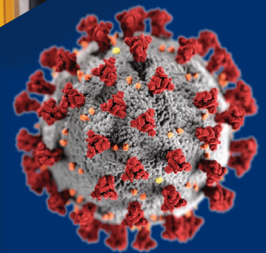


FACILITY SECURITY **RETURN TO WORK** CONSIDERATIONS

2020 INFECTIOUS DISEASE
HARDENING FOR COVID-19
AND OTHER BIOLOGICAL RISKS





As the world combats the global pandemic of COVID-19, practically every organization has had to modify their operations to accommodate infectious disease control factors.

Organizations are incentivized to protect their employees while satisfying minimum standards of governmental mandates. After the global spread of the COVID-19 disease (caused by the SARS-CoV-2 virus), organizations are now determining their ‘Return to Work’ plans among a lack of clarity and precedent as to what measures are necessary and beneficial.

Of particular impact is the enhanced facility security measures needed.

As with many emerging risks and new threats, the fundamentals of facility security have not changed, just the environment to which we apply them.

This document offers leaders broad, universal considerations to start productive conversations across key groups in your organization. To support this effort, Safeguards Consulting approached this environment with the new term of **“infectious disease hardening”** and provides insights forged on the concepts and expertise in lab environments that are applied more broadly to the entire facility.

The goal is to inspire thoughtful changes that create safer environments and build confidence across the workforce.

This forced change presents an opportunity to consider how to resume operations with a long-term model focus (i.e. the “new normal”) within appropriate medical and jurisdictional guidelines to:

- Mitigate the immediate risks of COVID-19.
- Prepare for a potential return of COVID-19 (“second wave”).
- Create a safer environment for seasonal and future infectious diseases.



Infectious Disease Hardening and the ‘Novel’ Infectious Disease Risk Challenge

We dubbed this approach “**infectious disease hardening**” to uniquely identify the physical security efforts needed within facilities to support the mitigation of coronavirus and other infectious diseases. *Please note that fully airborne infectious diseases will require an even higher level of protection and are not within the scope of this document.*

Within the United States of America, infectious diseases in the workplace must be addressed for the protection of the employees. The mitigation of infectious disease is not only a factor for premises liability, but also within the requirement to meet the Occupational Safety and Health Act of 1970 with specific implications related to the ‘General Duty Clause’, Section 5(a) (1), stating that “*Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees*”. OSHA has also produced their ‘Guidance on Preparing Workplaces for COVID-19’ (3990-03) to provide guidance under these legal requirements, which is supported by this document.

The infectious disease hardening principles align with existing fundamental security concepts and security measures and methodologies used in healthcare and research facilities before. We drew on that experience to guide the application to all areas of the organization for this pandemic environment.

Every organization will need to determine the overall infectious disease risk implications for their company, which includes the following tough questions:

- What measures are we willing to take to **protect the employees** in these critical operations?
- Which employee’s **roles include a critical component** that requires them to work at a company facility (versus working from home)?
- Which **critical facility operations** can be performed in a safe manner and not cause an unnecessary risk of infectious disease to the employees?
- What are our **limitations and considerations** to protect employees engaging in critical operations?
- Once operations have resumed, what is our **response plan** to address employees that are found to be infected with an infectious disease, whether from exposure at workplace facilities or from other locations?

The answer to these questions and other key risk decisions will help determine the approach to the protection and safety of the employees.

This likely requires organizations to revisit their operational playbook, but it is important to remember that opportunity presents itself with change. In light of the new playbook, the application of Enterprise Security Risk Management will enable the security management team to adapt and evolve. The security management team will be able to implement measures as described in this document to support the business environment of the “new normal”.

In tandem, the update of existing security policies will be necessary to address the following operational factors related to infectious disease controls:

- Support of employee, vendor, and visitor screening for infectious disease.
- Support of continual employee health monitoring.
- Support of escorting procedures for symptomatic individuals.
- Increased personnel support for screening and monitoring.
- Enhanced building access control violation consequences.
- Alignment between Human Resources and Security for critical role requirements and personnel with “at-risk” health conditions.
- Human resources alignment for labor/shift flexibility and health-related leave.
- Support of business automation, augmentation, and operational routines.

