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Date: June 16, 2020 at 2:27:12 PM EDT
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Cc: Timothy Rivers <trivers@framingham.k12.ma.us>, Ernest Moreau <emoreau@framingham.k12.ma.us>, John Clow <jclow@framingham.k12.ma.us>
Subject: Re: Indoor Facility Concerns

Hello All,

B&G has been monitoring many of the recommendations that have been released by several different agencies related to Covid and indoor air quality as well as water quality for our schools. Our Maintenance Foreman, Ernie Moreau and our Custodial Foreman, John Clow work collaboratively with all custodial and maintenance staff to ensure that water quality and air quality are maintained in our schools.

Our HVAC Technician, Tim Rivers performed a cursory review of available SMACNA and AHSRE guidelines and recommendations on best practices in dealing with Covid-19 and offered the below information as to how we may improve air flow and air quality in our schools. Tim has provided estimated costs associated with any of the possible improvements. Please let us know if you have questions regarding the information that Tim has provided. Tim estimates a cost of roughly \$700,000 if we choose to purchase or upgrade equipment.

We would like the opportunity to review these suggestions and develop a viable plan as to how we may want to move forward with some, or all of these recommendations related to air filtration.

I thank Tim, Ernie and John for their efforts to ensure the health and safety for everyone that occupies our school buildings and grounds.

"The HVAC systems in the City of Framingham school system are working at peak efficiency. All air filters were upgraded to the highest filtration capacity allowable without compromising air flow to the occupants back in 2011.

All HVAC systems are monitored by a state of the art building automation system. Air filters are changed on a regular basis by the custodial staff along with checking and replacing fan belts, also each supply and exhaust fan is checked, cleaned, and lubricated seasonally. All custodial staff is required to maintain records of maintenance performed and the records are reviewed annually. HVAC systems have multiple moving parts and failures occur but do not go unnoticed by the custodial staff. FPS has maintenance staff dedicated to maintain and repair HVAC equipment.

Air quality has always been an important part of the educational process and all concerns are immediately addressed by our staff or outside contractors if needed. FPS has open accounts with industrial hygienists and environmentalists. When I talk to outside contractors and vendors we are among the best operated departments in the state of Massachusetts.

“How can we improve our HVAC systems to help combat the spread of COVID-19?”

ASHRE recommends using multiple approaches as a final strategy to reduce the spread of COVID-19. The use of high filtration, proper air flow and air exchanges are achievable with the current HVAC systems in place.

Two things we can do immediately through the building automation system are:

- Increase outside air flow by opening outside air dampers.
- Run exhaust systems continually to create an upwards air flow pattern

Installing MERV 13 high capacity air filters in Large RTU's and air handlers where it is feasible. Newer schools like Woodrow Wilson Cameron and the High school may be easily retrofitted. I also recommend installing Needlepoint Bipolar Ionization systems in our HVAC systems. Ionization systems reduce VOC's and odors along with killing microorganisms, so they would be beneficial to the HVAC systems after we get through the COVID-19 epidemic. When I asked other professionals in the HVAC field they recommended the ionization system over other types of systems like UV-C for example. Where there are classrooms with little to no HVAC system we should purchase single-space high-efficiency filtration units.

So let's talk about cost.

AEM has partnered with a company that manufactures bipolar ionization systems and provided a ballpark estimate

- Uninvents \$625 - \$775 each
- Small Air Handlers and Fan coils (under 4800 CFM) \$900 - \$1,100 each
- Large Central Station Air Handlers \$5,000 - \$10,000 each

I would budget \$700,000. If we plan on retrofitting the entire school district.

AIREX, our air filter supplier quoted me for a direct replacement of our 2" existing MERV-8 filters to a MERV-13 filter.

- MERV-8, 24"X24"X2" Filter cost \$4.28
- MERV-11, 24"X24"X2" Filter cost \$9.16

MERV-13 filters will need to be changed twice as often as MERV-8's so our air filter budget will probably double.

Single space high efficiency filtration units can be purchased through home depot for about \$250. Each. I would have to do a proper survey to get an accurate count but we should probably get 30 on hand for starters at a cost of \$7,500.

some equipment surveys and research still needs to be done so this is my 30,000' flyover.

