

PSC BUILDINGS CHECKLIST

Directions:

1. This questionnaire is intended to help PSC Health and Safety Watchdogs and their friends perform observational walkthroughs of a location—be it a building or floor of a building.
2. Before starting, identify a knowledgeable and willing person from Facilities/Buildings & Grounds who is able to answer questions about the water and ventilation systems. Ideally, they will accompany you on the walkthrough.
3. Complete the following checklist for each building/area that you review for physical conditions. Note the location, date, and reviewer in the header at the top of the page.
4. Some of the questions rely on your personal observation while others can only be answered by consulting a knowledgeable person.
5. For each question, circle the appropriate response: “**Yes**” or “**No**”. In you are unable to answer the question, circle “**unable**”. If the question is not relevant (e.g. an HVAC question in a building with passive ventilation), simply circle “**N/A**” for not applicable.
6. Email the completed checklist to Watchdogs at hswatchdogs@pscmail.org. If you complete a hardcopy, please scan the completed checklist and then email as an attachment.

MOLD	
Response:	
Yes No Unable N/A	1. When you enter a room or area, is it free of the odor of mold? If the room smells moldy, record the room# and whether the odor is mild, moderate or strong in the NOTES section below
Yes No Unable N/A	2. Are rooms and areas free of water damage or stains? Look at the walls, floor, and especially important, the ceiling. If you notice water damage, record the room number and the location of the damage/stains in the NOTES section below.
Yes No Unable N/A	3. Are the rooms free of wetness and dampness that might be produced by a water leak. Check the walls and the ceiling. If you notice wetness or dampness, record the room# and a short description of the leak in the NOTES section below.
Yes No Unable N/A	4. Are rooms free of visible mold? If you notice mold, record the room # and estimate the area covered by the mold using a sheet of paper as a reference e.g. half a sheet; six sheets. IMPORTANT: please take two photos of the mold—one close-up and one from about 10 feet away that shows the surrounding area.

WATER SYSTEMS	
Yes No Unable N/A	5. Are bathroom sinks and toilets in working order?
Yes No Unable N/A	6. Has the water system been flushed through all points of use (all sinks, faucets, showers)?
Yes No Unable N/A	7. Was the system flushed until the hot water reached its maximum temperature? (At least 120 F but not higher to avoid scalding)
Yes No Unable N/A	8. Have other water-using devices such as ice machines been cleaned?
Yes No Unable N/A	9. Have decorative features (e.g. fountains) been cleaned to remove dirt and biofilms?
Yes No Unable N/A	10. Have cooling towers been maintained according to manufacturer’s guidelines and best practices?
Yes No Unable N/A	11. Was the cooling tower and basin free of visible slime, debris, and biofilm before use?
Yes No Unable N/A	12. Has the cooling tower been disinfected using best practices (e.g. disinfection procedures from the Cooling Technology Institute https://www.cti.org/downloads/WTP-148pdf)
Yes No Unable N/A	13. Have fire sprinkler systems, eye wash stations, and safety showers been flushed, cleaned, and disinfected?
Yes No Unable N/A	14. Within the past 90 days, has there been a registry account update for the campus’s cooling tower? What is the date of the update? (NY State requires updates every 90 days)
Yes No Unable N/A	15. Has the cooling tower had a summertime disinfection as required by New York City?

VENTILATION

The following (16-22) apply to all ventilation systems

Yes No Unable N/A	16. Has congregating been reduced through teleconferencing and distance learning OR by holding socially distanced classes outside in open, well ventilated spaces? If not, what areas continue to remain crowded?
Yes No Unable N/A	17. Have bathrooms been COVID-19 proofed? Are physical barriers used between showers, toilets, and sinks where separation is not feasible. Do the toilets have lids? Are touchless paper towel dispensers available? Have air dryers been disconnected?
Yes No Unable N/A	18. For bathrooms with windows, ask whether they can be opened? Note that doing so is not always recommended since opening bathroom windows may cause movement of bathroom air into other areas. Observe whether other open windows are nearby and if so, the bathroom windows should not be opened.
Yes No Unable N/A	19. Have select doors been bypassed to decrease touching of push bars and handles, consistent with security and fire safety requirements (e.g., automatic doors or separate entrance and exit)?
Yes No Unable N/A	20. Is the relative humidity in interior areas is generally between 40-60%? (for mold prevention, humidity should be < 50%). How is the humidity measured? Record the response in the NOTES.
Yes No Unable N/A	21. Is the inside temperature is generally between 68-78 F? How is the temperature measured? Record the response in the NOTES.
Yes No Unable N/A	22. If pedestal, desk, or hard mounted fans are used, are they blowing air away from people (rather than moving air from one person to another)? If no, make a NOTE of where the fan is located. Fans can inadvertently expose people within the path of the airflow.

Does the building have mechanical ventilation (HVAC)?

If building does not have an HVAC system, skip questions 23-38.

