

YellowBird

COVID-19 Secondary visit

CONDUCTED AT:

(Xavier University of Louisiana)

09/21-09/22

PREPARED BY:

Marshall Paris M.S., CSP



and

Andrew Rogers Ph.D., CIH

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1. EXECUTIVE SUMMARY

On July 22, 2020 Marshall Paris and Andrew Rogers conducted an initial COVID-19 response inspection for Yellow Bird at the property of Xavier University of Louisiana. The inspection was requested in a proactive manner to ensure the workspace was better prepared to address protocols related to COVID-19 prior to opening the facility to the students.

The assessment encompassed the facility's Heating, Ventilation, and Air Condition (HVAC) system, which serves as the primary engineering control to mitigate the virus from the workplace. The air filters are changed out quarterly but there is a need to know the specific model of filter that is utilized. It was discovered that the HVAC system was in good working order throughout the facility and used primarily MERV 8 filters. There are current models and process diagrams to show changes in real time of conditions that might affect the current efficiency and effectiveness of the HVAC system available to employees. Recommendations are given in Table 1 of the Engineering Controls section of this report for the University.

Also evaluated was a review of the engineering and administrative controls recommended by the Occupational Safety and Health Administration (OSHA) for frequent hand washing with soap and water for twenty (20) second intervals and for personnel to not touch their face, eyes, and nose with dirty hands. Personnel should cough and sneeze into a tissue or the inside of their elbow. It is recommended that there be a daily schedule to clean and disinfect surfaces in the workplace and social distancing in a physical space of six (6) from other personnel. Finally, it should be required that sick employees stay home and not enter the workplace while symptomatic and protocols in-place to return to work.

A review of polices was conducted and found that there is a need for direct policies related to COVID-19. There are available recommendations for Xavier University online for COVID-19. However, there is a need for signage, documented training, and cleaning schedules at the facility. Currently some of the recommendations are being incorporated around campus (e.g. signage, barriers, and cleaning schedules). Details to the findings and recommendations can be found in Table 2 under the Administrative Controls section.

The site does have a personal protective equipment (PPE) strategy. The workspace does have hazards that require such a plan with employees being in direct contact with the public. It is recommended that a continuously audited system to confirm the effectiveness of the program be implemented with regular inspections or walk-arounds conducted at the site. Thereafter, deficiencies, if found, can be addressed and/or corrected.

Finally, the surface sample swabs taken were done in areas of concern due to the potential outside exposure of an employee to the COVID-19 virus. The samples collected were strategically sampled in higher trafficked areas and taken to from the HVAC system in some instances. **The lab results showed that there was no COVID-19 virus present in the workspaces sampled.**

2. METHODS

The inspection was designed to follow OSHA’s guidance on Preparing Workplaces for COVID-19 (OSHA 3990-03 2020). In their guidance it is learned that the COVID-19 virus is transmitted via respiratory droplets in person to person contact and from contaminated surfaces. Due to the transmission capability, OSHA has advised that companies to implement several administrative controls to reduce the risk of workplace contamination.

The air measurements taken were to determine whether air exchange is happening in an appropriate rate. Steady temperature and relative humidity demonstrate a steady HVAC system. According to American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62.1, Carbon Dioxide (CO₂) activity levels found in typical office buildings, steady-state CO₂ concentrations of about 700 parts per million (PPM) above outdoor air levels. CO₂ concentrations outdoor typically range from three hundred (300) to five hundred (500) ppm. Therefore, inside CO₂ levels should range between one thousand (1000) to twelve hundred (1200) PPM.

3. ENGINEERING CONTROLS

The HVAC system was found to be in good working condition. The CO₂ levels in which the indoor samples ranged from two hundred fifty-five (255) PPM to one thousand two hundred and fifty (1250) PPM. The outside sample was four hundred and eighty (480) PPM. **It is recommended that the site use a MERV 13 filter with at least a monthly change cycle until the end of 2020.** This recommendation is for adequate removal of Viruses and Bacterium and does not consider the load of the air handlers and differential pressure across the finer filters. Therefore, consideration for the efficiency of the HVAC system regarding air exchange in the buildings may outweigh the potential for upgrading to finer filtration if the performance of the HVAC system.

Table 1. Engineering Controls (Indoor Air Quality Measurements)


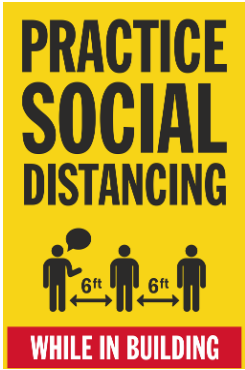


Location	CO2 (PPM)	Temperature (°F)	Relative Humidity (%)	Recommendations
Central Plant				N/A
Saint Michael				N/A
Kathrine Drexel				N/A
Living Learning Center				N/A
St. Martin Deporez Lobby				N/A
Student/ University Center				N/A
St. Joseph Student Center				N/A
Central plant front office				N/A
NCF building (not annex)				N/A
Music				N/A
Administration				N/A
Convocation				N/A
Library				N/A
Pharmacy				N/A


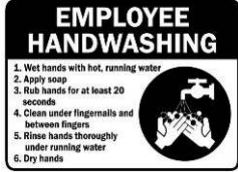



Convocation center Annex				N/A
Xavier South				N/A
Recreation Center/ fitness				N/A
Art Village				N/A
World ship building Services				N/A
Campus Police Dept.				N/A


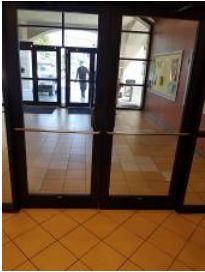



4. ADMINISTRATIVE CONTROLS



The site has official policies in place to address COVID-19 protocols. However, there is a need for more signage, documented training, and cleaning schedules. Table 2 will detail findings and recommendations.

Table 2. Administrative Controls

Control	Workplace Picture (Example of sign placement areas)	Recommendation	Example Picture
<p>Social Distancing: The university has established policies for social distancing strategies. OSHA recommends having personnel staying six (6) feet from one another at the workplace. The university is having team members work from home if able.</p>		<p>Add specific individual use signage on front doors and in commonly occupied areas that reinforces that personnel should social distance 6' at all times.</p> <p>Conduct and document training on this policy.</p>	
<p>Individual Use: The university does not have a common use kitchen with dishes for personnel. There is still a possibility that employees can be exposed to bloodborne pathogens or viruses while cleaning equipment for food preparation.</p>		<p>Add specific individual use signage in the kitchens/breakrooms that reinforces that personnel should not share dishes, eating utensils, towels, etc.</p> <p>Conduct and document training on this policy as applicable.</p>	

Control	Workplace Picture (Example of sign placement areas)	Recommendation	Example Picture
<p>Washing Hands: The university's restroom is a community use facility. Signs will need to be placed in various areas of the office and common places. There are established policies for washing hands but there needs signage.</p>		<p>Add specific hand washing signage in hand washing common areas that details the need to wash for 20 seconds with soap and water.</p> <p>Conduct and document training on this policy.</p>	
<p>Washing Hands: The university's restroom is a community use facility. Signs will need to be placed in various high traffic entrance ways of the offices and access points in the building.</p> <p>Urinal walls or bathroom doors can be utilized.</p>		<p>Add signage in common areas to encourage personnel to utilize a paper towel when grabbing door handles, especially when leaving the restroom.</p> <p>Conduct and document training on this policy.</p>	
<p>Coughing/Sneezing: COVID-19 is primarily transmitted from person to person and travels via respiratory droplets. The university has established policies on this expectation along with plastic shields as seen in photo.</p>		<p>Since this is the primary vessel of spreading the virus, personnel should use the inside of their elbow if tissues are not available. There should be more communication on this policy through signage in common occupied areas.</p> <p>Conduct and document training on this policy.</p>	

