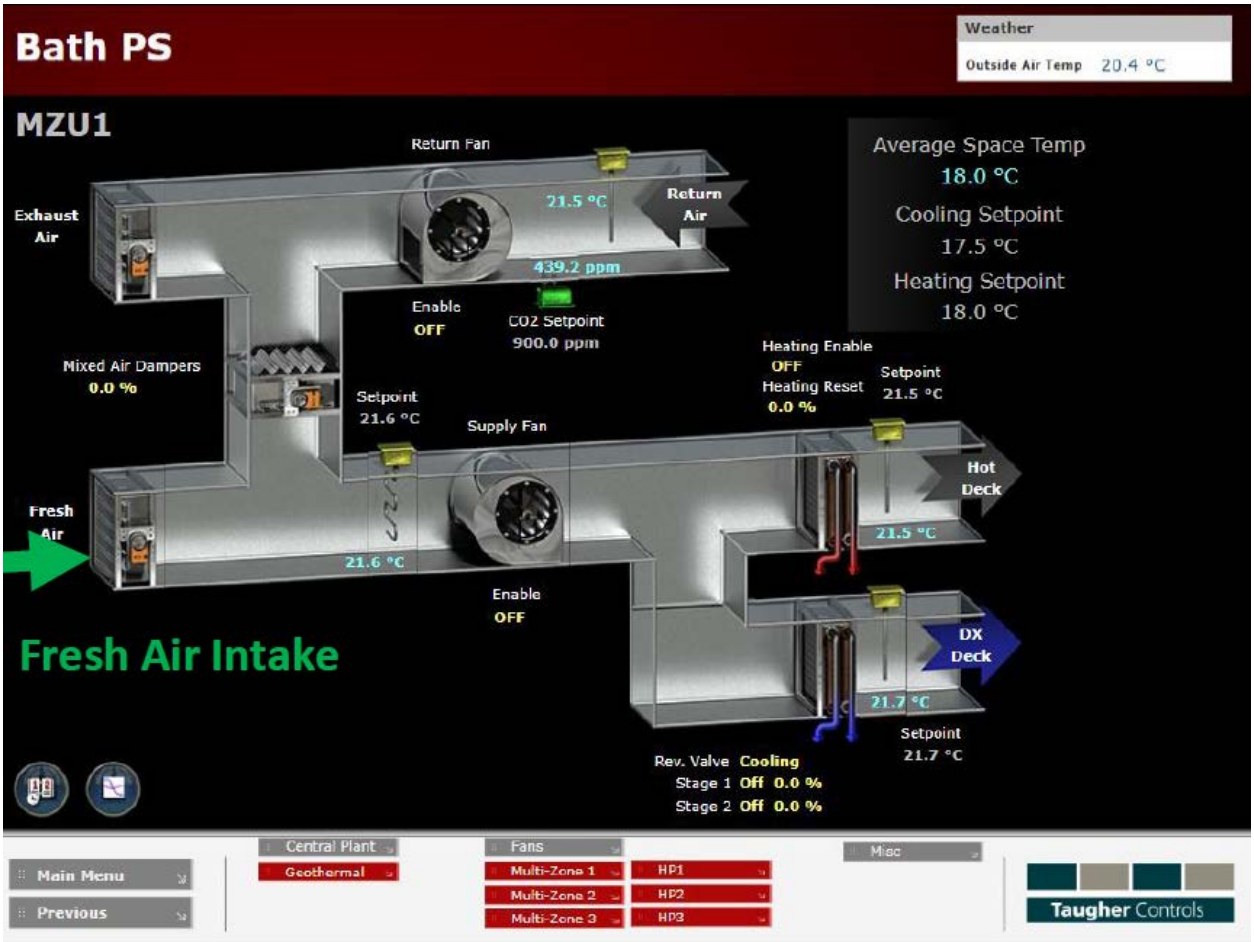
These individual classroom heating and ventilation units would have one unit dedicated to individual classrooms and other spaces. These provide excelled isolation of fresh and exhaust air, providing substantial benefits with regards to reducing the potential spread of COVID-19. These units also are in every portable/portapack. The main drawback to these systems is that there are many air filters to replace throughout a school. Many of these air filters have unique sizes making them difficult to source.