Throughout the facility, organizations can implement the following mitigation measures:

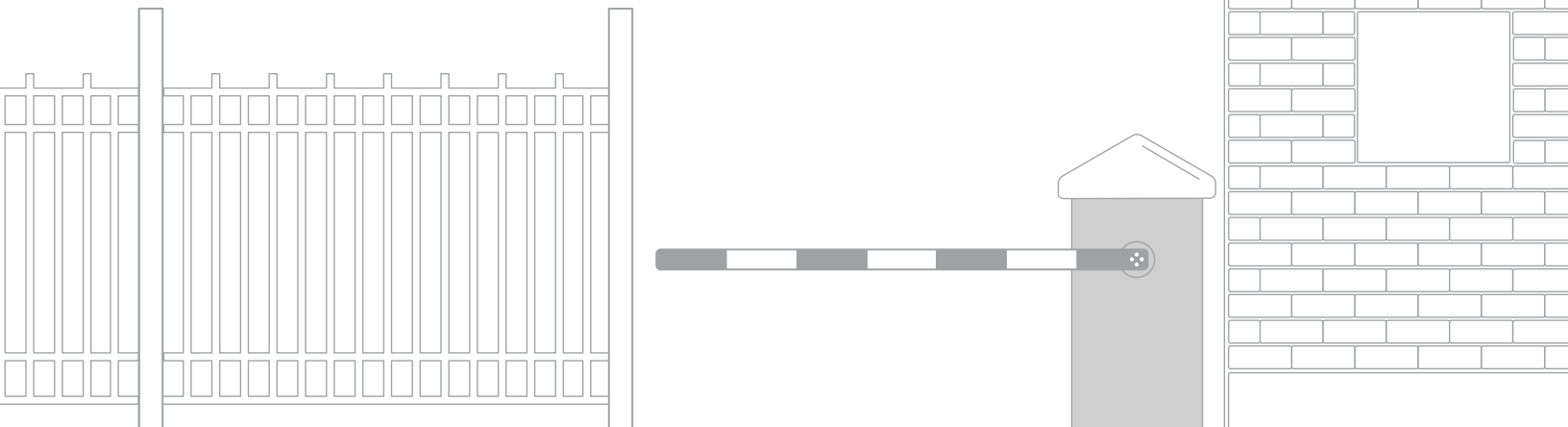
- Thorough control of access to only the areas authorized to employees and registered guests.
- Physical distancing (“social distancing”) within the facilities.
- Distribution of personal protective equipment (PPE) and other health materials.
- Screening for infectious disease symptoms and other indicators.
- Timely communications of facility requirements to personnel.
- Verification of necessary health updates, whether guests or employees.
- Situational awareness of the facility properties and of the infectious disease spread and impact.
- Support for the escalation of infectious diseases emergencies.

THREE KEY AREAS TO CONSIDER:

Facility modifications will likely be needed in all areas of the facility, but they can be organized in the following three (3) areas:

- **Property Perimeter/Property Entrances**
- **Building Entrances and Building Perimeters**
- **Building Interior Areas Operational Flow and Segmentation**

Property Perimeter and Property Entrances



Infectious Disease Hardening Factors

- Vehicle/personnel queuing
- Clear signage and communications
- Controlled physical access control
- Screening processes
- Record keeping of entry and exit
- Territorial reinforcement
- Natural access control
- Natural surveillance



Property Perimeter and Property Entrances Continued

An organization's property perimeter (often at the property boundary) is their front line to impact proper behavior of their employees and guests, and it also the location where they can post the initial communications and support physical distancing and other mitigation requirements. If the current property perimeter has designated vehicle entrances, those areas are the optimal location to use for communications to those arriving as well as the proper location to turn away those that do not have a reason to be on the property. Perimeter vehicle and pedestrian entrances are also good locations for the use of video surveillance to not only monitor activity, but also to record the entry and exit activities of the property.