Control	Workplace Picture (Example of sign placement areas)	Recommendation	Example Picture
<p>Touching Face: COVID-19 can be transmitted via absorption and inhalation and personnel should not touch their face as a precaution. The university has established policies communicating this expectation online and clear plastic to avoid direct expulsion possibilities</p>		<p>Since this is a vessel of spreading the virus, personnel should not touch their faces with dirty hands. There should be more communication on this policy through signage in common occupied areas.</p> <p>Conduct and document training on this policy.</p>	
<p>Staying Home When Sick: The university has implemented the OSHA recommendation to ensure that personnel who are feeling ill to stay home. The university has established policies communicating this expectation online but there need to be signage in both the residency and common place.</p>		<p>Add signage to reinforce policy for personnel to stay home when sick.</p> <p>Conduct and document training on this policy.</p>	
<p>Cleaning and Disinfecting Surfaces: The university has janitorial services on a monthly schedule. It is recommended that the university should ensure common workspaces are cleaned daily and provide dispensary locations in and around entrances.</p>		<p>The university should construct a cleaning schedule form to have employees who clean surfaces log the date, time, and area cleaned.</p> <p>Also, have cleaning vendor scheduled to clean surfaces at least weekly can be an effective control.</p>	

Control	Workplace Picture (Example of sign placement areas)	Recommendation	Example Picture
<p>Floor Surfaces: Viruses are commonly carried into new environments on people’s shoes. Cleaning the floors and baseboards is important to mitigate spread opportunities.</p> <p>The university has janitorial services on a daily and weekly schedule.</p>		<p>Have the cleaning vendor scheduled to clean floors bi-weekly for the rest of 2020.</p> <p>Have the cleaning vendor disclose the names of all cleaning products utilized with SDS forms.</p> <p>There is current plans for a cleaning vendor to be utilized in the facility.</p>	
<p>Signage: The university should have more signage on entrances and in conspicuous locations that educate personnel on exposure prevention and reaffirming university policies to combat the COVID-19 from spreading in the facility.</p>		<p>This is an example of the type of signage, but it should address the main points of how to prevent transmission of COVID-19.</p> <p>These should be placed on front doors and in noticeable areas in the facility for employees and guests.</p>	
<p>Internal Communications: The university currently has weekly meetings to address updates with the COVID-19 Pandemic.</p> <p>A weekly meeting is currently being conducted twice a week via zoom with response criteria for the faculty, students, and staff.</p>		<p>In addition, communicate gratitude to personnel for their contribution to combat the spread of the virus.</p> <p>All communications should be discussed with every leadership team member so that messaging is in alignment.</p>	





5. PERSONAL PROTECTIVE EQUIPMENT



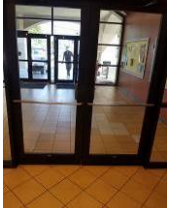

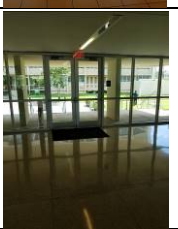

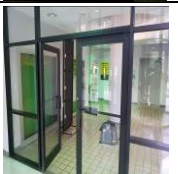
The site does interface with the community and does perform activities that would bring personnel in direct contact with COVID-19. Therefore, it is considered a “high risk” work environment and **PPE is recommended to combat COVID-19.** The university currently requires personnel to wear a face mask which is in alignment with State and Federal guidelines.

6. LAB ANALYSIS


The lab results showed that there was **no COVID-19 virus present in the workspaces sampled.**




Table 3. Sample Results








Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	St. Michael Residence (N) Entrance	NO	
	St. Michael Residence (S) Entrance	NO	
	Katharine Drexel Residency (W) Entrance	NO	
	Katharine Drexel Residency (E) Entrance	NO	
	Living Learning Center (S) Entrance	NO	
	Living Learning Center (W) Entrance	NO	





Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	St Martin Deporez (N) Entrance	NO	
	St. Martin Deporez (S) Entrance	NO	
	University Center (N) Entrance	NO	
	University Center (W) Entrance	NO	
	St Joseph student center (N) Entrance	NO	
	St. Joseph Student center (S) entrance	NO	
	NCF science complex	NO	

Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	Music Building	NO	
	Administration Building	NO	
	College of Pharmacy	NO	
	Library	NO	
	Convocation Center	NO	
	Convocation center Annex	NO	

Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	Xavier South	NO	
	Recreation Center	NO	
	Art Village	NO	
	World Ship Building Services	NO	
	Campus Police	NO	
Added locations (18) upon revisit 09/21-09/22			

Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	Xavier south Elevators	NO	
	University Center Mens/Womens Bathroom	NO	
	University Center Elevators	NO	
	St Michaels west side community bathroom	NO	
	St Michaels East side Community bathroom	NO	
	St martin Deporez Elevators	NO	
	St joseph Bathrooms	NO	

Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	St. Joseph Elevators	NO	
	Qatar Side entrance elevators	NO	
	Qatar Main entrance elevators	NO	
	Qatar main entrance	NO	
	Living Learning Center Elevators	NO	
	Library Computer Lab	NO	
	Katharine Drexel Elevators	NO	

Sample Area Picture	Sample Area Description	COVID-19 Results (YES/NO)	Recommendation
	Katharine Drexel 1 st floor communal bathroom	NO	
	Convocation Center Annex Elevator	NO	
	Building 43 Art Village	NO	
	Building 39 Art Village	NO	

7. CONCLUSION

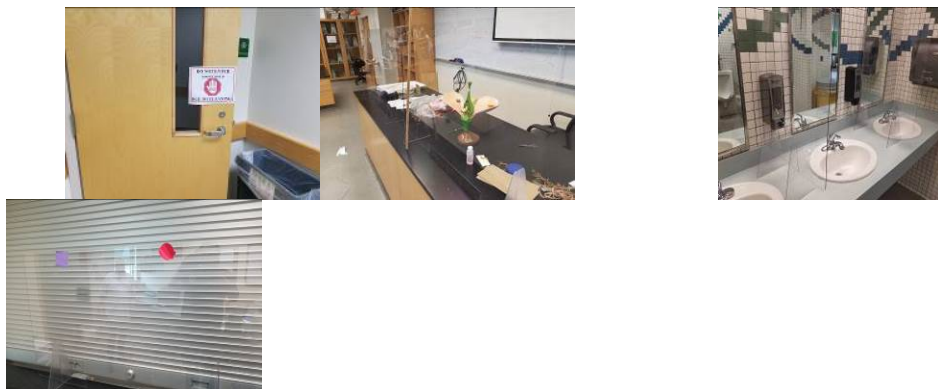
It was a pleasure to perform this assessment for Yellow Bird. The university will mitigate its risks as the recommendations are implemented. After implementation, a follow up visit can be scheduled to show closure to the before mentioned recommendations. Additional assistance that can be provided could be the development of university policies, perform training as it relates to COVID-19, and providing assistance in safety system management.