Full Return Air Handling Units (AHU)

Air Handling units are found in many LDSB schools and consist of 5 major parts related to ventilation:

1. Fresh air intake with its own controllable damper that varies the amount of fresh air introduced.
2. This intake is coupled with a fan called the “Supply Fan” as it supplies the school with fresh air. This fan can also be adjusted based on the needs of the schools.
3. Exhaust air with its own controllable damper allows stale indoor air to be expelled to the outside.
4. The Exhaust/Return side of the ventilation system has its own fan called the “Return Fan,” it draws air from multiple return grills found in all rooms to the air handler dedicated to that area.
5. The mixed air damper is the most import with regards to reducing the spread of COVID-19 as the mixed air damper is in direct correlation with the Fresh Air Damper and the Exhaust Air Damper. The mixed air damper controls how much of the indoor air is recirculated into the supply air. Since September we have been locking the mixed air damper to eliminate any mixing of the return air with the supply air. As temperatures drop into the heating season, maintaining comfortable temperatures inside schools will be challenging if we do not recirculate any air.
6. Some sites also have CO2 sensors in each room and the system will adjust the amount of fresh air coming into the building based on the number of occupants producing CO2.



Ventilation Measures taken by LDSB related to COVID-19

1. Caretaking staff are checking air filters monthly and changing them as needed. With instructions that filter change frequency doubled from four changes per year to eight changes per year.
2. Schools with mixed air dampers in air handling units and unit ventilators where adjusted via the BAS to NOT recirculate any air. Meaning that 100% of the air is exhausted and 100% outside air is introduced. (As temperatures drop this may need to be adjusted to ensure schools are able to maintain a comfortable temperature).
3. Exhaust fans are set to be on NONSTOP. As temperatures drop this will need to be adjusted to occupied hours only.
4. Individual School ventilation overview documentation was provided to each principal and head caretaker. (Sample Individual Ventilation Overview Report in Appendix)

Steps to improving ventilation systems

1. Engineered ventilation studies will be conducted to assess each individual School's needs. With priority being on schools with less ventilation equipment installed.
2. Based on the findings from the ventilation studies, roughly four types of implementation strategies may arise:

Study Result	**Implementation Strategy**
Found inoperable equipment	Repair/replace inoperable equipment
Found poor distribution system	(re) Design distribution system (ductwork etc.)
Found need for additional equipment in specific areas	Design needed for new area specific system
Found need for a new system to be implemented	Design needed for new school wide system

3. Some solutions may be resolved quickly by our maintence staff while others will require contractors to be sourced.
4. For projects requiring design work an engineering firm will be sourced to create a detailed design to meet the needs identified in the ventilation studies.
5. Once the design is complete a tender document is issued for installation contractors to bid on.
6. Once the bids have been reviewed, the contract is awarded, and the work is scheduled.
7. Large design projects will likely only be implemented in the summer of 2021.

Conclusion

Immediate action has been taken to meet COVID-19 ventilation guidelines. To further improve our ventilation system the focus will be to conduct engineered studies to assess increasing filter MERV ratings, ensure all existing equipment is functioning optimally, identify spaces that require additional ventilation. With priority on conducting studies on the 14 schools that only have exhaust fans. Once we receive the results of these studies decisions will need to be made on what sites require immediate action repairing/recommissioning existing systems or sourcing detailed engineered design services for future capital projects. Depending on the scope and funding availability these projects could be implemented as soon as summer 2021.

Q&A

Q – Can HVAC (heating, ventilation, and air conditioning) systems play a role in the transmission of COVID-19??

A- In general, while there is plausibility of COVID-19 transmission by inhaled virus in air particularly in crowded, poorly ventilated settings, there is limited epidemiological evidence that this occurs. Specifically, the overall scientific evidence does not indicate that transmission of COVID-19 occurs via HVAC systems at this time. Although viral RNA has been detected in air and HVAC systems, the viability of virus in or infection from air circulated through HVAC systems has not been demonstrated. COVID-19 is primarily transmitted via direct contact and droplets propelled for various distances. Screening and self-isolation of infected individuals; physical distancing; hygiene measures such as hand hygiene, cough and sneeze etiquette, respiratory source control; and environmental cleaning and disinfection are the mainstay of measures to reduce transmission risk.

Q – Does opening classroom doors help increase ventilation?

A- In a room with supply diffusers and return grills, it is recommended that the door remain shut as to not mix the classroom air with the rest of the school.

