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Lin,

First, thanks again for the opportunity to present to all our fellow municipal colleagues throughout Massachusetts on August 13th. I'm attaching the notes page relative to our follow up discussion last week as a framework to the MIIA Webinar that you are welcome to share with your members. If you have any question relative to the content or would like to have any follow please let me know. These are crazy times and MFAA is working as hard as we can to provide timely and relevant information to all that we can here in the Commonwealth.

Here is the link to MFAA's YouTube page where your members and non-members can access the webinar:

<https://www.youtube.com/watch?v=-sdXLLuVBAQ&t=511s>

It takes a village and thankful that you are in ours.

Sincerely,

Kenneth Wertz, MFAA Executive Director

1) Thermoplastic (plexiglass)

- a) The use of thermoplastics as part of building interior finishes falls under both the MA building and MA Fire Codes.
- b) Your building inspector and Fire Department are an important part of your COVID response team. Work with them on locations of physical barriers and guards to make sure your plans conform with Codes and have approval from your local officials.

2) Cleaning - Process

- a) Every custodial department should have already had written procedures for their custodial teams that outline their cleaning practices and procedures broken out by individual tasks and frequency.
- b) Work loading is an industry term used to establish realistic expectations for hours of cleaning labor required, per task, to maintain your building. Standards should be in line with both ISSA (International Sanitary Supply Assoc.) and APPA (Assoc. of Physical Plant Administrators) guidelines.
- c) Something will likely have to give on your day to day schedule if you are planning on overtime. Without knowing what you do everyday makes it hard to decide what needs to be reduced and then communicate that with the school community. Example: Pre-COVID (spot mop classrooms daily) Post-COVID (spot mop classrooms weekly to gain time for additional high touchpoint disinfecting)
- d) K to 8 desks aren't our problem. Same student same desk

3) Cleaning – Product

- a) Cleaner do not disinfect and disinfectants do not clean. Each product and process need to be used in accordance with manufacturer recommendations.
- b) Dwell time – disinfectants all have a dwell time on the surface in order to kill. Typical range is between 3 to 10 minutes depending on the product. Read the label and follow. You can't spray and immediately wipe dry as surface needs to remain damp in order to effectively work.
- c) Bleach, while on list as a viable disinfectant, comes with dangers of using and should be avoided and replaced with a safer product for both the custodians and building occupants. If you are using bleach keep in mind it has a shelf life of 24 hours once the cap is opened. You need to use and dump daily in order to achieve kill claim.
- d) All disinfectants need to be listed on EPA's list N
 - i) DfE labeling from the EPA is preferred as safer.
 - ii) Be mindful of PPE needed when using product
 - iii) If using in Electrostatic Sprayers/Misters/Foggers verify product registered for that use
 - iv) If classroom desks are being used for lunch look for rinse free
 - v) Safest one I've found so far is BETCO GE Fight-bac on OSD contract through Likarr

4) Cleaning – Equipment

- a) Equipment is back ordered and hard to come by; put in your PO's now to get on a list
- b) Don't believe your salesperson! Not all cleaning products can be used in every type of equipment. You need to do your homework and verify if your disinfectant can be used in a device.
- c) Spray Bottle and microfiber towels are still the safest, but most laborious way to wipe and disinfect. Teach custodian how to avoid cross contamination from using the same towel on multiple surfaces.
- d) Foggers/Misters use ULV (ultra-low volume) droplets to disinfect; GreenSeal recommends not using foggers as they are dangerous if not use correctly and don't provide adequate kill; set your fogger to mister setting if possible and use per manf. Recommendations