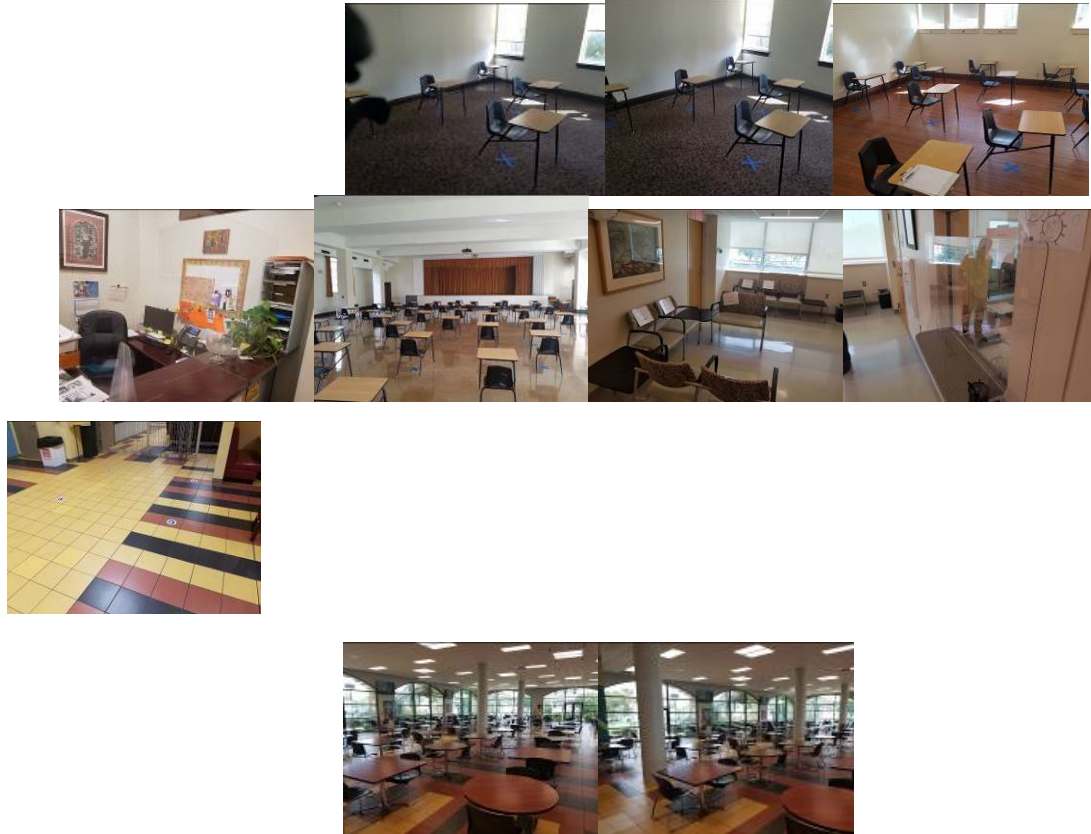
Please feel free to contact me if there are any future questions or requests.

Sincerely,

Marshall Paris

Andrew Rogers







Appendix A (COVID-19 Facility Questionnaire)

Xavier South

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of La. Person Completing Questionnaire: Kerwin Byrd
Date: 7/19/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Classrooms, Offices, meeting rooms
2. What year was the facility constructed? _____
3. What is the workspace square footage? 87,761 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? Floors 1-5 (9.2) Floor 6th (8.7)
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

Revised 05/2020
Revision: 001

COVID-19.FRM.001

Convocation Center

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: XAVIER UNIV OF LA Person Completing Questionnaire: Kerwin Byrd
Date: 7/24/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? ARENA
2. What year was the facility constructed? 2012
3. What is the workspace square footage? 76,350 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? 3.4 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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St. Joseph Student Center

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of LA. Person Completing Questionnaire: Kerwin Byrd
Date: 7/20/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Computer Labs, Health Services, Offices
2. What year was the facility constructed? 1965/2011
3. What is the workspace square footage? 28,210 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? 7.9 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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COVID-19 FRM.001

Convocation Annex

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ of LA Person Completing Questionnaire: Kerwin Byrd
Date: 7/19/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Meeting Space, Offices
2. What year was the facility constructed? 2012
3. What is the workspace square footage? 15,118 Sq.Ft.
4. What is the air change rate per hour of the HVAC system? 7.7 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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University Center

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ of LA Person Completing Questionnaire: Kerwin Byrd
Date: 7/20/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Cafeteria, Meeting Space, Bookstore, Retail
2. What year was the facility constructed? 2003
3. What is the workspace square footage? 94,379 sq ft.
4. What is the air change rate per hour of the HVAC system? 4.3 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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COVID-19-FRM.001

Library

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of LA Person Completing Questionnaire: Kerwin Byrd
Date: 7/19/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Library, offices, meeting rooms
2. What year was the facility constructed? 1993
3. What is the workspace square footage? 88,063 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? 5 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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Revision: 001

COVID-19 FRM.001

Pharmacy / Resource

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of LA. Person Completing Questionnaire: Kerwin Byrd
Date: 7/18/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Labs, offices, classrooms
2. What year was the facility constructed? 1993
3. What is the workspace square footage? 18,645 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? 13 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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COVID-19.FRM.001

NCF Addition

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of LA. Person Completing Questionnaire: Herwin Byrd
Date: 7/20/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Science, Labs, Offices, Classrooms.
2. What year was the facility constructed? 1998
3. What is the workspace square footage? 68,356 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? 13 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

Revised 05/2020
Revision: 001

COVID-19.FRM.001

QATAR PHARMACY PAVILION

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of LA Person Completing Questionnaire: Kerwin Byrd
Date: 7/20/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Animal Care Facility, Labs, Classrooms, Auditorium
2. What year was the facility constructed? 2010
3. What is the workspace square footage? 61,547 sq. ft.
4. What is the air change rate per hour of the HVAC system? 5.8 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

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COVID-19.FRM.001

DePorres Hall

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: Xavier Univ. of La. Person Completing Questionnaire: Kerwin Byrd
Date: 7/20/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Residence Hall
2. What year was the facility constructed? 2003
3. What is the workspace square footage? 119,664 Sq.Ft.
4. What is the air change rate per hour of the HVAC system? 5.8 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

Fitness Center

COVID-19 Facility Questionnaire

PAGE: 1 of 1

Company: XAVIER U. of LA. Person Completing Questionnaire: Kerwin Byrd
Date: 7/20/20 Address of Assessment: _____

Facility Description

The following questions can be obtained from the property management group's building engineering personnel.

1. What type of business is conducted? Fitness Center
2. What year was the facility constructed? 2015
3. What is the workspace square footage? 21,851 Sq. Ft.
4. What is the air change rate per hour of the HVAC system? 2.1 ACH
5. What type of filters are utilized for the HVAC system? MERV-8
6. What is the change rate of the air filters utilized for the HVAC system? Quarterly

Operation Description

7. How many employees occupy the work environment? _____
8. Have any personnel been infected with COVID-19? Yes No
If yes, how many: _____
9. How many visitors does the facility receive daily? _____
10. What are the hours of operation? _____
11. How many work shifts? _____
12. What is the name of the vendor(s) who clean the facility? _____
13. Please list the cleaning chemicals utilized by the vendor(s)? _____

Facility Map

14. Please provide a map of the facility before the assessment date.

Revised 03-2020
Revision: 001

COVID-19-FRM-001

Appendix B (POLICIES OF COVID-19 Administrative Controls)

Approved EPA lists for chemicals



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

List N: EPA's Registered Antimicrobial Products for Use Against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19

Date: 03/03/2020

An individual pesticide product may be marketed and sold under a variety of names. If you are seeking additional information about a pesticide product, refer to the EPA Registration Number (EPA Reg. No.), found on the product label, not the brand name. When purchasing a product for use against a specific pathogen, check the EPA Reg. No. versus the products included on this list.

All EPA-registered pesticides must have an EPA Registration Number. Alternative brand names have the same EPA Reg. No. as the primary product. The EPA Reg. No. of a primary product consists of two set of numbers separated by a hyphen, for example EPA Reg. No. 12345-12. The first set of numbers refers to the company identification number, and the second set of numbers following the hyphen represents the product number.

In addition to primary products, distributors may also sell products with identical formulations and identical efficacy as the primary products. Although distributor products frequently use different brand names, you can identify them by their three-part EPA Reg. No. The first two parts of the EPA Reg. No. match the primary product, plus a third set of numbers that represents the Distributor ID number. For example, EPA Reg. No. 12345-12-2567 is a distributor product with an identical formulation and efficacy to the primary product with the EPA Reg. No. 12345-12.

