

**CBRE**

# IAQ TECH TALK

**Keep Tenants Happy by Ensuring Indoor Air Quality**

MARCH 18, 2020

PREPARED FOR



# AGENDA

- Introduction
- Responding to Complaints
  - a) What does Indoor Air Quality mean and why is it important?
  - b) Simple investigative techniques that you can use today.
  - c) Addressing indoor air quality complaints
  - d) Air sampling 101.
  - e) Mold sampling 101
- Basic considerations for operating a commercial building during the COVID-19 pandemic
  - a) Entrance and exit traffic patterns
  - b) Reorganizing the office
  - c) What to do about common areas

## AGENDA (CONTINUED)

- Considerations for ventilation systems during the COVID-19 pandemic
  - a) Increase outdoor air intake
  - b) Increase filtration?
  - c) Ultraviolet irradiation?
- Questions?

## BY THE END OF THIS SESSION, YOU WILL BE ABLE TO.....

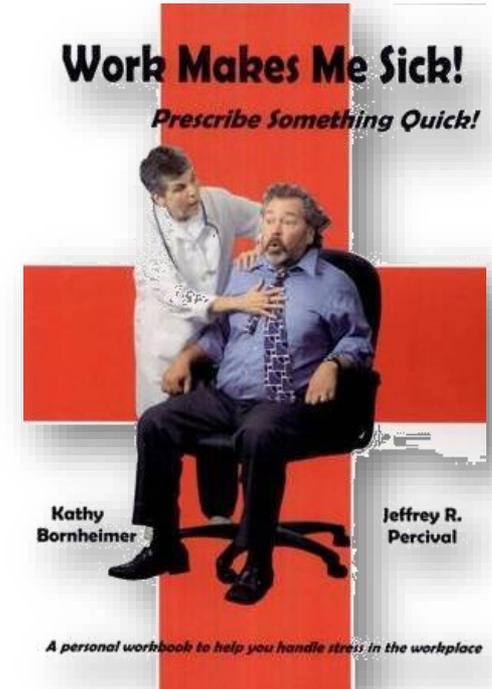
- Understand the best way to address a complaint of poor indoor air quality
- Perform a cursory indoor air quality investigation on your own
- Understand that air sampling/testing is almost never the answer
- Understand the myths about mold
- Understand basic building operational considerations surrounding COVID-19
- Understand ventilation considerations surrounding COVID-19

# WHAT IS INDOOR AIR QUALITY?

Indoor air quality (also called "indoor environmental quality") describes how inside air can affect a person's health, comfort, and ability to work. It can include:

- Temperature
- Humidity
- Lack of outside air (poor ventilation)
- Mold from water damage
- Exposure to other chemicals.

Currently, OSHA has no indoor air quality (IAQ) standards but it does provide guidelines about the most common IAQ workplace complaints.



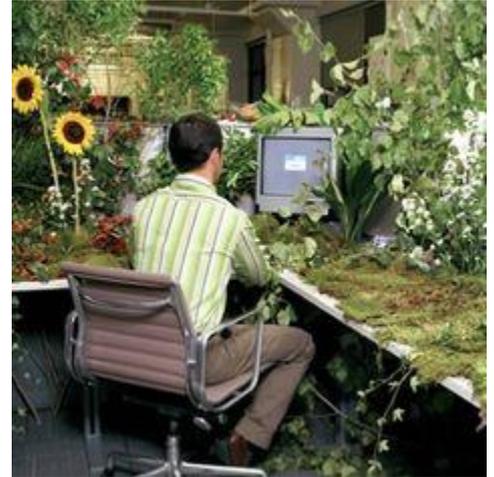
## “TYPICAL” INDOOR AIR QUALITY COMPLAINTS

- Can you come out and check the air in our office to see if it is OK (a perfectly reasonable question)? Typically some sort of general complaint of sneezing, malaise, headaches believed to be related to the office environment.
- We need our air tested for “black mold”.
- There is an intermittent odor in the office.
- Everybody in the office has a cold, so we need you test the air.

**Unfortunately, there is no such thing as an indoor air quality test/meter that says the “air is safe to breathe.”**

# HOW TO ADDRESS AN INDOOR AIR QUALITY COMPLAINT

- Speak to the complainants to find out what their concerns are.
- The primary tools are your eyes, nose, and brain.
- Evaluate the space when occupied (not after hours so nobody can see you). The occupants are part of the equation.
- Walk through the HVAC system with the building's mechanical person to understand how it works.
- Look at the occupied space. Overcrowded? Cluttered? Poorly-maintained? Do the thermostats work? Are any of the supply ducts blocked?
- Are atypical odors present