Resource Links

HTS – Indoor Air Quality – Improving the Air in our Schools by Michael Harris and Graham Coote

AHRAE Guidelines

https://ashrae.iwrapper.com/ASHRAE_PREVIEW_ONLY_STANDARDS/STD_62.1_2019

Public Health Ontario – COVID-19 HVAC systems in building Q & A

https://www.publichealthontario.ca/-/media/documents/ncov/ipac/2020/09/covid-19-hvac-systems-in-buildings.pdf?la=en

Electrostatic filter supplier

https://temperaturetec.com/cleaner2

Appendix

School Ventilation breakdown

5 - Schools with Air Handlers, Unit Ventilators and Exhaust fans

35 - schools with Air Handlers and Exhaust fans

2 - Schools with Unit Ventilators and Exhaust fans

14 - Schools with Exhaust Fans

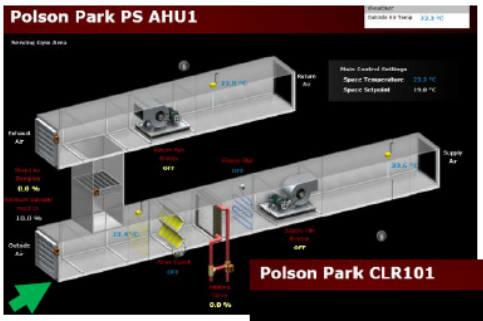
Site	Air Handler	Unit Ventilators	Exhaust Fans
Amherst Island PS	**GYM Only**		**Yes**
Amherstview PS	**Yes**		**Yes**
Bath PS	**Yes**		**Yes**
Bayridge PS	**Yes**	**Yes**	**Yes**
Bayridge SS	**Yes**		**Yes**
Cataraqui Woods ES	**Yes**		**Yes**
Centennial PS	**Yes**		**Yes**
Central PS			**Yes**
Centreville PS			**Yes**
Clarendon Central PS			**Yes**
Collins Bay PS			**Yes**
École Sir John A. Macdonald PS	**Yes**		**Yes**
Elginburg PS			**Yes**
Enterprise PS			**Yes**
Ernestown SS	**Yes**		**Yes**
Fairfield ES	**Yes**		**Yes**
Katarokwi Learning Centre			**Yes**
Glenburnie PS			**Yes**
Granite Ridge Education Centre	**Yes**		**Yes**
Harrowsmith PS	**Yes**		**Yes**
James R Henderson PS	**Yes**		**Yes**
John Graves Simcoe PS			**Yes**
Joyceville PS	**Yes**		**Yes**
Kingston C & VI, Module Vanier ES	**Yes**		**Yes**
La Salle SS	**Yes**		**Yes**
Lancaster Drive PS	**Yes**		**Yes**
Land O Lakes PS			**Yes**
Limestone DSB Admin & Warehouse & Board Office	**Yes**		**Yes**
Limestone Education Centre	**Yes**		**Yes**
Lord Strathcona PS		**Yes**	**Yes**
Loughborough PS	**Yes**		**Yes**

Loyalist C & VI, Calvin Park PS	**Yes**		**Yes**
Marysville PS			**Yes**
Module de l'Acadie ES & Frontenac SS	**Yes**	**Yes**	**Yes**
Molly Brant ES	**Yes**		**Yes**
Napanee DSS	**Yes**		**Yes**
Newburgh PS			**Yes**
North Addington Education Centre	**Yes**		**Yes**
Odessa PS	**Yes**		**Yes**
Perth Road PS	**Yes**		**Yes**
Polson Park PS	**Yes**	**Yes**	**Yes**
Prince Charles PS	**Yes**		**Yes**
R Gordon Sinclair PS	**Yes**		**Yes**
Rideau Heights PS			**Yes**
Rideau PS		**Yes**	**Yes**
Selby PS	**Yes**		**Yes**
Southview Public School	**Yes**		**Yes**
Storrington PS			**Yes**
Sydenham HS	**Yes**	**Yes**	**Yes**
Sydenham PS	**Yes**		**Yes**
Tamworth ES	**Yes**		**Yes**
The Prince Charles School	**Yes**		**Yes**
Truedell PS	**Yes**		**Yes**
Welborne Avenue PS	**Yes**	**Yes**	**Yes**
Winston Churchill PS	**Yes**		**Yes**
WJ Holsgrove PS	**Yes**		**Yes**