Information about listed products is current as indicated by the dates on this list. If you would like to review the product label information for any of these products, please visit our [product label system](#). Inclusion on this list does not constitute an endorsement by EPA.

RTU- Ready-to-Use



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Registration Number	Product Name	Company	Formulation Type
1677-129	COSA OXONIA ACTIVE	Ecolab Inc	DILUTABLE
1677-226	VIRASEPT	Ecolab Inc	RTU
1677-235	BLEACH DISINFECTANT CLEANER	Ecolab Inc	RTU
1677-237	OXYCIDE DAILY DISINFECTANT CLEANER	Ecolab Inc	DILUTABLE
1677-238	PEROXIDE MULTI SURFACE CLEANER AND DISINFECTANT	Ecolab Inc/Kay Chemical Co.	DILUTABLE
1677-249	KLERCIDE 70/30 IPA	Ecolab Inc	RTU
1677-251	PEROXIDE DISINFECTANT AND GLASS CLEANER RTU	Ecolab Inc/Kay Chemical Co.	RTU
1839-220	SC-RTU DISINFECTANT CLEANER	Stepan Company	RTU
1839-248	Stepan Spray Disinfectant Concentrate	Stepan Company	DILUTABLE
1839-83	DETERGENT DISINFECTANT PUMP SPRAY	Stepan Company	RTU
1839-83	DETERGENT DISINFECTANT PUMP SPRAY	STEPAN COMPANY	RTU
4091-21	CONDOR 2	W.M. BARR & COMPANY, INC	RTU
4091-22	RAPTOR 5	W.M. BARR & COMPANY, INC	RTU
42182-9	FIREBIRD F130	MICROBAN PRODUCTS COMPANY	RTU



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Registration Number	Product Name	Company	Formulation Type
	MULTI-SURFACE CLEANER		
777-99	PROFESSIONAL LYSOL® DISINFECTANT SPRAY	RECKITT BENCKISER	RTU
84368-1	URTHPRO	URTHTECH, LLC	RTU
85150-1	PURELL Professional Surface Disinfectant Wipes	GOJO Industries, Inc.	WIPE
88494-3	PEAK DISINFECTANT	North American Infection Control, Ltd	RTU
88494-4	PEAK DISINFECTANT WIPES	NORTH AMERICAN INFECTION CONTROL, LTD	WIPE
9480-10	Sani-Prime Germicidal Spray	Professional Disposables International, Inc.	RTU
9480-12	Sani-Cloth Prime Germicidal Disposable Wipe	Professional Disposables International, Inc.	WIPE
9480-14	Sani-HyPerCide Germicidal Spray	Professional Disposables International, Inc.	RTU



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Registration Number	Product Name	Company	Formulation Type
6836-77	LONZA FORMULATION S-18	LONZA, LLC	DILUTABLE
6836-78	LONZA FORMULATION R-82	LONZA, LLC	DILUTABLE
70627-24	VIREX™ II / 256	Diversey, Inc.	DILUTABLE
70627-56	OXIVIR Tb	Diversey, Inc.	RTU
70627-58	OXY-TEAM™ DISINFECTANT CLEANER	Diversey, Inc.	DILUTABLE
70627-60	OXIVIR™ WIPES	Diversey, Inc.	WIPE
70627-72	Avert Sporicidal Disinfectant Cleaner	Diversey, Inc.	DILUTABLE
70627-74	OXIVIR 1	Diversey, Inc.	RTU
70627-77	Oxivir 1 Wipes	Diversey, Inc.	WIPE
71847-6	KLORSEPT	MEDENTECH LTD	DILUTABLE
71847-7	KLORKLEEN 2	MEDENTECH LTD	DILUTABLE
777-127	LYSOL® DISINFECTANT MAX COVER MIST	RECKITT BENCKISER	RTU
777-132	LYSOL BRAND POWER PLUS TOILET BOWL CLEANER	RECKITT BENCKISER	RTU
777-70	LYSOL BRAND CLING & FRESH TOILET BOWL CLEANER	RECKITT BENCKISER	RTU
777-81	LYSOL BRAND LIME & RUST TOILET BOWL CLEANER	RECKITT BENCKISER	RTU
777-83	LYSOL BRAND BLEACH MOLD AND MILDEW REMOVER	RECKITT BENCKISER	RTU
777-89	LYSOL BRAND CLEAN & FRESH	RECKITT BENCKISER	DILUTABLE



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Registration Number	Product Name	Company	Formulation Type
67619-33	Clorox Commercial Solutions® Clorox® Disinfecting Biostain & Odor Remover	Clorox Professional Products Company	RTU
67619-37	Clorox Healthcare® VersaSure® Wipes	Clorox Professional Products Company	WIPE
67619-38	CloroxPro™ Clorox Total 360® Disinfecting Cleaner1	Clorox Professional Products Company	RTU
6836-140	LONZA FORMULATION S-21F	LONZA, LLC	DILUTABLE
6836-152	LONZA FORMULATION DC-103	LONZA, LLC	RTU
6836-266	BARDAC 205M-10	LONZA, LLC	DILUTABLE
6836-278	BARDAC 205M-14.08	LONZA, LLC	DILUTABLE
6836-289	BARDAC 205M RTU	LONZA, LLC	RTU
6836-289	BARDAC 205M RTU	LONZA, LLC	RTU
6836-302	BARDAC 205M-2.6	LONZA, LLC	DILUTABLE
6836-305	BARDAC 205M-23	LONZA, LLC	DILUTABLE
6836-313	LONZA DISINFECTANT WIPES	LONZA, LLC	WIPE
6836-340	LONZA DISINFECTANT WIPES PLUS 2	LONZA, LLC	WIPE
6836-349	LONZAGARD RCS-256 PLUS	LONZA, LLC	DILUTABLE
6836-361	NUGEN MB5A-256	LONZA, LLC	DILUTABLE
6836-364	NUGEN MB5N-256	LONZA, LLC	DILUTABLE
6836-365	NUGEN MB5N-128	LONZA, LLC	DILUTABLE
6836-70	BARDAC 205M-7.5	LONZA, LLC	DILUTABLE
6836-75	LONZA FOUMLATION S-21	LONZA, LLC	DILUTABLE



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Registration Number	Product Name	Company	Formulation Type
	CLEANER SOLUTION 1		
675-54	LYSOL BRAND HEAVY DUTY CLEANER DISINFECTANT CONCENTRATE	RECKITT BENCKISER	DILUTABLE
67619-12	Clorox Healthcare® Bleach Germicidal Wipes	Clorox Professional Products Company	WIPE
67619-16	Clorox Commercial Solutions® Toilet Bowl Cleaner with Bleach1	Clorox Professional Products Company	RTU
67619-17	Clorox Commercial Solutions® Clorox® Clean-Up Disinfectant Cleaner with Bleach1	Clorox Professional Products Company	RTU
67619-21	Clorox Commercial Solutions® Clorox® Disinfecting Spray	Clorox Professional Products Company	RTU
67619-24	Clorox Commercial Solutions® Hydrogen Peroxide Cleaner Disinfectant	Clorox Professional Products Company	RTU
67619-25	Clorox Commercial Solutions® Hydrogen Peroxide Cleaner Disinfectant Wipes	Clorox Professional Products Company	WIPE
67619-29	Saginaw	Clorox Professional Products Company	RTU
67619-30	GNR	Clorox Professional Products Company	RTU
67619-31	Clorox Commercial Solutions® Clorox® Disinfecting Wipes	Clorox Professional Products Company	WIPE
67619-32	CloroxPro™ Clorox® Germicidal Bleach	Clorox Professional Products Company	DILUTABLE



