Q&A with James Madison University:

Getting Buildings Ready for Back to School

By Tim Earhart, PE, CHC, HFDP

As the coronavirus pandemic continues to evolve, colleges and universities face unprecedented challenges. Many that planned to bring students back to campus for the fall semester have reversed course entirely and opted for online-only instruction. Others have welcomed back students and staff with strict guidelines and social distancing protocols, mask-wearing requirements, and regular testing. Each approach garners a wave of uncertainty out of their control. However, one aspect that can be controlled is taking the time to carefully evaluate building systems to ensure they are functional and ready for occupancy – either now or when students are ready to return.

James Madison University, one of the largest colleges in Virginia, maintains a sprawling campus containing 207 ventilated and air-conditioned structures. The University wanted to be proactive in providing a safe environment for the start of the academic year, and has been inspecting, repairing, and updating HVAC systems in response to COVID-19 since March. As part of their Stop the Spread program, the JMU Facilities Management team contracted with MBP to examine ventilation, filtration, disinfection, and humidity in 251 air handlers across campus over a five-day period.

Based on these examinations, facilities management implemented MBP's short term recommendations, which consisted mostly of increased ventilation air, BAS control modifications, and increased maintenance, all to provide the optimum amount of fresh and filtered air to spaces in the buildings. Along with regular summer maintenance, issues found during the survey were corrected immediately or added to summer maintenance program. The recommendations and issues were detailed on a checklist developed using MBP's web-based CxAlloy system so the University could track conditions and verify completion of recommendations and issues.

We spoke with Gary Shears, Executive Director of Facilities and Construction at JMU, to discuss their approach.

We have 207 structures that have conditioned space. This consists of rented houses, leased property, storage areas, maintenance, dorms, science labs, classrooms, and athletic facilities. Total square footage 8,507,301. Student body is approximately 22,000.

We wanted to confirm that our maintenance methodology agreed with ASHRAE and CDC guidelines for COVID-19 mitigation. We also wanted independent assessment and recommendations concerning the mechanical state of repair of our systems.

We began using the information provided even during the course of the field assessment. Since then, we have continued to address the recommendations, and record the outcomes using the provided online software.

Certainly, there were collateral benefits ranging from a confirmation that our current practices work, to prioritized recommendations for improvements that were provided in the report.

The overall steps are many and are catalogued on the JMU web site. For our HVAC systems, we are following the report recommendations. Things like increasing outside air intake to the extent possible and making certain our filter change frequency is suitable.

Since the field work was performed during our summer sweeps, many units had not yet seen their annual maintenance. Issues were found and corrected, often during the course of the study's field work. Overall, our equipment is very well maintained, even including older equipment, whose age may be 35+ years.

JMU acted quickly on the recommendations from MBP and completed 40% of the issues within two weeks after completing the survey and targeted completion of the remaining items prior to the scheduled return of students. Maintenance personnel updated the database daily with completed tasks and continued to use CxAlloy tracking issues to completion.

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