## HOW TO ADDRESS AN INDOOR AIR QUALITY COMPLAINT (CONTINUED)

- You are not a doctor. If concerns are of a medical nature, engage your medical staff (if available) or health department information.
- Sampling of any kind will not likely help tell us identify the source of a contaminant.
- Sampling for mold is typically not recommended, but if done, must be done by a professional with experience in sampling, and using a recognized protocol. All samples must be collected in duplicate or triplicate. An accredited laboratory **MUST** be used.
- Resources
  - [Michigan Department of Community Health "All about Mold"](#)
  - [EPA Indoor Air for Commercial Buildings](#)

## HOW TO ADDRESS AN INDOOR AIR QUALITY COMPLAINT (CONTINUED)

- How is the air movement in the “breathing zone”?
- No air movement means I may be “rebreathing” the same air throughout the day, if I don’t move around much.
- Too much air movement creates a draft. Especially uncomfortable in the winter, when air is driest.
- If you cannot use smoke, a tissue paper streamer taped to the end of a broom handle will work as well.
- Look out for vinyl wall covering
- Measure temperature, relative humidity and carbon dioxide (CO<sub>2</sub>) if you can



# SHOULD WE HAVE THE DUCTS CLEANED?

- Duct cleaning MAY be warranted after significant remodeling/new construction.
- Duct cleaning should be approached with caution. There is no harm in it, but it is an expensive service.
- The notion of “that’s what the customer wants” should be approached with the same rationale as the customer wanting all new carpeting. If warranted, it should be considered.
- Metrics “proving” effectiveness do not exist
- Do not allow a duct cleaning firm to spray chemicals into the ducts

# MYTHS ABOUT MOLD

- Black Mold is the worst kind, right?
- There shouldn't be any mold in the air in our building, so if we find it, that's bad, right?
- We want to know if we are "over the limit."
- If we test for mold, won't that tell us where it's coming from?
- We only want to collect one air sample, and that should give us the information we need.