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Registration Number	Product Name	Company	Formulation Type
47371-129	FORMATION HWS-256	H&S CHEMICALS DIVISION OF LONZA, LLC	DILUTABLE
47371-130	FORMATION HWS-128	H&S CHEMICALS DIVISION OF LONZA, LLC	DILUTABLE
47371-131	HWS-64	H&S CHEMICALS DIVISION OF LONZA, LLC	DILUTABLE
47371-192	FORMATION HWS-32	H&S CHEMICALS DIVISION OF LONZA, LLC	DILUTABLE
56392-7	Clorox Healthcare® Bleach Germicidal Cleaner Spray	Clorox Professional Products Company	RTU
5813-105	Clorox Multi Surface Cleaner + Bleach	The Clorox Company	RTU
5813-110	Clorox Pet Solutions Advanced Formula Disinfecting Stain & Odor Remover	The Clorox Company	RTU
5813-111	Clorox Disinfecting Bleach2	The Clorox Company	DILUTABLE
5813-114	Clorox Performance Bleach1	The Clorox Company	DILUTABLE
5813-115	Clorox Germicidal Bleach3	The Clorox Company	RTU
5813-21	Clorox Clean Up Cleaner + Bleach	The Clorox Company	RTU
5813-40	Clorox Disinfecting Bathroom Cleaner	The Clorox Company	RTU
5813-79	Clorox Disinfecting Wipes	The Clorox Company	WIPE
5813-89	Clorox Toilet Bowl Cleaner with Bleach	The Clorox Company	RTU
63761-10	STERILEX ULTRA STEP	STERILEX	DILUTABLE
63761-8	STERILEX ULTRA DISINFECTANT	STERILEX	DILUTABLE

Marcis & Associates Housekeeping



Marcis & Associates, Inc.

H1N1/COVID-19

HOUSEKEEPING PROTOCOL FOR H1N1 FLU/COVID-19 PRECAUTIONS

1. Rooms of patients on H1N1 Flu/COVID-19 precautions will be cleaned daily:

Procedure:

1. Before entering the room, put on 2 pair of gloves and an FFP3 Mask.
2. Bring into the room 4 clean rags and a clean mop head.

Each patient's room will be cleaned in three steps:

Step One

Cleaning with facility approved disinfectant and water:

1. In the basin, prepare the correct dilution of the facility approved disinfectant
2. Using one clean rag, clean all the surfaces in the room, pay special attention to surfaces which come into contact with hands (eg. Call bell, phone, door and cupboard handles, bed rails etc.)
3. Next, to clean the bathroom, change gloves and clean the bathroom in the usual manner, with special attention to surfaces which come into contact with hands (eg. Door handles, light switches, sink handles, paper towel dispensers, toilet paper holders, toilet flusher)
4. Clean the toilet last. After cleaning the toilet, discard the facility approved disinfectant and water from the basin, into the toilet, flush
5. Rinse the basin with hot water
6. Change gloves again

Step Two

Wiping with facility approved disinfectant

1. Start in the patient's room, spray all the flat surfaces with facility approved disinfectant and with another clean rag, wipe all the surfaces
2. After wiping all the surfaces in the room, change gloves and re-clean the bathroom using facility approved disinfectant
3. Put on clean gloves

Step Three

Washing the floor:

1. Dry mop the floor
2. Prepare a fresh solution of facility approved disinfectant and water in the bucket to clean the floor
3. Wash the floor with the clean mop head as per routine
4. After the floor is washed, pour the water into the toilet and flush
5. Place the mop heads and rags into a clear plastic bag to be returned to housekeeping. Keep all other equipment in the room.
6. Remove outer gloves, then the mask and finally the last pair of gloves
7. Wash hands for 30 seconds
8. Leave the room and when outside, rub alcohol-based hand rinse agent into hands

2. Rooms of patients on H1N1 Flu/COVID-19 precautions will be terminally cleaned when patients are discharged:

Procedure:

1. All areas of the room will be cleaned as per daily cleaning protocol for H1N1 Flu/COVID-19 cleaning
2. All equipment assigned to the patient (eg. stethoscopes, thermometers, and flashlights) will be cleaned with facility approved disinfectant and put into plastic bags. They will be returned to the infection control office.
3. All excess supplies, equipment and solutions will be assessed by the nursing unit to determine what can be kept or discarded. Items which cannot be wiped with a wet cloth will be discarded (eg. paper wrapped products). The nursing unit will wipe all equipment to be saved with facility approved disinfectant, or 70% alcohol **TWICE** before returning to circulation.
4. Room curtains, shower curtains and drapes should be changed as part of the terminal cleaning.

3. Office/Classrooms Area Cleaning will be performed daily:

Step One

Cleaning with facility approved disinfectant and water:

1. Have prepared the correct dilution of the facility approved disinfectant
2. Put on gloves
3. Using one clean rag, clean all the surfaces in the room, pay special attention to surfaces which come into contact with hands (eg. Light switches, phone, doorknobs, computer keyboards, computer mouse, desk working spaces, etc.)

Step Two

Wiping with facility approved disinfectant

1. Start in the room from left to right, spray all the flat surfaces with facility approved disinfectant and with another clean rag, wipe all the surfaces dry.

Step Three

Washing the floor:

1. Dry mop the floor
2. Have prepared a fresh solution of facility approved disinfectant and water in the bucket to clean the floor
3. Wash the floor with the clean mop head as per routine
4. After the floor is washed, pour the water into the Janitor's Closet sink
5. Place the mop heads and rags into a clear plastic bag to be returned to housekeeping for washing.
6. Remove gloves
7. Wash hands for 30 seconds
8. Leave the room and when outside, rub alcohol-based hand rinse agent into hands

4. Restroom Cleaning to be done daily:

Step One

1. To clean the bathroom, use fresh pair of gloves and clean the bathroom in the usual manner, with facility approved disinfectant and water and with special attention to surfaces which come into contact with hands (eg. Door handles, light switches, sink handles, paper towel dispensers, toilet paper holders, toilet flusher)
2. Re-stock paper supplies as needed
3. Clean toilets and urinals last. After cleaning the toilet, discard the facility approved disinfectant and water from the basin, into the toilet, flush
4. Rinse the basin with hot water
5. Change gloves again

Step Two

Wiping with facility approved disinfectant

1. Start in the room from left to right, spray all the flat surfaces with facility approved disinfectant and with another clean rag, wipe all the surfaces dry.

Step Three

Washing the floor:

1. Dry mop the floor
2. Have prepared a fresh solution of facility approved disinfectant and water in the bucket to clean the floor
3. Wash the floor with the clean mop head as per routine
4. After the floor is washed, pour the water into the toilet and flush
5. Place the mop heads and rags into a clear plastic bag to be returned to housekeeping for washing.