These perimeter entrances can be optimized with the use of barriers (i.e. fencing) around the perimeter and controlled vehicle/pedestrian entrances that use automated gates that require an access control credential (i.e. badge, card) to enter. This is also a great location to post security personnel to not only verify authorized access and support authorized visitor entries, but also to perform the initial screening processes for those arriving in a vehicle. It is important to note that security stations (also known as "guard shacks") may need regular disinfection procedures and PPE between shifts to support these operations.

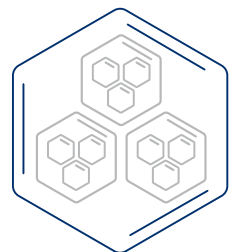
The security officers at the perimeter entrances can ask the drivers all pertinent health questions, verify that all equipment and documentation is in their possession, and even perform temperature checks if needed. These controlled entries also support any needs to enact a lockdown or restriction of access in an escalated situation. The perimeter and designated entrances are also noteworthy locations to document the entry and exit times of personnel in case that information is later needed to support contact tracing efforts. In a higher-risk environment, medical testing (i.e. nasal/nasopharyngeal swab) such as by a licensed medical professional can also be performed but it will require even greater resources. To support the control of perimeter entrances, it is important to plan the queueing (waiting lines) of vehicles and/or persons before the controlled entry point. For pedestrian queueing, sidewalk markings indicating proper distancing is warranted, as well as weather sheltering considerations.



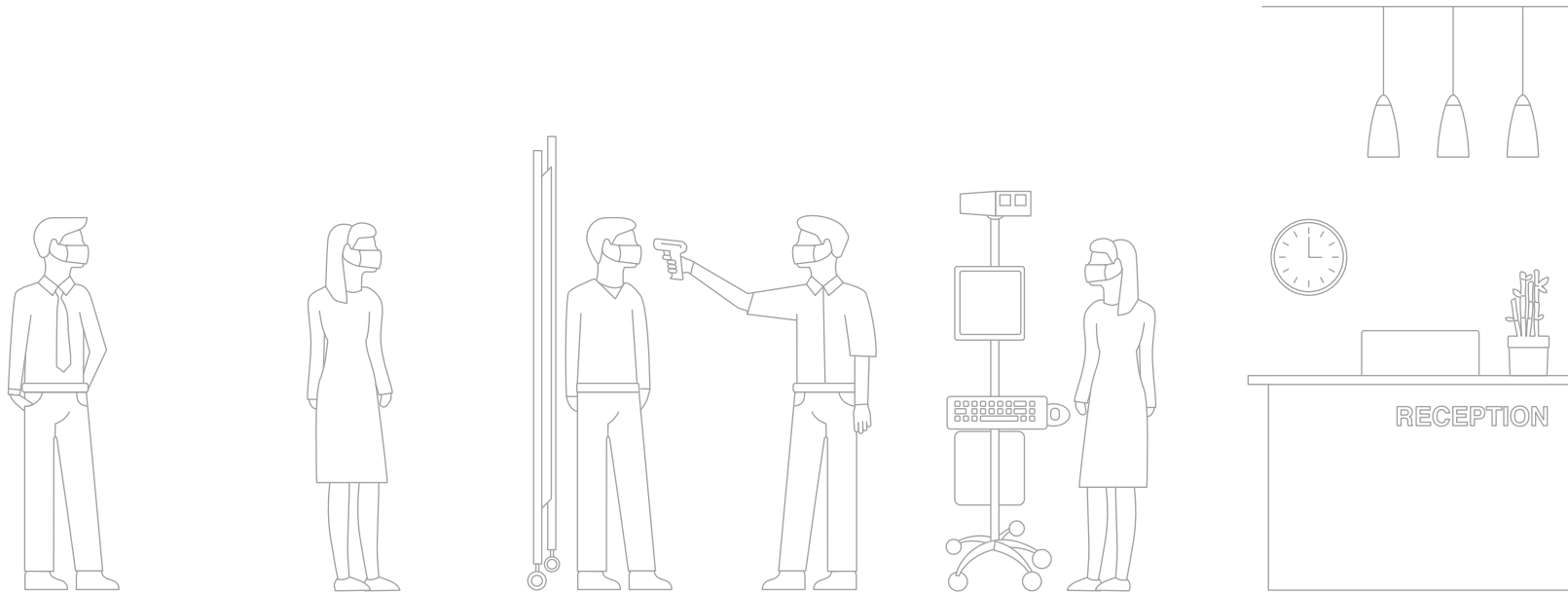
Property Perimeter and Property Entrances Continued