Attached is ASHRE's position on how to help stop the spread of COVID-19"

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orientation, gender identity or expression, national origin, age, genetic information, disability, or veteran status

<https://www.wsj.com/articles/how-exactly-do-you-catch-covid-19-there-is-a-growing-consensus-11592317650>

“He advises that while wiping down surfaces and putting in hand-sanitizer stations in workplaces is good, the bigger risks are close-range face-to-face interactions, and having lots of people in an enclosed space for long periods.”

“Sufficient ventilation in the places people visit and work is very important, said Yuguo Li, one of the authors and an engineering professor at the University of Hong Kong. Proper ventilation—such as forcing air toward the ceiling and pumping it outside, or bringing fresh air into a room—dilutes the amount of virus in a space, lowering the risk of infection.”

Sent from my iPhone

Showing results for **ASHRAE** position on how to stop Covid

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Web results

Guidance for Building Operations During the COVID ... -

ashraewww.ashrae.org › news › ashraejournal › guidance-for-...

PDF

May 2, 2020 - disease transmission, including **COVID-19**.1 Knowledge is emerging about **COVID-19**, the virus ... important for all of us, especially those of us in **positions** of authority ... **Keep** systems running longer hours, if possible 24/7,.

COVID-19: Resources Available to Address Concerns -

[ashrae](#)www.ashrae.org › [technical-resources](#) › [resources](#)

May 28, 2020 - This **position** document outlines **ASHRAE's position** that facilities of all types should follow, as a minimum, the latest published standards and ...

[ASHRAE Offers COVID-19 ...](#) · [ASHRAE Issues Statements ...](#) · [ASHRAE Journal](#)

ASHRAE Position Document Airborne Infectious Diseaseswww.ashrae.org ›

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PDF

The **ASHRAE Position** Document on Airborne Infectious Diseases was ... To **prevent** this type of short-range exposure, whether droplet or airborne, maintaining a 2 m ... indicating that rhinovirus, influenza, adenovirus, and possibly **coronavirus**.

ASHRAE Issues Statements on Relationship Between COVID

[...www.ashrae.org](#) › [about](#) › [news](#) › [ashrae-issues-stateme...](#)

Apr 20, 2020 - **ASHRAE COVID-19** Resources (ashrae.org/covid19) ... The **ASHRAE** Environmental Health Committee's **Position** Document Committee also ...

ASHRAE Offers COVID-19 Building Readiness/Reopening

...[www.ashrae.org](#) › [about](#) › [news](#) › [ashrae-offers-covid-1...](#)

May 7, 2020 - The task force also recommends guidance released in the newly updated **ASHRAE Position Document** "Infectious Aerosols" as well as the ...

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ASHRAE Resources Available to Address COVID-19

Concerns[www.ashrae.org](#) › [about](#) › [news](#) › [ashrae-resources-avai...](#)

Feb 27, 2020 - The Society's **position** is that facilities of all types should follow, as a minimum, the latest practical standards and guidelines. The following ...

HVAC System Considerations in the COVID-19 Era - Part 1 ...[vertexeng.com](#)

› [Articles](#)

Apr 30, 2020 - Discussing the CDC and **ASHRAE** Recommendations for HVAC ... before implementation to **avoid** any potential issues down the road. ... [6] However, the PD does discuss **ASHRAE's position** for non-healthcare buildings ...

ASHRAE: air conditioning can help control coronavirus spread

...[www.coolingpost.com](#) › [News Headlines](#)

Apr 20, 2020 - **ASHRAE**: air conditioning can help control **coronavirus** spread ... The **ASHRAE** environmental health committee's **position** document committee ...

Is there HVAC guidance that building and maintenance ... -

EPAwww.epa.gov › coronavirus › there-hvac-guidance-buil...

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (**ASHRAE**) has developed proactive guidance to help address **coronavirus** ...

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Coronavirus: ASHRAE Offers HVAC Guidance - Facility

...www.facilitiesnet.com › emergencypreparedness › tip

Mar 3, 2020 - Key aspects in this quick read: **Coronavirus**, **COVID-19**, emergency ... effort to **prevent** the disease from affecting occupants and operations. ... Also available on the webpage is **ASHRAE's** recently approved **position** document ...