- e) Electrostatic Sprayers seem to be the go-to device. Devices come either hand held or back pack version. Equipment provides a charge to the droplets of disinfectant coming out that cling to surface and provide a “wrap around” coverage vs. just clinging to the top.
 - f) Weed sprayers, “Wagner Power Painters” Just no... NO! We are overapplying product which is damaging interior finishes and furniture while also over exposing workers and building occupants. Use the correct amounts with correct dilution to avoid safety, hazard and costly overspend.
 - g) PPE and Training – all equipment should first be reviewed with proper training and what PPE is needed to use the device. Example: Electrostatic sprayers may need mask, goggles, gloves and when applying you start at the back of the class and back your way out so you aren’t walking through the mist. Equipment should be used when space is unoccupied. Protect yourselves and your teams!
- 5) **High Touch points – Process Continued**
- a) Staffing / Schedules / Plans need to be written procedures based on data and standards.
 - i) ISSA and APPA are the typical standards that most schools follow
 - ii) TURI – Toxic Use Reduction Institute (UMass Lowell) have created a great resource page for free downloads of policies, schedules, illustrations, and guidance for cleaning and disinfecting safer. [https://www.turi.org/Our Work/Cleaning Laboratory/COVID-19 Safely Clean Disinfect/Safer Cleaning and Disinfection for Schools](https://www.turi.org/Our_Work/Cleaning_Laboratory/COVID-19_Safely_Clean_Disinfect/Safer_Cleaning_and_Disinfection_for_Schools)
- 6) **Inventory and Storage – Hand Sanitizer & PPE**
- a) Storage under normal conditions is difficult. Now you are storing pallets of alcohol-based hand sanitizer which is highly flammable. Make sure you work with local fire officials to come up with a safe plan that works for your school. No pallets in the boiler room stored by the snowblowers!
 - b) Substitutions of products are very common now. You order your usual disinfectant and they send you option B. The sales person isn’t familiar with this but tells you it is “Basically” the same... You need new Safety Data Sheets (SDS), training for the new product, and verify where you can use it and if it doesn’t work with other products that you are currently using.
 - c) Products from Home are always difficult to control. It is going to be on steroids when we open our doors again. Most products coming in from teachers, parents and students likely require PPE (gloves at a minimum if you read the label) and you do not have the proper SDS sheets nor can you confirm that they won’t create a chemical reaction with your products. Communicate with your communities your plans for providing safer products. 1 spray bottle per classroom depending on what is age appropriate with roll towels if teachers or students wish to clean.
- 7) **Training Requirements**
- a) Right to Know (RTK) Annual requirement – 454 CMR Section 21 Chapter 111F
 - b) MA Department of Labor Standards (DLS) covers OSHA for MA Public Employees
 - i) Bloodborne Pathogen – OSHA MGL c149 §6-1/2
 - ii) Asbestos Refresher – 453 CMR 6.00 (OSHA MGL c149§6 through 6F)
 - iii) OSHA – jobsite safety documented ongoing training
- 8) **Substitute Custodians**
- a) Discuss with Administration and HR on policies and requirements (CORI, SORI, Fingerprinting)
 - b) **Inhouse Subs:**
 - i) Build a bench of pre-screened approved candidates that you can call on
 - ii) Training requirements still apply for safety and setting clear expectation of their work
 - c) **Contracted Services**
 - i) FAC 81: Contracted Cleaning Services
 - ii) TRD 04: Cleaning Restoration
 - iii) Training requirements still apply for safety and setting clear expectation of their work

9) Heating Ventilation Air Conditioning (HVAC)

- a) ASHRAE (American Society of Heating, Refrigeration and Air Conditions Engineers)
<https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities>
- b) Each building is unique and has to have an HVAC plan specifically created for that building's systems and capacity/limitations. This is not a one size fits all.
- c) Building Automation Systems - Controls (BAS, BMS, DDC) – older schools pneumatic air controls
 - i) Do you have inhouse skill professional that know how to run and manage your systems? If not contract this work out and provide virtual access to your service provider
 - ii) Adjust systems to bring in maximum fresh air; this may require both control adjustments and physical adjustments at the heating/cooling unit itself. Keep in mind to be cautious of freeze up issues associated with demanding more than a system is designed to handle.
- d) CO2 Sensors – verifies fresh air mix
 - i) Outdoor reading of CO2 is typically around 350 to 400 ppm; some days they can be even higher
 - ii) Normal target for indoor classrooms is between 800 – 1000 ppm
 - iii) CO2 Sensors on HVAC controls tell the return dampers to adjust based on demand from the space; these need to be adjusted to a lower setting (400ppm target) in order to have the controls change the damper setting to reduce/eliminate mixing return air while still providing data points to track for verification purposes
 - iv) Older system may not have CO2 capacity in their controls and baseline portable units can be used for tracking data

