

Heating, Ventilation, and Air Conditioning Systems (HVAC)

Coronavirus FAQs

7/15/2020

Rosslyn

FAQs

1. What is Facilities Management doing to prepare building HVAC/mechanical systems for reopening?

Monday Properties has worked with our portfolio Mechanical Engineering Firm, WB Engineers and Consultants, to ensure HVAC operations at our buildings exceed current ASHRAE recommendations in response to COVID-19. We will continue to closely monitor COVID-19 guidelines related to operation of HVAC systems.

To date the engineering team has implemented the following:

- Performed necessary preventive maintenance and confirmed optimal communication with the building automation system (BAS).
- Increased outside air levels beyond what is typically recommended by ASHRAE and building codes in order to promote the dilution of indoor contaminants.
- Programmed flushing sequence before and after operating hours via BAS.
- Increased inspections and replacement of filters.
- Installed the highest MERV rating on filters allowable per specifications of the HVAC equipment.

2. How do I know if my building HVAC/mechanical system provides enough ventilation and fresh air?

All buildings are designed to meet or exceed building mechanical code and ASHRAE recommendations. In addition, Monday Properties has rigorous prescription requirements for building HVAC/mechanical systems design, construction, commissioning, and turnover for maintenance to meet or exceed these requirements.

By design, all mechanical systems are required to provide enough ventilation for **maximum occupancy** of spaces. With reduced tenant numbers the building mechanical systems will have **excess capacity**.

3. How do I know if enough ventilation is being provided in my building, which has had its mechanical system “set back” to save energy?

All building mechanical systems are turned on a minimum of two hours before occupancy and left running for up to two hours after buildings are closed even when buildings mechanical systems have been programmed to “set back” during unoccupied hours.

4. Does Monday Properties ever exceed mechanical code or ASHRAE standards?

Monday Properties has several requirements, many associated with LEED Certification, that exceed code and standards. They has installed air handling unit filters that meet a minimum of MERV 13,

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which is 75% effective in removing particles as small as 0.3 microns such as those contained in a sneeze. Typically, filters need only meet a minimum of MERV 8, which is effective against much larger particles (3 to 10 microns).

5. Should only one person at a time be allowed in a restroom even if the restroom has three stalls?

There is no prescriptive CDC guidance or recommendation for limiting restroom occupancy to protect against the transmission of the coronavirus. The *Virginia Mechanical Code* prescribes exhaust rates per fixture, and by design, bathroom exhaust fans tend to have a higher number of air changes per hour to remove humidity and odors. The *Virginia Mechanical Code* also prescribes the number of bathroom fixtures that must be available for use at all times to be code compliant. Many bathroom doors are rated and any modification to the door may void its rating. Finally, stalls by default, provide physical separation.

Conclusion. Limiting the number of users in a restroom to the number of stalls may be good practice for those buildings with reduced occupancy levels, but would need to be approved, on an interim basis, by the UVA Building Official.

6. I have been reading a lot about air purifiers. Do I need an air purifier in my workspace?

No, these are not needed as air purifiers alone do not provide protection from COVID-19.

What about ionization and ozone purifiers?

Ionization and ozone purifiers are also not recommended. Rigorous peer-reviewed scientific studies do not demonstrate their effectiveness, and many produce ozone which is an indoor pollutant with adverse health effects. In addition, ozone generators do not remove viruses and other pollutants at concentrations that are considered safe.

7. Does my building need an ultraviolet (UV-C) light disinfection system?

Monday Properties is in the process of determining the viability of Ultraviolet (UV) light technologies, active purification systems and other enhanced measures for building lobbies and amenity spaces such as fitness centers and conference facilities.

8. While this is not an HVAC question, I would like to know if the water in my building is safe to drink after it has been unoccupied?

Monday Properties proactively manages building water systems and follows CDC guidance and ASHRAE Standard 188 for testing and flushing building water systems. All filters in SFG have been replaced within the last 30 days. In addition, the COVID-19 virus has not been detected in drinking water.

9. Who do I contact if I have additional questions?

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Please contact Alexandra Lungi at LungiA@darden.virginia.edu.

Resources and References

1. CDC Background

The Center for Disease Control (CDC) *Considerations for Institutes of Higher Education* lists the following information concerning the transmission of COVID-19:

- The virus is thought to spread mainly from **person-to-person**. Transmission occurs between people who are in close contact with one another (within about 6 feet) through respiratory droplets that are produced when an infected person coughs, sneezes, or talks. The infected person may not be showing symptoms.
- It **may** be possible for a person to get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes. However, this is not thought to be the main way the virus spreads as the CDC is still learning more about how it spreads.

2. Relevant Links

www.cdc.gov/coronavirus/2019-ncov/about/transmission.html

<https://sustainability.virginia.edu/sites/sustainability/files/2019-10/UVA-Green-Building-Standards-October-2019.pdf>

<https://up.codes/viewer/virginia/imc-2015/chapter/4/ventilation#4>

<https://www.epa.gov/coronavirus/will-air-cleaner-or-air-purifier-help-protect-me-and-my-family-covid-19-my-home>

<https://www.epa.gov/coronavirus/will-ozone-generator-protect-me-and-my-family-covid-19>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2099326/>

<https://www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html>

<https://www.epa.gov/coronavirus/drinking-tap-water-safe>

<https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html>

<https://www.cdc.gov/coronavirus/2019-ncov/community/office-buildings.html>

<https://www.ashrae.org/about/news/2020/ashrae-offers-covid-19-building-readiness-reopening-guidance>

https://www.ashrae.org/file%20library/technical%20resources/ashrae%20journal/2020journaldocuments/72-74_ieg_schoen.pdf