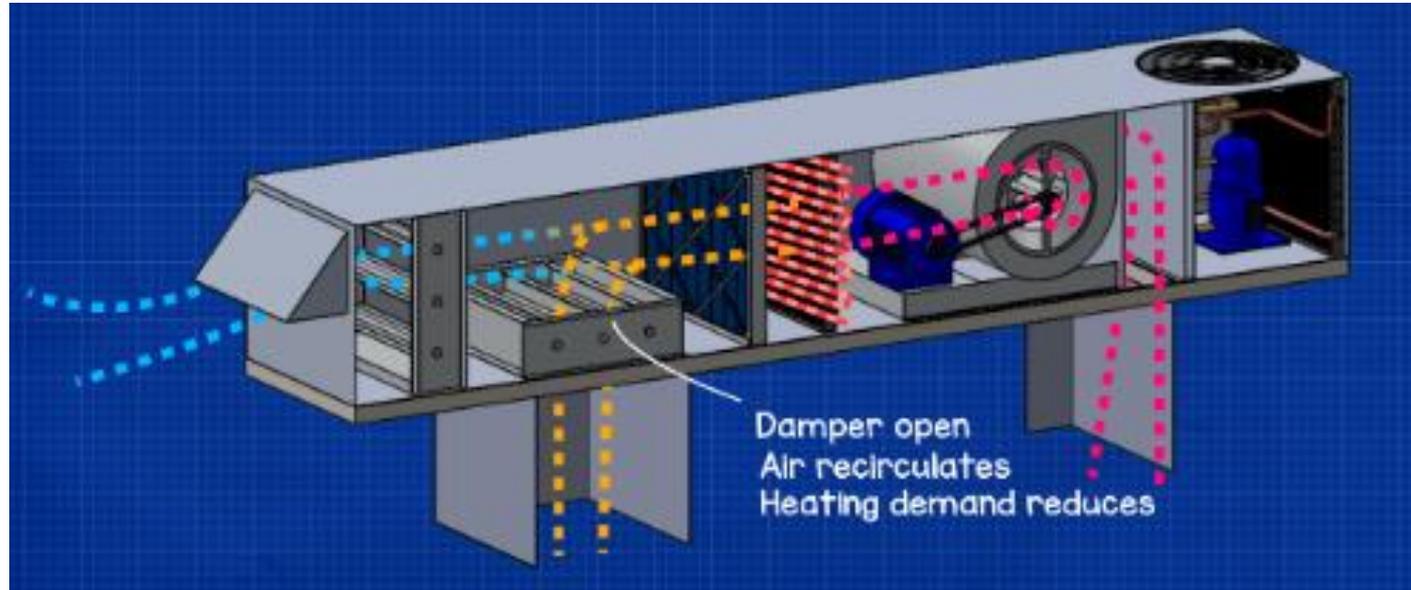


# WHAT'S THE BIG DEAL ABOUT NOT SAMPLING FOR MOLD

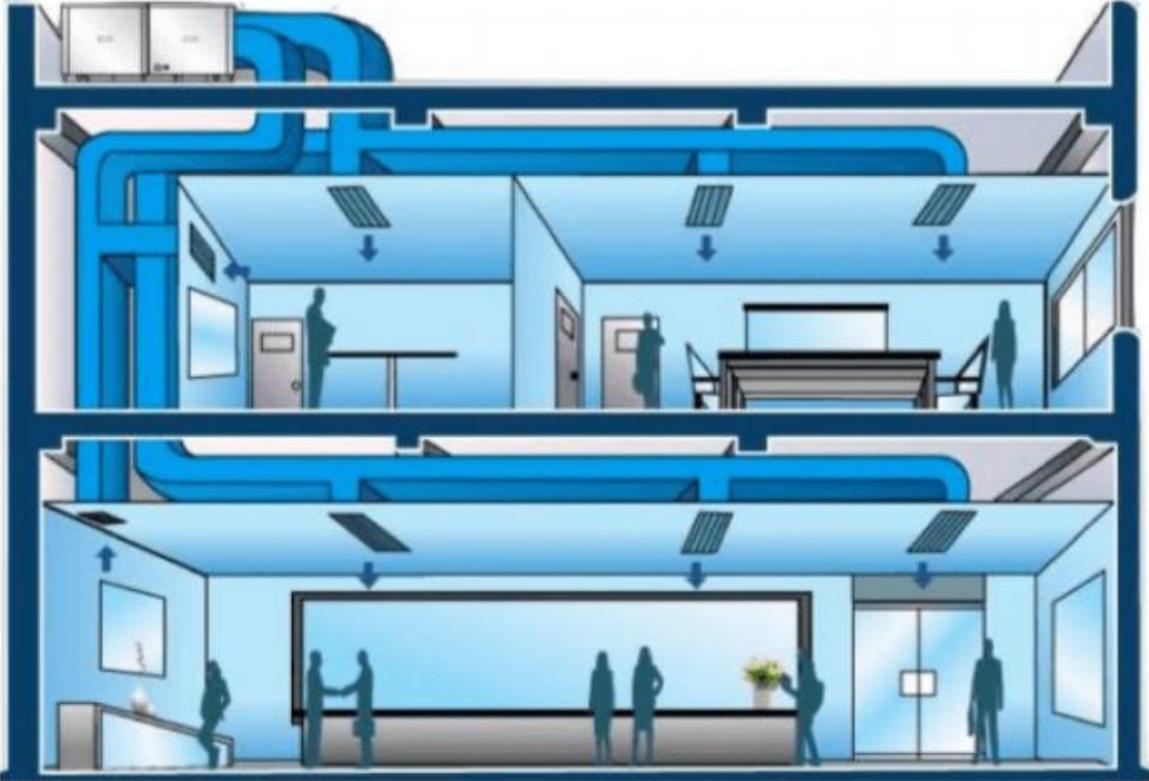
- It simply does not tell us much, because *mold is everywhere.*
- If you have a mold problem, then you have a moisture problem, and your resources should go toward fixing the moisture problem.
- We **WILL** find mold in the air if we do sampling, and this is often a source of confusion.
- There are no regulatory standards.
- IF we sample for mold, replicate or triplicate samples are recommended at multiple locations, including outdoors.



## VENTILATION SYSTEM WALKTHROUGH: FOLLOW THE AIR



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# GENERAL OPERATIONAL CONSIDERATIONS FOR COVID-19

- [CDC COVID-19 Information for Office Buildings](#)
- Limit accessible entrances
- Temperature screening where possible (may not be practical for “public” buildings such as retail stores)
- Consider some sort of screening tool for occupants and visitors (smart phone app)
- Require masks
- One-way pedestrian travel where possible
- Reconfigure office furniture from “collaborative” open workspace to physically-distant assigned desks



# ADDITIONAL OPERATIONAL CONSIDERATIONS FOR COVID-19

- Limit in-person meetings/formally close conference rooms and auditoriums
- Close or reconfigure cafeterias
- Contact tracing
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- Heating and cooling operation for partially or totally unoccupied buildings
- Flushing water systems in partially or totally unoccupied buildings

# CONSIDERATIONS FOR VENTILATION SYSTEMS

- CDC Guidance on Ventilation
  - Follows ASHRAE guidance, which includes:
    - increased outdoor ventilation up to 100% if possible (huge impact to operating cost during temperature extremes)
    - upgrade filtration to minimum efficiency reporting value (MERV) 13 or better
    - Run ventilation systems as long as possible
    - Consider portable air cleaners with HEPA filters
    - Consider germicidal ultraviolet (GUV) irradiation either in ductwork or in the room



# QUESTIONS??