10) Filters

- a) MERV 13 is filtration rating for the filter media that is “recommended” by ASHRAE and others as another tool in fighting the spread of COVID.
- b) This is not required as older system can not accommodate this type of filter as the air flow would be too restrictive and you will likely burn out your system motors with the additional draw.
- c) Current filter orders are anywhere from 5 to 10 weeks out as the filter media companies also supply the raw material to facemask manufacturers.
- d) With increase air flow filter changes per year will have to increase. Most schools pre-pandemic follow guidance of 2 to 3 times per year based on their system requirements and building physical location requirements.
- e) Filter changes require increase care during COVID; mask, gloves, goggle, possibly disposable apron for PPE and dirty filter should immediately be put into an individual plastic bag and tied closed; vacuuming the unit should only be performed with a HEPA rated vacuum.

11) Windows

- a) Newer building built within the last 5 years likely have controls and systems to meet all the guidelines established through ASHRAE without having to open windows.
- b) ASHRAE mentions that older buildings you may have to run your heat in the winter with windows open and possible portable space heaters. This is a viable option in your COVID strategy. Certainly not best case but these are things that need to be considered.

12) Roof Top Units (RTU) & Classroom Uni-vent heaters

- a) All units are designed to have dampers that adjust fresh air with re-circulated air into a space to achieve indoor air quality, thermal comfort, freeze protection, while balancing energy conservation. System adjustments can be made to maximize fresh air and reduce mixed air but few can provide 100% fresh air makeup. Typically, you find 100% fresh air makeup in controlled environments such as Hospital Operating rooms or scientific lab clean rooms... and sometimes school locker rooms... go figure.

13) Window AC units and wall mounted split units

- a) Window AC units often have a very small fresh air mix damper but primarily use recirculated air in order to achieve desired temperature
- b) Wall mounted split units, unless designed otherwise, typically utilize recirculated air and
- c) Neither can accommodate a higher filter rating

14) Air Cleaners

- a) HEPA Filter Air Cleaners are small portable devices that draw interior air through a HEPA filter bank of filters to remove any possible contaminants. HEPA can't capture the COVID particle standing alone but data has shown that when combined with dust or moisture, which is how the virus normally travels, HEPA can capture those particles.
 - i) Primarily should be used for special locations (nurses office, quarantine room, smaller spaces without adequate air flow
 - ii) They are not designed to handle larger spaces such as classrooms and many experts advise staying away from them as they won't really make that much of a difference when looking at finances, maintenance needs, noise issues in classroom, and providing a false sense of security.
 - iii) **OZONE Emitting devices – stay as far away as you can, dangerous to occupants**

15) New Technologies (actually old but not utilized in schools prior)

- a) UVC lighting
 - i) Permanent installation in ductwork to treat the entire building with options for retro-fit of unvented heaters
 - ii) Portable emergency response lights used to decontaminate a room that had a person that tested positive
 - iii) Ceiling interior up lighting used in concert with HVAC design to treat air at upper level of occupied space
 - iv) All options come with some potential hazards regarding possible eye and skin damage if a person is exposed. Each system needs to be reviewed to make sure all safeties are in place.
 - v) Small handheld devices from Amazon, according to TURI Labs, aren't worth the money as they can't deliver an adequate kill.
- b) Bipolar Ionization
 - i) Alternate to UVC permanent install in ductwork
 - ii) Creates an electrostatic charge in fresh air supply which then seeks out oppositely charged particles in the space to latch on/encapsulate and have them drop to the ground level where they can easily be cleaned and pose no risk to occupants.

This has been a ton of information that was delivered during a 1-hour webinar based on the most current needs for information provided from MIIA and MFAA members. This list is always changing as the guidance for COVID changes daily. We will work to keep facilities professionals and administrators up to date as new information becomes available. I hope this information helps with your planning and hopefully reduces some of the anxiety that we are all experiencing during these uncertain times.

Be well,

Ken Wertz, MFAA Executive Director

MFAA Covid Resource page: <https://massfacilities.com/covid-resources/>