6. Remove gloves
7. Wash hands for 30 seconds
8. Leave the room and when outside, rub alcohol-based hand rinse agent into hands

REMINDER:

**THE BEST PRECAUTION IS TO OBSERVE GOOD HANDWASHING
PRACTICES**

Cleaning and Disinfection Training

Environmental Cleaning and Disinfection Recommendations

Interim Recommendations for US Community Facilities with Suspected/Confirmed Coronavirus Disease 2019

- [Background](#)
- [Purpose](#)
- [Definitions](#)
- [Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility](#)
- [How to Clean and Disinfect](#)
- [Personal Protective Equipment \(PPE\) and Hand Hygiene:](#)
- [Additional Considerations for Employers:](#)

Environmental Cleaning and Disinfection Recommendations

Background

- There is much to learn about the novel coronavirus (SARS-CoV-2) that causes [coronavirus disease 2019](#) (COVID-19). Based on what is currently known about the virus and about similar coronaviruses that cause SARS and MERS, spread from person-to-person happens most frequently among close contacts (within about 6 feet). This type of transmission occurs via respiratory droplets, but disease transmission via infectious aerosols is currently uncertain. Transmission of SARS-CoV-2 to persons from surfaces contaminated with the virus has not been documented. Transmission of coronavirus in general occurs much more commonly through respiratory droplets than through fomites. Current evidence suggests that SARS-CoV-2 may remain viable for hours to days on surfaces made from a variety of materials. Cleaning of visibly dirty surfaces followed by disinfection is a best practice measure for prevention of COVID-19 and other viral respiratory illnesses in community settings.
- It is unknown how long the air inside a room occupied by someone with confirmed COVID-19 remains potentially infectious. Facilities will need to consider factors such as the size of the room and the ventilation system design (including flowrate [air changes per hour] and location of supply and exhaust vents) when deciding how long to close off rooms or areas used by ill persons before beginning disinfection. Taking measures to improve ventilation in an area or room where someone was ill or suspected to be ill with COVID-19 will help shorten the time it takes respiratory droplets to be removed from the air.

Environmental Cleaning and Disinfection Recommendations

Purpose

- This guidance provides recommendations on the cleaning and disinfection of rooms or areas of those with suspected or with confirmed COVID-19 have visited. It is aimed at limiting the survival of novel coronavirus in key environments. These recommendations will be updated if additional information becomes available.
- These guidelines are focused on community, non-healthcare facilities (e.g., schools, institutions of higher education, offices, daycare centers, businesses, community centers) that do and do not house persons overnight. These guidelines are not meant for [cleaning staff in healthcare facilities](#) or repatriation sites, [households](#), or for others for whom specific guidance already exists.

Environmental Cleaning and Disinfection Recommendations

Definitions

- *Community facilities* such as schools, daycare centers, and businesses comprise most non-healthcare settings that are visited by the general public outside of a household.
- *Cleaning* refers to the removal of dirt and impurities, including germs, from surfaces. Cleaning alone does not kill germs. But by removing the germs, it decreases their number and therefore any risk of spreading infection.
- *Disinfecting* works by using chemicals, for example EPA-registered disinfectants, to kill germs on surfaces. This process does not necessarily clean dirty surfaces or remove germs. But killing germs remaining on a surface after cleaning further reduces any risk of spreading infection.

Environmental Cleaning and Disinfection Recommendations

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

Timing and location of cleaning and disinfection of surfaces

- At a school, daycare center, office, or other facility that **does not house people overnight**:
 - Close off areas visited by the ill persons. Open outside doors and windows and use ventilating fans to increase air circulation in the area. Wait 24 hours or as long as practical before beginning cleaning and disinfection.
 - **Cleaning staff should clean and disinfect all areas such as offices, bathrooms, common areas, shared electronic equipment like tablets, touch screens, keyboards, remote controls, and ATM machines used by the ill persons**, focusing especially on frequently touched surfaces.

Environmental Cleaning and Disinfection Recommendations

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

Timing and location of cleaning and disinfection of surfaces

- At a facility that **does house people overnight**: Follow Interim Guidance for [US Institutions of Higher Education](#) on working with state and local health officials to isolate ill persons and provide temporary housing as needed.
- Close off areas visited by the ill persons. Open outside doors and windows and use ventilating fans to increase air circulation in the area. Wait 24 hours or as long as practical before beginning cleaning and disinfection.
- In areas where ill persons are being housed in isolation, follow [Interim Guidance for Environmental Cleaning and Disinfection for U.S. Households with Suspected or Confirmed Coronavirus Disease 2019](#). This includes **focusing on cleaning and disinfecting common areas where staff/others providing services may come into contact with ill persons but reducing cleaning and disinfection of bedrooms/bathrooms used by ill persons to as-needed**.
- In areas where ill persons have visited or used, continue routine cleaning and disinfection as in this guidance.

Note: If it has been more than 7 days since the person with suspected/confirmed COVID-19 visited or used the facility, additional cleaning and disinfection is not necessary.

Environmental Cleaning and Disinfection Recommendations

How to Clean and Disinfect

Surfaces

■ Soft (Porous) Surfaces

- For soft (porous) surfaces such as carpeted floor, rugs, and drapes, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces. After cleaning:
 - If the items can be laundered, launder items in accordance with the manufacturer's instructions using the warmest appropriate water setting for the items and then dry items completely.
 - Otherwise, use products [that are EPA-approved for use against the virus that causes COVID-19pdf iconexternal icon](#) and that are suitable for porous surfaces

Environmental Cleaning and Disinfection Recommendations

How to Clean and Disinfect

Surfaces

■ Hard (Non-porous) Surfaces

- If surfaces are dirty, they should be cleaned using a detergent or soap and water prior to disinfection.
- For disinfection, most common EPA-registered household disinfectants should be effective.
 - A list of products that are EPA-approved for use against the virus that causes COVID-19 is available [herepdf iconexternal icon](#). Follow the manufacturer's instructions for all cleaning and disinfection products for concentration, application method and contact time, etc.
 - Additionally, diluted household bleach solutions (at least 1000ppm sodium hypochlorite) can be used if appropriate for the surface. Follow manufacturer's instructions for application, ensuring a contact time of at least 1 minute, and allowing proper ventilation during and after application. Check to ensure the product is not past its expiration date. Never mix household bleach with ammonia or any other cleanser. Unexpired household bleach will be effective against coronaviruses when properly diluted.
 - Prepare a bleach solution by mixing:
 - 5 tablespoons (1/3 cup) bleach per gallon of water or
 - 4 teaspoons bleach per quart of water

Environmental Cleaning and Disinfection Recommendations

How to Clean and Disinfect

Surfaces

- **Electronics**
- For electronics such as tablets, touch screens, keyboards, remote controls, and ATM machines, remove visible contamination if present.
 - Follow the manufacturer's instructions for all cleaning and disinfection products.
 - Consider use of wipeable covers for electronics.
 - If no manufacturer guidance is available, consider the use of alcohol-based wipes or sprays containing at least 70% alcohol to disinfect touch screens. Dry surfaces thoroughly to avoid pooling of liquids.

Environmental Cleaning and Disinfection Recommendations

How to Clean and Disinfect

Surfaces

- **Linens, Clothing, and Other Items That Go in the Laundry**
- In order to minimize the possibility of dispersing virus through the air, do not shake dirty laundry.
- Wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely. Dirty laundry that has been in contact with an ill person can be washed with other people's items.
- Clean and disinfect hampers or other carts for transporting laundry according to guidance above for hard or soft surfaces.

Environmental Cleaning and Disinfection Recommendations

How to Clean and Disinfect

Linens, Clothing, and Other Items That Go in the Laundry

- Do not shake dirty laundry; this minimize the possibility of dispersing virus through the air.
- Wash items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely. Dirty laundry that has been in contact with an ill person can be washed with other people's items.
- Clean and disinfect hampers or other carts for transporting laundry according to guidance above for hard or soft surfaces.

Environmental Cleaning and Disinfection Recommendations

Personal Protective Equipment (PPE) and Hand Hygiene:

Cleaning staff should wear disposable gloves and gowns for all tasks in the cleaning process, including handling trash.

- Gloves and gowns should be compatible with the disinfectant products being used.
- Additional PPE might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.
- Gloves and gowns should be removed carefully to avoid contamination of the wearer and the surrounding area. Be sure to **clean hands** after removing gloves.
- If gowns are not available, coveralls, aprons or work uniforms can be worn during cleaning and disinfecting. Reusable (washable) clothing should be laundered afterwards. Clean hands after handling dirty laundry.
- Gloves should be removed after cleaning a room or area occupied by ill persons. **Clean hands** immediately after gloves are removed.
- Cleaning staff should immediately report breaches in PPE (e.g., tear in gloves) or any potential exposures to their supervisor.