Sample Individual Ventilation Overview Report Sample

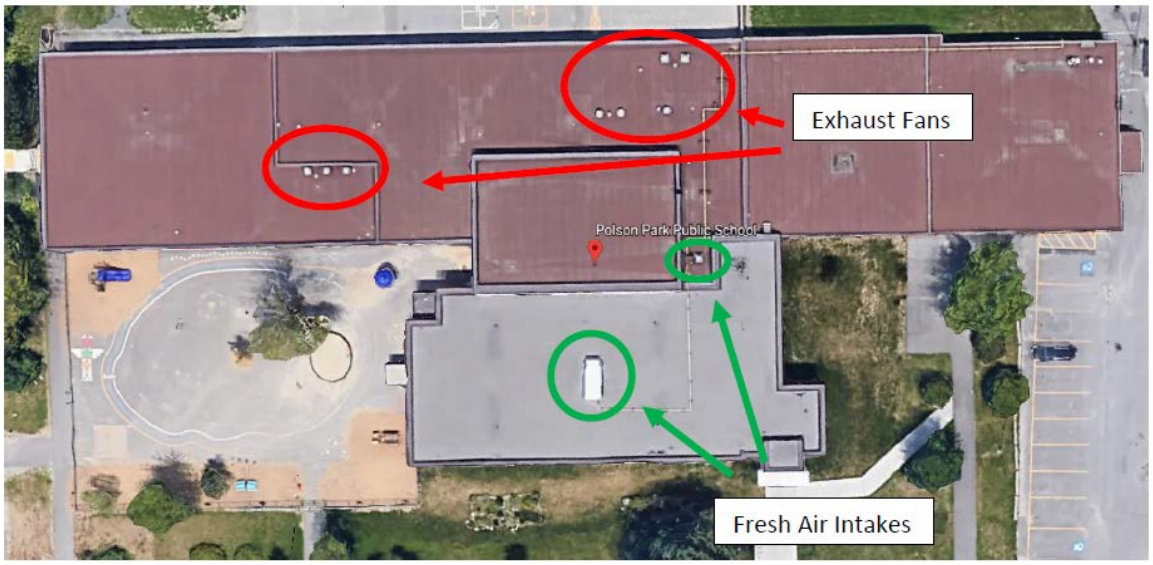
Polson Park Public School Fresh Air Overview

Fresh Air is introduced into the building using two dedicated air handling units. The units are mounted on the roof and bring in fresh air and distribute it through ductwork to all classrooms and hallways. Each individual air handler circulates air through a section of the school and exhausts the air from inside the school while it brings in fresh air. These air handlers have large fans inside that typically switch on and off depending on when they are needed and are set to a schedule. However, due to COVID-19 ventilation concerns adjustments to the schedule and the fan operation are made to ensure that the fans are running NONSTOP. Additionally, there are multiple stand-alone exhaust fans that remove stale air from the school, these will also be set to run NONSTOP ensuring a constant flow of air in maintained in the school and classroom unit ventilators. Classrooms have individual Unit Ventilators that each bring in fresh air directly to each classroom. In conclusion we have ample equipment in place to exhaust indoor air and bring in lots of fresh air. All air filters have been just been replaced and will be inspected and changed at an increased frequency. Additional natural ventilation can be added by opening windows when appropriate.



The image to the top left is of the main air handling unit that provides fresh air to the entire schools, minus the gym that has its own unit. Marked in green the fresh air enters the unit and passes through a series of air filters then using a large fan the air is distributed to the school. There is also a dedicated fan for exhaust (or Return) the exhaust and the intake are connected via a mixed air damper; this damper is in direct relationship with the outside air damper (with the green arrow). Where typically the exhaust air would be recirculated to reduce fuel usage during winter, however in its current position the mixed air damper is fully closed meaning that the outside air damper is fully open allowing the maximum amount of fresh air the enter the school. This system will run in these settings NONSTOP.

The image on the right is a unit ventilator that has its own fresh air damper and air filter. The damper and fan can be controlled and set to operate NONSTOP.



ADMINISTRATIVE REPORT: RECOMMENDED POLICY REVISIONS EDUCATION, POLICY AND OPERATIONS COMMITTEE MEETING

October 28, 2020

Purpose

To provide Trustees with an overview of suggested changes to Board Policies, and identify other potential changes submitted by Trustees for further review and/or clarification.

Background

Board Policies need to be reviewed on a regular basis and changed for a variety of reasons. Policy 9, section 8.8.0 states the following: "Main motions which seek to substantially change existing Board Policy must be sponsored in writing with an indication of mover and seconder through the agenda committee or be presented to the Board by way of notice of motion."

Current Status:

Trustees were asked to submit policies for potential review and/or clarification. Some of those changes are reflected in the list below. Others require further Trustee discussion and guidance for generating proposed edits (see Appendix A).

Next Steps:

Trustees consider the following edits to Board Policies:

BP 9: Board Operations

Section 13.4.0 states, "All regular Board meetings, special meetings and all committee meetings shall be adjourned automatically at 10:00 p.m., unless a majority vote extends the meeting in fifteen (15) minute increments." Change '15 minutes' to '30 minutes.'

Section 18.3.1; 18.3.0, and legal references... change Robert's Rules of Order, '10th Edition' to '12th

Edition.