The application of Crime Prevention Through Environmental Design (CPTED) principles is also beneficial at the property perimeter to support this approach. The use of territorial reinforcement will clearly define the boundaries of the property along with the use of signage to communicate all appropriate notices, postings, and desired behaviors before entry. For infectious disease security hardening signage, some examples of notices to post include: use of restricted entrances, health requirements

for those seeking entry, screening processes in use, and the expected behaviors of all personnel. The implementation of natural access control at the perimeter will funnel personnel to the desired entry points. And the maximizing of natural surveillance will not only aid the security personnel with their visibility of the perimeter, but it will support the physical distancing requirements by allowing personnel to better regulate their actions.



Building Perimeters and Building Entrances



Infectious Disease Hardening Factors

- Maximum occupancy requirements
- Employee queuing
- Temperature screening
- Thermal imaging screening
- Visitor queuing & testing
- Vendor queuing & testing
- Access control check-ins and/or visitor management
- PPE distribution
- Virus/antibody testing
- Natural access control
- Natural surveillance



Building Perimeters and Building Entrances Continued

As employees and guests approach the building entrances and start to congregate at these portals for entry procedures, the risk of infectious disease increases considerably, so mitigation measures should be implemented in these areas. Safety and security operations will be focused on these areas to reinforce governmental and jurisdictional requirements, as well as organizational policies and procedures prior to allowing people to enter into the facilities.

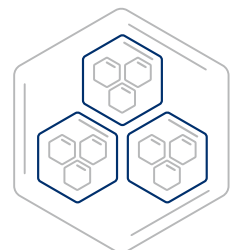
As with the perimeter entrances, it is important to plan the queueing (waiting lines) of people before the building entry point.

Beyond the scheduling planning and staggering of work shifts, measures to accommodate the arrival of employees and visitors should be well planned.

For example, the use of rope barriers and sidewalk markings that indicate proper physical distancing will support the queueing of personnel. If outdoor queueing is implemented, then the consideration for weather sheltering structures should be considered. In alignment with all queueing designs, the implementation of signage (territorial reinforcement) and other communications is effective in these locations to define the expectations of screenings and all appropriate notices, postings, medical reminders, and desired behaviors before entry.

At the building entrances, the screening of employees and non-employees (similar to screening for other security risks) will become a regular occurrence during an escalated risk of infectious disease. The screening may include the following operations:

- Large area video surveillance and associated video analytics to support situational awareness and adherence to physical distancing requirements.
- Automated ground robotics and/or drones to provide operational information and monitoring services without risking human interaction.
- Record keeping of the number of people entering and exiting the facility, such as through the physical electronic access control system.
- Individual electronic thermal imaging monitoring (i.e. elevated skin temperature, elevated body temperature, human fever screening, infrared fever screening systems, etc.) of individuals seeking to gain entrance (compliant with privacy requirements and FDA requirements).
- Individual temperature testing (both contactless and direct contact) of all individuals.