Environmental Cleaning and Disinfection Recommendations

Additional Considerations for Employers:

- **Cleaning staff and others should clean hands often**, including immediately after removing gloves and after contact with an ill person, by washing hands with soap and water for 20 seconds. If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains at least 60% alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water.
- Follow normal preventive actions while at work and home, including cleaning hands and avoiding touching eyes, nose, or mouth with unwashed hands.
 - Additional key times to clean hands include:
 - After blowing one's nose, coughing, or sneezing
 - After using the restroom
 - Before eating or preparing food
 - After contact with animals or pets
 - Before and after providing routine care for another person who needs assistance such as a child

Environmental Cleaning and Disinfection Recommendations

Additional Considerations for Employers:

- Employers should work with their local and state health departments to ensure appropriate local protocols and guidelines, such as updated/additional guidance for cleaning and disinfection, are followed, including for identification of new potential cases of COVID-19.
- Employers should educate staff and workers performing cleaning, laundry, and trash pick-up activities to recognize the symptoms of COVID-19 and provide instructions on what to do if they develop symptoms within 14 days after their last possible exposure to the virus. At a minimum, any staff should immediately notify their supervisor and the local health department if they develop symptoms of COVID-19. The health department will provide guidance on what actions need to be taken.
- Employers should develop policies for worker protection and provide training to all cleaning staff on site prior to providing cleaning tasks. Training should include when to use PPE, what PPE is necessary, how to properly don (put on), use, and doff (take off) PPE, and how to properly dispose of PPE.
- Employers must ensure workers are trained on the hazards of the cleaning chemicals used in the workplace in accordance with OSHA's Hazard Communication standard ([29 CFR 1910.1200external icon](#)).
- Employers must comply with OSHA's standards on Bloodborne Pathogens ([29 CFR 1910.1030external icon](#)), including proper disposal of regulated waste, and PPE ([29 CFR 1910.132external icon](#)).



Environmental Cleaning and Disinfection Recommendations

■ **Additional Resources**

- [OSHA COVID-19 Websiteexternal icon](#)
- [CDC Home Care Guidance](#)
- [CDC COVID-19 Environmental Cleaning and Disinfection Guidance for Households](#)
- [CDC Home Care Guidance for People with Pets](#)

All Information within this document was extracted from CDC guidelines as of April 2020

Composed by:

Xavier University – Office of Facility Planning and Management – Marion B. Bracy, Vice President

Appendix C (Laboratory Report)



Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Client: Rodgers & Associates
9 Yosemite St.
Kenner, LA 70065

Report Number: 20-09-04555

Received Date: 09/25/2020

Analyzed Date: 09/30/2020

Reported Date: 09/30/2020

Project/Test Address: Xavier University; 1 Drexel Dr.; New Orleans, LA 70125

Client Number:

19-6377

Fax Number:

Laboratory Results

Lab # :	20-09-04555-001	20-09-04555-002	20-09-04555-003	20-09-04555-004	20-09-04555-005					
Client Sample ID :	1	2	3	4	5					
Date Collected :	9/21/2020	9/21/2020	9/21/2020	9/21/2020	9/21/2020					
Collection Location :	KD LOBBY	ST JO	ST MICHAELS LOBBY	CONVOCAATION CENTER	CONVOCAATION ANNEX					
Sampling Media :	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell					
Analytical Sensitivity (spores/m3) :	6.7	6.7	6.7	6.7	6.1					
Volume (L) :	150	150	150	150	165					
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	23	150	4	27	3	20	35	230	3	18
Penicillium/Aspergillus group spores	128	850	2	13	81	540	4	27	28	170
Aureobasidium spores									1	6.1
Pyricularia spores									1	6.1
Curvularia spores							5	33		
Pithomyces spores									1	6.1
Cercospora spores									1	6.1
Nigrospora spores	1	6.7								
smuts, Periconia, myxomycetes							3	20	1	6.1
TOTAL SPORES(Spores/m3)	1000		40		560		310		220	
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	



Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Client: Rodgers & Associates
9 Yosemite St.
Kenner, LA 70065

Report Number: 20-09-04555

Received Date: 09/25/2020

Analyzed Date: 09/30/2020

Reported Date: 09/30/2020

Project/Test Address: Xavier University; 1 Drexel Dr.; New Orleans, LA 70125

Client Number:

19-6377

Fax Number:

Laboratory Results

Lab # :	20-09-04555-006	20-09-04555-007	20-09-04555-008	20-09-04555-009	20-09-04555-010					
Client Sample ID :	6	7	8	9	10					
Date Collected :	9/21/2020	9/21/2020	9/21/2020	9/21/2020	9/21/2020					
Collection Location :	DE PORRES	FITNESS CENTER	XAVIER S	LLC	NCF					
Sampling Media :	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell	Air-O-Cell					
Analytical Sensitivity (spores/m3) :	13.3	13.3	13.3	13.3	13.3					
Volume (L) :	75	75	75	75	75					
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	4	53	1	13	2	27			2	27
Penicillium/Aspergillus group spores	60	800	3	40	1	13	2	27		
Alternaria spores			1	13						
Aureobasidium spores									1	13
Curvularia spores	2	27			2	27				
Stachybotrys spores					1	13	1	13	1	13
Pithomyces spores	1	13								
Pestalotia spores									1	13
smuts, Periconia, myxomycetes	2	27	1	13	1	13				
TOTAL SPORES(Spores/m3)	920		80		93		40		67	
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	



Non-Viable Spore Trap Analysis Report

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Client Number:

Fax Number:

19-6377

Laboratory Results

Lab # :	20-09-04555-011		20-09-04555-012		20-09-04555-013		20-09-04555-014		20-09-04555-015	
Client Sample ID :	11		12		13		14		15	
Date Collected :	9/21/2020		9/21/2020		9/21/2020		9/21/2020		9/21/2020	
Collection Location :	ADMIN		PHARM		MUSIC		LIBRARY		UC	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	13.3		13.3		13.3		13.3		13.3	
Volume (L) :	75		75		75		75		75	
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores			7	93	8	110	2	27	16	210
Penicillium/Aspergillus group spores	30	400	3	40	15	200	35	470	2	27
Curvularia spores					1	13			1	13
smuts, Periconia, myxomycetes							1	13	1	13
TOTAL SPORES(Spores/m3)	400		130		320		510		270	
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	



Non-Viable Spore Trap Analysis Report

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Kenner, LA 70065

Report Number: 20-09-04555

Received Date: 09/25/2020

Analyzed Date: 09/30/2020

Reported Date: 09/30/2020

Project/Test Address: Xavier University; 1 Drexel Dr.; New Orleans, LA 70125

Client Number:

19-6377

Fax Number:

Laboratory Results

Lab # :	20-09-04555-016	20-09-04555-017	20-09-04555-018							
Client Sample ID :	16	17	18							
Date Collected :	9/21/2020	9/21/2020	9/22/2020							
Collection Location :	POTTERY	OUTSIDE	OUTSIDE							
Sampling Media :	Air-O-Cell	Air-O-Cell	Air-O-Cell							
Analytical Sensitivity (spores/m3) :	13.3	6.7	6.7							
Volume (L) :	75	150	150							
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	2	27	32	210	25	170				
Penicillium/Aspergillus group spores			58	390	19	130				
Aureobasidium spores	1	13								
Curvularia spores			1	6.7	1	6.7				
Stachybotrys spores	11	150			50	330				
Ulocladium spores	4	53								
Pithomyces spores					2	13				
Pestalotia spores			1	6.7						
Cercospora spores	1	13	1	6.7						
smuts, Periconia, myxomycetes	4	53			2	13				
TOTAL SPORES(Spores/m3)		310		620		660				

Analyst:

Felicia Butler

Felicia Butler

Felicia Butler

Environmental Hazards Services, L.L.C

Client Number: 19-6377

Report Number: 20-09-04555

Project/Test Address: Xavier University; 1 Drexel Dr.; New Orleans, LA
70125

Sample Narratives:

(Sample 006) M02: Large amounts of particulate observed.