Yes No Unable N/A	23. Was the system reviewed by HVAC professionals before resuming operation? This should be done to ensure the system’s ability to operate with additional requirements to measure building airflow/pressurization measured, and decontaminate the system.
Yes No Unable N/A	24. Who were the HVAC professionals that reviewed the HVAC system? Add the response to the NOTE section below

Yes No Unable N/A	25. Prior to reopening, were the HVAC filters inspected and replaced?
Yes No Unable N/A	26. Ask how long the re-entry mechanical systems were operated in occupied prior to students returning (may be completed at same time as faculty and staff tart returning to building) while assuring the outside air dampers are open? ASHRAE recommends one week.
Yes No Unable N/A	27. How often is the functioning of the HVAC system checked? The CDC recommends weekly checks that can be reduced to monthly or quarterly once the system has stabilized and depending on the type of system.
Yes No Unable N/A	28. Is there a routine operation and maintenance program in place for the HVAC system that includes inspection, maintenance, calibration of controls, and testing and balancing?
Yes No Unable N/A	29. Does the HVAC system continue operation after the building has emptied? What are the hours of HVAC operation? Ideally, the HVAC should be running 24/7 and <u>at a minimum continue running after the building is emptied to clear out the day's air.</u>
Yes No Unable N/A	30. Ask whether the demand-controlled ventilation has been disabled? This prevents the HVAC from shutting off.
Yes No Unable N/A	31. Is the HVAC system being run for maximum space occupancy? This will maximize the fresh air supply.
Yes No Unable N/A	32. Have the air dampers have been opened? Opening the dampers will help bring in outside air.
Yes No Unable N/A	33. Is the system relying completely on outside air and not recirculated air? Ideally, the HVAC should be using 100% outside air but this is not possible in many systems. Record the % outside air in the NOTES section below
Yes No Unable N/A	34. If additional outside air cannot be brought in, ask whether the filtration can be improved?
Yes No Unable N/A	35. Does the HVAC system use MERV-13 or better filters? If not, what type of filters are used (record the number)? Note: that using a higher number filter than the HVAC system is rated for can result in poor performance and actually impede air flow.
Yes No Unable	36. Ask/observe whether exhaust fans in bathrooms are operating?

N/A	
Yes No Unable N/A	37. Has airflow been measured in all spaces that are intended to be occupied?
Yes No Unable N/A	38. Has there been an interior survey to identify spaces with poor ventilation so they are not in use?
Does the building rely on passive ventilation (no HVAC)? Complete questions 39-43 only if the building lacks an HVAC system	
Yes No Unable N/A	39. Do rooms that are being used have windows, doors, or skylights that can be opened?
Yes No Unable N/A	40. Is it possible to open the windows, doors, or skylights? Note that openings alone may not increase ventilation. When possible, use two fans --one to blow outside air into the room and the other to move the indoor air to the outside.
Yes No Unable N/A	41. Has airflow been measured in spaces that are intended to be occupied?
Yes No Unable N/A	42. Has there been an interior survey to identify spaces with poor ventilation so they are not in use?
Yes No Unable N/A	43. Ask/observe whether there is a risk of bringing in outside contaminants when opening the windows, doors etc?
If portable air cleaners with HEPA filters are being used because adequate air circulation cannot be achieved through HVAC or passive ventilation:	
Yes No Unable N/A	44. Do occupied areas lacking HVAC or natural ventilation have portable air cleaners with HEPA filters in operation?
Yes No Unable N/A	45. Ask whether the portable air cleaner is the correct size for the room where it is used? The air cleaner should deliver 100 cfm of clean air for every 250 square feet of space. The air cleaner should also be capable of mixing the air in the room.

Campus _____ Date _____ Reviewer _____

Building _____ Area (floor/rooms) _____

NOTES:

For each notation, record the question # and the relevant location (room #). Use additional sheets if necessary.

References

CUNY Compliance Guidelines

- CUNY Guidelines for Safe Campus Reopening <https://www.cuny.edu/coronavirus/reopening-guidelines/guideline-safe-campus-reopening/>
- DOH-M Mandatory Requirements as specified by Reopening New York Higher Education Guidelines https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/Higher_Education_Summary_Guidelines.pdf
- DOH-BP Recommended Best Practices as specified by Reopening New York Higher Education Guidelines https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/Higher_Education_Summary_Guidelines.pdf

Mold

- NIOSH Dampness and Mold Assessment Tool School Buildings. <https://www.cdc.gov/niosh/docs/2019-114/pdfs/2019-114.pdf?id=10.26616/NIOSH PUB2019114>

Water systems

- ASHRAE Reopening of Schools and Universities <https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities>
- Harvard T.H. Chan School of Public Health (June 2020) Risk reduction strategies for re-opening schools
- Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html
- New York City. Cooling Tower Registration and Maintenance. <https://www1.ny.gov/assets/doh/downloads/pdf/cd/summertime-dinsinfectant-faq>
- New York State Department of Health Protection against Legionella. <https://www.health.ny.gov/environmental/water/drinking/legionella/index.htm>

Ventilation

- ASHRAE Reopening of Schools and Universities <https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities>
- Harvard T.H. Chan School of Public Health (June 2020) Risk reduction strategies for re-opening schools
- Centers for Disease Control and Prevention. Considerations for Institutions of Higher Education
- cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html
- Guidance for Reopening Buildings After Prolonged Shutdown or Reduced Operation www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html
- Morawska L et al., (2020) How can airborne transmission of COVID-19 indoors be minimized? Environment International. Preprint. <https://doi.org/10.1016/j.envint.2020.105832>
- NIEHS Protecting Workers from COVID-19 In the Workplace <https://tools.niehs.nih.gov/wetp/index.cfm?id=2591>