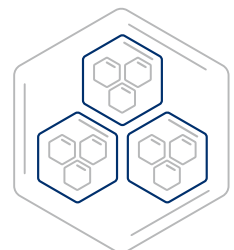


Building Perimeters and Building Entrances Continued

- Contactless or mobile electronic access control through an entry portal/turnstile/door.
- Transparent physical barriers (also known as ‘sneeze guards’).
- Informational update kiosk, display, or tablet (i.e. updated trainings, requirements).
- Distribution of Personal Protective Equipment (PPE) and associated medical review, fit testing and training, where appropriate.
- Process areas for visitor management and vendor management operations.
- Receiving area for deliveries (i.e. couriers, food) to employees to minimize exposure.
- Exit/egress paths for personnel leaving which includes an electronic access control system or documented exiting process (to support contact tracing).
- Rejection path and procedures (i.e. informational packet) for any individual that does not fully pass the screening procedures or a building electronic access control system.
- Separate, enclosed medical support area for the interaction of potential unhealthy individuals with screening personnel, which is staffed by a licensed health professional and may include the following testing:
 - › Additional temperature testing
 - › Virus testing (i.e. nasal/nasopharyngeal swab)
 - › Antibody testing
 - › Support materials for healthcare transport or home care

The screening procedures should be fully planned out to accommodate the following factors that influence the capability and effectiveness of screening areas:

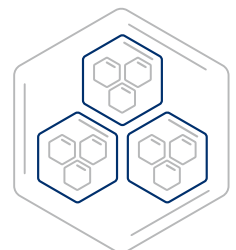
- Natural access control to guide personnel to the queueing lines and into the screening area.
- Proper estimation of the maximum volume/throughput of personnel.
- Adequate spacing and infrastructure (electricity, communications) for all screening technologies and security electronic access control technologies to be implemented.
- Natural surveillance for the security and safety personnel to support their monitoring of the entry area activities.
- Pedestrian flow routes to allow visitors, vendors, and rejected personnel to go through additional procedures without interrupting the main screening line.
- Privacy considerations for personnel that go through the screening process, especially those that must go through the medical support area.



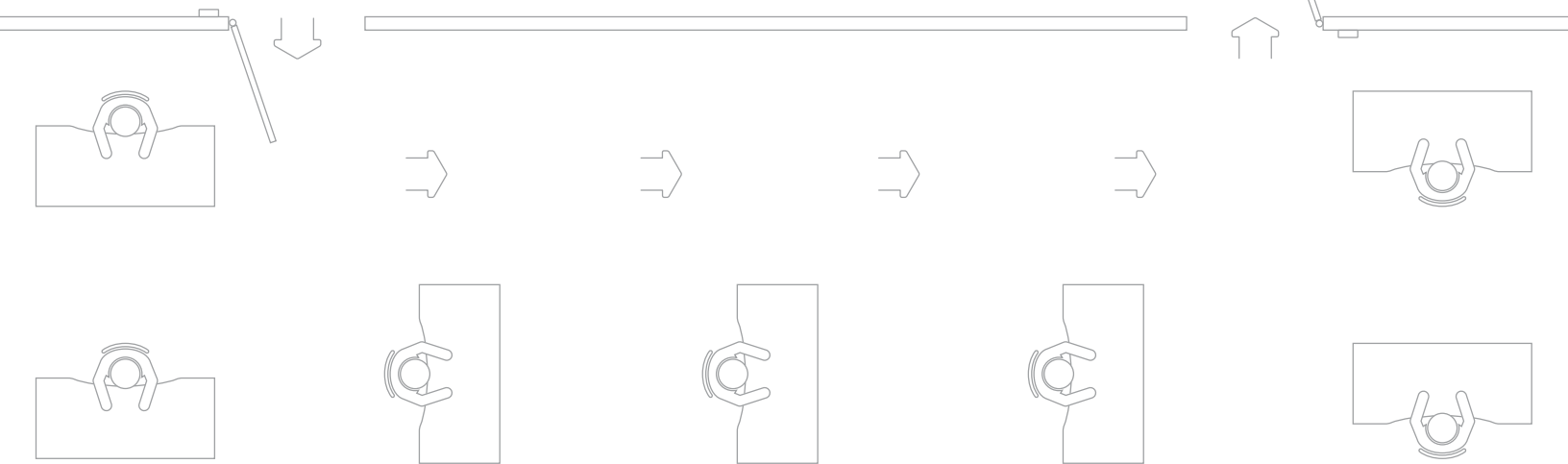
Building Perimeters and Building Entrances Continued