(Sample 016) M03: Substantial amount of particulate observed, counts may be underestimated. Stachybotrys conidiophores observed.

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory:



Felicia Butler
Microbiology Lab Technical
Manager

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, volume, etc., was provided by the client. The Client is hereby notified that due to the subjective nature of fungal analysis and the growth process of fungal infestation, laboratory samples can and do change over time relative to the originally sampled material. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.



Mold Spore Descriptions

Environmental Hazards Services, L.L.C.
 7469 Whitepine Rd
 Richmond, VA 23237

Telephone: 800.347.4010

Project/Test Address: Xavier University; 1 Drexel Dr.; New Orleans, LA 70125
Client Number: 19-6377
Report Number: 20-09-04555

Section 2: The following fungal descriptions are pertinent to the indoor samples collected. General characterization of mold is made with respect to their most common impact to human health. Many genera of molds have species with varying characteristics.

Spore Name	Description
Cladosporium spores	Reported to be allergenic. Most commonly identified spore in outdoor samples. Highly seasonal. Indoor species may differ from outdoor species. Typically found inside supply ducts.
Penicillium/Aspergillus group spores	Reported to be allergenic. Many species have been documented to produce mycotoxins, which may be associated with pulmonary disease in humans and other animals. Research studies have implicated several of these toxins as carcinogens in laboratory animals following inhalation. A wide number of organisms have been grouped into these two genera. Extremely difficult to identify down to species level. Typically identified in soil, cellulose, food, paint, compost piles, carpeting, wallpaper and in the fiberglass insulation used in interior ductwork.
Alternaria spores	Reported to be allergenic. Commonly found growing in carpets and on indoor textiles. This fungi has been indicated as a potential cause of hypersensitivity pneumonitis. Rare species known to produce tenuazonic acid and other toxic metabolites that may cause disease in humans.
Aureobasidium spores	Reported to be allergenic. Commonly found in high moisture areas such as bathrooms and kitchens. Rarely associated with skin disorders.
Pyricularia spores	No information regarding the health effects of this genus is available at this time. All mold should be treated as potential allergens.
Curvularia spores	Reported to be allergenic. No additional health data for this genus is available at this time.
Stachybotrys spores	Toxigenic. Also recognized as an allergen. Typically a fungus of dark green/black coloration, it grows readily on building materials with a high cellulose content but low in nitrogen, and is rarely observed in outdoor samples. Certain strains of Stachybotrys may produce the mycotoxin, trichothecene under appropriate conditions which has been documented to cause problems associated with the circulatory, alimentary, skin and nervous systems. Absorption of trichothecene into the tissues of the human lung may cause a condition known as pneumomycosis. Although there have been conflicting studies concerning the toxicity of this fungi, it still appears that extreme caution should be practiced when dealing with this mold.
Ulocladium spores	Reported to be allergenic. Widespread. Requires wet conditions for growth. Cross-reacts with Alternaria increasing the allergenic effects on Alternaria sensitive individuals.
Pithomyces spores	Reported to be allergenic. Some species may, in rare instances, produce the toxin sporidesmin.
Pestalotia spores	No information regarding the health effects of this genus is available at this time. All mold should be treated as potential allergens.
Cercospora spores	No information regarding the health effects of this genus is available at this time. All molds should be treated as potential allergens.
Nigrospora spores	Reported to be allergenic. No additional health data for this genus is available at this time.
smuts, Periconia, myxomycetes	Reported to be allergenic. This class of fungal spores is most often related to agriculture and plant disease and is rarely found indoors.

Spore Name	Description
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report. This report applies only to those samples taken at the time, place and location referenced by the client. This report was designed by Environmental Hazards Services, LLC following current industry guidelines for the interpretation of microbial sampling and analysis. Interpretation of these parameters is a scientific work in progress and may as such be changed at any time without notice. This report makes no express or implied warranty or guarantee as to the sampling methodology used by the client. The client is solely responsible for the use and interpretation of these results. Environmental Hazards Services, LLC makes no express or implied warranties as to such use of interpretation.

10/1/2020

COVID-19 HVAC Evaluation Xavier University

Executive Summary

Comparative Data between July and September 2020 shows that the AC filtration upgrades have made progress despite the increase in student population/traffic between July and September. Increased traffic means more door openings letting outside dust and mold spores into the buildings. Also, students carry mold on clothing and add to the building dust loading in the form of skin, hair and mucus particles.

1. AC dust filtration has essentially remained the same despite increased loading (+0.4%)

Total Suspended Particulates mg/M ³ July 2002					
Location	Average	Min	Max	# Readings	Filtration
Outside	0.403	0	1.65	290	0.0%
St Michaels Lobby	0.034	0.004	0.116	90	91.6%
KD Lobby	0.010	0.002	0.015	65	97.5%
Convocation Annex Lobby	0.009	0.002	0.018	117	97.8%
LLC Lobby	0.007	0.002	0.011	56	98.3%
De Porres Lobby	0.009	0.002	0.117	319	97.8%
<i>Average Building Filtration</i>					96.6%
Total Suspended Particulates mg/M ³ September 2020					
Location	Average	Min	Max	# Readings	Filtration
Outside	0.403	0	1.65	290	0.0%
St Michaels Lobby	0.014	0	0.038	316	96.5%
KD Lobby	0.016	0	0.092	114	96.0%
Convocation Annex Lobby	0.022	0	0.018	117	94.5%
LLC Lobby	0.005	0	0.052	362	98.8%
De Porres Lobby	0.004	0.002	0.031	41	99.0%
<i>Average Building Filtration</i>					97.0%

Comparative Change

0.4%

2 AC Mold filtration comparative change of +7% (No outliers excluded)

Total Mold Spores/M ³ July 2020						
Location	Average	Min	Max	# Readings	Filtration	
Outside	388	180	590	4	0.0%	
St Michaels Lobby	250			1	35%	
KD Lobby	150			1	61%	
Convocation Annex Lobby	240			1	38%	
LLC Lobby	20			1	95%	
De Porres Lobby	33			1	91%	
Xavier South	53			1	86%	
Pottery Building	20			1	95%	
Convocation Center	120			1	69%	
Administration	47			1	88%	
NCF	20			1	95%	
Pharmacy	150			1	61%	
University Center	67			1	83%	
St Joseph's Lobby	60			1	85%	
Fitness Center	1900			1	-390%	
Music	270			1	30%	
Library	210			1	46%	
<i>Average Inside</i>	226				<i>Average Building Filtration</i>	42%
					<i>Average Deviation</i>	57%

Total Mold Spores/M ³ September 2020						
Location	Average	Min	Max	# Readings	Filtration	
Outside	640	620	660	2	0%	
St Michaels Lobby	560			1	13%	
KD Lobby	1000			1	-56%	
Convocation Annex Lobby	220			1	66%	
LLC Lobby	40			1	94%	
De Porres Lobby	920			1	-44%	
Xavier South	93			1	85%	
Pottery Building	310			1	52%	
Convocation Center	310			1	52%	
Administration	400			1	38%	
NCF	67			1	90%	
Pharmacy	130			1	80%	
University Center	270			1	58%	
St Joseph's Lobby	40			1	94%	
Fitness Center	80			1	88%	
Music	320			1	50%	
Library	510			1	20%	
<i>Average Inside</i>	329				<i>Average Building Filtration</i>	49%
					<i>Average Deviation</i>	34%

Comparative Change

7%