BP 10: Committees of the Board

Section 5.1.3, add another bullet: 'All members are appointed by the board for a four-year term that coincides with the four-year term of trustees. If a vacancy occurs mid-term, the board will convene a subcommittee consisting of the two trustee representatives on the Special Education Advisory Committee and the Chair of the Board. The Vice Chair shall be the alternate to this sub-committee. The subcommittee will review all applications and make a recommendation for appointment to the board and the board shall appoint the member.'

Section 5.3.2: change 'parent' to 'parent/guardian' and change: 'his or her' to 'their'

Section 5.5.2: change 'support parent' to 'support parent/guardian'

Section 5.5.2: change 'help parent' to 'help parent/guardian'

Section 6.4.1: change 'parents' to 'parents/guardians'

Section 6.4.2: change 'parents' to 'parents/guardians'

BP 12: Policy Making

Section 4.6.0 states the following: "All policies which refer to persons shall be worded to include equally members of both sexes, except where the references apply exclusively to males or females." Change to "All policies which refer to persons shall be written using gender neutral language in order to be inclusive and respectful of individual differences as they relate to gender identity and gender non-conforming persons."

Recommendations

That Trustees consider the following motions for approval:

Motion: That the Trustees accept the recommended edits to Board Policy 9 – Board Operations, as outlined in the Administrative Report: Recommended Revisions, dated October 28, 2020.

Motion: That the Trustees accept the recommended edits to Board Policy 10 – Committees of the Board as outlined in the Administrative Report: Recommended Revisions, dated October 28, 2020.

Motion: That the Trustees accept the recommended edits to Board Policy 12 – Policy Making as outlined in the Administrative Report: Recommended Revisions, dated October 28, 2020.

That Trustees consider and discuss next steps to provide guidance for generating proposed edits and/or review of current policies.

Prepared by: Krishna Burra, Director of Education
Attachment: Appendix A

Appendix A

Policy clauses submitted by Trustees for potential review/clarification at the October EPOC Meeting:

BP-07 – Role of the Chair
6.1.0 – "In the event of a tie vote on a motion before the board, the Chair shall vote."
6.2.0 – "The Chair may vote on motions before the Board, declaring the intention to vote when the motion is read. If the Chair's vote results in an equality of votes, the Chair shall declare that the motion is lost." (submitted by 2 trustees)
6.4.0 – "The Chair may act as an ex-officio member, with voting privileges, of all committees appointed by the Board. As an ex-officio member, the Chair shall have all the privileges of committee membership, including the right to make motions and to vote."
6.7.0 – "The Chair shall be the chief spokesperson for the Board except for those matters where the Board has previously delegated this role to another individual or group."

BP-09 – Board Operations
3.4.1 – Presentations
3.4.4 – Declaration of conflict of interest
3.4.9 – Consent agenda
3.4.17 – Reports for information
3.4.18 – Other business
5.1.0 – Board agenda committee
5.3.0 – Draft motion
5.7.0 – Delivery of the agenda
7.4.0 – Chair to review
8.0.0 – Motions
9.0.0 – Notices of motion/Written motions
10.0.0 – Amending, changing or improving motions
11.0.0 – Postponements, tabling and referrals
12.0.0 – Closed session (In-camera)
13.4.0- Automatic Adjournment (submitted by 2 trustees)
14.0.0 – Motions related to voting
15.0.0 – Motions to reconsider, rescind, or amend something previously adopted
17.0.0 – Delegations and submissions
27.2.0 – "One third of honoraria paid to Trustees shall be designated as an allowance for expenses."

BP-12 – Policy Making
2.0.0 – Development
4.6.0 – "All policies which refer to persons shall be worded to include equally members of both sexes, except where the references apply exclusively to males or females."

BP-16 - Transportation
Are there any issues or revelations that have occurred because of COVID-19 that we should adapt in our policy?

Appendix A

BP-19 – Accessibility Standards Policy Statement
Recommend an accessibility policy, not just a statement. An Administrative Procedure exists to operationalize this statement.

Other Considerations

- Boundary Review and adding an Indigenous Trustee.
- School Board Trustee boundaries and preparing for the 2022 election.
- BP-1- District Vision/Mission/Values, should Equity be added? This was part of the Strategic Plan development a few years ago and reflects that work and broader consultation on the plan.
- BP-5- Compare our Trustee Code of Conduct with the OPSBA Code of Conduct template. There are some similarities, and some differences.
- BP-9- Motions from the floor (submitted by two trustees) and what is considered substantive or not.
- BP-9- are there any generic wording updates we need to add now that we are doing online meetings?
-
  - BP-10- Board Committees- For different committees, BP 10 outlines specific membership of trustees. Attendance by additional trustees is not discussed. Roles and responsibilities may need to be clarified.