It is very important to understand that the effectiveness of the building screening and entrance access control measures will be directly related to the operations and measures of all other perimeter doors/portals of the same building. Any single door can be used to bypass the safety and security measures in operation. In this escalated risk environment, only the designated entrances should be used for all entry and exiting of the building. All other doors/portals should only be used in a life safety emergency (i.e. fire) and should always be secured and monitored by a video

surveillance system and an electronic access control system/intrusion detection system to alarm if ever used. These measures not only support the mitigation of infectious disease within the facility, but also any contact tracing measures that need to be implemented by the organization. With the use of ingress and egress credential readers, many modern physical security electronic access control systems have the ability to review their access databases to determine which personnel were within a facility/area at a specific time to determine who might be at risk to an exposure within a facility.



Building Interior Areas Operational Flow and Segmentation



Infectious Disease Hardening Factors

- Maximum occupancy requirements
- Natural access control
- Natural surveillance
- Physical distancing of workspaces
- One-way directional paths in office
- Personal wearable/badge/asset sensors to support distancing
- Disinfection of common use areas
- Antimicrobial product selections
- Contactless/touch-free operations
- Area segmentation with electronic access control
- Occupancy limitations using electronic access control
- At-Risk isolation areas



Building Interior Areas Operational Flow and Segmentation Continued

As authorized employees and guests enter into the facilities, they should be able to resume their normal operations while still meeting the appropriate infectious disease mitigation measures. In certain industries and jurisdictions, further maximum occupancy requirements may exist which will have to be supported with designated interior portals and the use of electronic access control systems and/or staff monitoring to be compliant.

For moving through the facility, the application of natural access control can be implemented in many ways by renovating and/or reconfiguring the environment and furniture to create a “natural flow” for humans to move through the facility in linear paths that minimize unnecessary interaction with others.

Key to this design approach is having separate ingress and egress routes.

We also recommend any renovations also maximize the natural surveillance of the interior of the facilities so the users can easily observe whether they are at risk of violating any physical distancing requirements.

In traditional office environments, the physical spacing of workstations will likely need to be modified and proper signage and markings can enable these distancing requirements.

The use and implementation of workstation occupancy sensors can further support physical distancing by confirming that the spaces are used as planned as well as identifying where open workstations are available (i.e. hoteling applications). Office aisles can be designated for directional/one-way movement to minimize interactions and signage to support the proper routes. Directional/one-way movement will also be prudent in stairwells to minimize interactions.

For industrial and technical environments, the equipment may not support the physical distancing requirements, so additional PPE and detailed procedures to minimize human to human physical distancing is necessary. In these environments, the use of wearable sensors and/or asset monitoring sensors will detect and notify/alarm the user when physical distancing rules are at risk of compliance. This notification/alarm allows the user to quickly alter their movement and provide the proper distancing measures.



Building Interior Areas Operational Flow and Segmentation Continued

Common areas may need to be blocked off or removed to support the physical distancing requirements and risk from contaminated surface exposure. Meeting rooms, break rooms, and cafeterias may require disinfection between every use to mitigate infectious diseases. Restroom facilities will remain necessary, so a detailed process for their use during a pandemic is necessary, which is dependent upon the design of the area and the frequency of cleanings. Renovations for pass-through restrooms (i.e. airports) and/or individual restrooms may also be justified if other measures are not feasible.

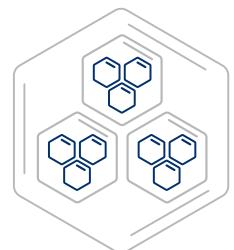
To mitigate exposure to contaminated surfaces throughout the facility, frequent cleanings will be necessary. In addition, the use of antimicrobial products as well as the implementation of touch-free and contactless solutions may become commonplace. These solutions would not only require the renovation of switches (light switches, door switches, communication stations, etc.) but also the implementation of mechanical and electrical equipment that may not already be in place. This is most impactful with door operations, where most unsecured doors will need to have their handles/knobs replaced with “hospital push-pull hardware” and secured doors will likely need automatic door operators added to interface with the electronic access control system. Luckily, many access control readers today are of a contactless type that mitigate surface exposure and may be able to be treated with antiviral/antimicrobial products.

Organizations may, however, choose to go a step above and adopt mobile access control credentials (i.e. using a smartphone) or facial recognition solutions to further enhance a contactless environment. For higher security applications, the use of iris-based or retina-based biometrics can also be implemented, while still supporting a touch-free environment.

Elevators within facilities will also present a unique challenge due to their limited area size and the fact that they typically do not have active ventilation within the elevator cabs. Potential measures to support the continued use of elevator usage may include rules on single occupancy (with the support of electronic access control), frequent disinfection, and the addition of airflow filtration systems within the elevator cab.

Throughout the facility, the segmentation of work areas and their associated access control measures will also support infectious disease control.

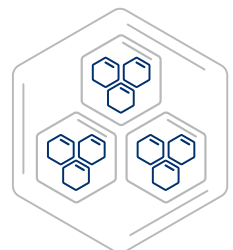
Effectively, the less movement around the facility, the better for reducing the risk of exposure. Therefore, the renovation of facility areas to be dedicated to their regular work teams/departments will be appropriate in various environments and can be supported with the electronic access control system to limit unnecessary movement.



Building Interior Areas Operational Flow and Segmentation Continued

For employees that may be designated as an “at-risk” category for an infectious disease (i.e. auto-immune disorder, health issue, age factor), an organization may determine that designated area(s) of the facility are renovated for this group with special accommodations to address their increased risk.

In addition to being a segmented area, it may have a specialized layout (i.e. dedicated offices and restrooms), minimal surface exposure designs, and enhanced cleanings. This designated area may also have specialized air conditioning (HVAC) solutions that provide more outdoor air and/or positive pressurization to minimize airborne infectious disease, similar to a medical isolation room.



Additional Factors

Workplace Violence

Facility modifications affect physical design to influence human behavior.

Anxiety over changes sometimes leads to workplace violence. The stress and anxiety of infectious disease pandemics and its global response can heighten anxiety. While many embrace the changes to their work environment as a sign of safety, others may perceive the changes as a failure to return to normal.

It is critical to also understand that facility modifications alone will not address the safety and security impacts of 'return to work' operations during a pandemic.

Anticipate the potential for increased stress and anxiety that manifests in workplace violence incidents. The psychological impacts of a pandemic will be a factor that organizations should prepare for and support. The altered environment has the potential for hasty escalation of incidents into physical acts of violence (throwing of objects, shoving, pushing, kicking and fighting) due to increased stress and perceptions. Supervisory leadership and swift intervention will be essential in building workforce trust and confidence in managing the potentially hostile workplace setting. Consider that

the needs for increased stress factors and employee assistance wellness support for the employees of many organizations will increase. After dealing with the societal stress of living in a pandemic, employees are likely to bring an increased level of anxiety and stress to the workplace when they return, and this could present itself in various levels of aggression and outbursts that are not typical.

Having improved facility solutions and infectious disease measures alone may not suffice for the expectations of your employees and guests. Empathetic and understanding leadership and thoughtful communications will be critical through the transition. Therefore, having the staff properly trained in anger management and deconfliction is even more pertinent during a pandemic, and having clear plans for addressing workplace violence on all levels can mitigate these risks. The development and operation of an organization's Threat Assessment Team can be very beneficial in dealing with workplace violence and other threats that may be amplified with infectious disease risks.

Additional Factors Continued

The Importance of Communication

The facility changes needed for each organization will be based on key risk decisions made by the organization's leadership.

The guidance in this document is offered to increase confidence that these decisions can improve workplace safety.

It is essential to engage your communications team to share the changes in a way that conveys your confidence. In some cases, it might help to explain the rationale behind important, but less-obvious changes. Take the time to clarify the message.

The goal is to make sure employees feel confident in the decisions, too. That they feel safe returning to work.

The decisions and resulting changes are likely to impact human resources, health and safety, operations, facilities, information technology, as well as security and other teams. Ensure necessary changes are supporting policy, procedures, and associated facility modifications (such as described in this document) are made accordingly. Beyond the initial return, messaging from leadership should continue to identify further improvements, such as when mitigation guidance is updated from the respective authorities.

Additional Factors Continued

Other Infectious Disease Considerations

The mitigation of infectious disease will require a whole of organization effort, which should be supported on all levels of the organization.

The coordination of many departments to support this will be a significant effort, and may require a dedicated leader, such as a Health and Safety manager, but that decision is dependent upon the organization.

Of particular note is the implementation of hygiene and cleaning practices on a level not typically seen in non-laboratory environments, so the increase in cleaning services/staff is likely with frequent cleaning schedules (i.e. cleaning meeting rooms between every meeting) and the use of advanced antiviral and antimicrobial products throughout the facility.

Organizations may also want to consider other facility improvements that support infectious disease control. These can be addressed within a traditional facility renovation construction project and may include the following:

- Renovations and signage throughout the facility to direct traffic flow and proper spacing throughout the facility to support physical distancing on a consistent basis.
 - Modification of the facility air conditioning systems (HVAC) to reduce air recirculation and maximize the use of outside air (i.e. 100% outside air systems).
 - If the benefits of sunlight (i.e. ultraviolet radiation) is proven to support human immune systems and/or mitigate the infectious disease directly, organizations may want to bring in as much sunlight as is feasible through their facility.
 - Increased use of controlled outdoor spaces that allow employees to have outdoor meetings, large gatherings, and any benefits of outdoor air and sunlight when weather permits.
- Implementation of touch-free solutions across the facility, such as automatic door operators, automated portals, touch-free switches, motion activated restroom fixtures, motion activated lights, etc.



RELATED INFECTIOUS DISEASE REFERENCES:

- OSHA Occupational Safety and Health Act of 1970
- OSHA 3990-03 2020 ‘Guidance on Preparing Workplaces for COVID-19’
- OSHA FactSheet - ‘Protecting Workers during a Pandemic’
- CDC ‘Implementation of Mitigation Strategies for Communities with Local COVID-19 Transmission’
- CDC ‘Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 (COVID-19)’ Website - www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html
- AIHA ‘Reopening: Guidance for General Office Settings’
- FDA ‘Enforcement Policy for Telethermographic Systems During the Coronavirus Disease 2019 (COVID-19) Public Health Emergency’
- U.S. Federal Government ‘Opening Up America Again’
- EEOC ‘Pandemic Preparedness in the Workplace and the ADA’
- DHS CISA ‘Guidance on the Essential Critical Infrastructure Workforce’
- ESCC ‘Assessing and Mitigating the Novel Coronavirus (COVID-19)’
- CBRE ‘Reopening the World’s Workplaces’
- Cushman Wakefield ‘Recovery Readiness’
- Gensler ‘How Should Office Buildings Change in a Post-Pandemic World?’
- Gensler ‘Designing Office Building Lobbies to Respond to the Coronavirus’
- Madrona Venture Group - BTW Toolkit Website - www.backtoworktoolkit.com
- ASIS International - Disease Outbreak Information Hub Website - www.asisonline.org/publications--resources/security-topics/disease-outbreak-security-resources
- SIA - Resources for COVID-19 and Business Continuity Website - www.securityindustry.org/coronavirus-resources
- ESI Convergent ‘STEPS: A Partnership with America’

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Safeguards Consulting is a physical security engineering and technology consulting firm that supports organizations around the globe to implement and improve their security capabilities.

They assist with direct consultations as well as design and construction projects.

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