Getting Back to Productivity

Responding to COVID-19

A Stantec Initiative | August 2020

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> Resilience.
> I know our community spirit is alive and well and we remain committed to serving our clients and communities... Better Together even though we're apart.

Gord Johnston
President & CEO

Getting Back to Productivity

Responding to COVID-19

During this unprecedented COVID-19 event, a top leadership priority has been to keep Stantec's staff and the communities we serve safe. Over the past several months, Stantec's Pandemic Committee has worked tirelessly with company leadership to adapt and execute a Pandemic Response Plan. Like countless other corporate pandemic committees around the world, ours is meeting daily to assess global impacts and gain a clear understanding of what government and health officials are recommending or mandating so that the best decisions can be made for our people, communities, and clients.

We believe that Stantec is well positioned to keep projects moving forward despite the current challenging circumstances. Stantec's COVID-19 response is aligned with our clients and industry partners. As part of that alignment, this document is an initiative that is focused on addressing our clients' needs to address public education and safety as businesses begin a return to more normal operations. An emphasis here is in immediate, short-term measures while work is continuing to develop mid- and longer-term strategies that will assist clients in making decisions in the best interest for each of their projects.

"We are better together" is another of Stantec's core values. Although we may not be physically together at present, our community spirit is alive and well and remains a testament to a commitment we keep in serving our clients and communities.

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Getting Back to Productivity

PROBLEM

In response to fighting the spread of COVID-19, businesses and manufacturers need to prepare for the return of all those who work, visit, live, connect, interact and provide services to their facilities. This includes protocols, information, security and amenities that respect, educate and facilitate new behaviors required for proper social distancing, hygiene and safety. By mobilizing solutions now, we protect everyone's health and safety and are more prepared for potential future pandemic events.

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SOLUTION

The purpose of this document is to present a range of ideas to consider as businesses and manufacturers begin to return to normal operation. We have considered the practicality, simplicity and immediate short-term (1-6 month) and mid-term (6-18 month) deployment needs, and ideas for long-term (18 month+) implementation and permanent duration.

Short-Term

The assumption for immediate deployment strategies centers around maintenance of now familiar social distancing and hygiene protocols, in concert with informational graphics, signage, and wayfinding that will support safe behaviors with easily recognizable elements. These elements should share a common visual language that reflect the quality of the building environment in tone and user experience, and that convey a friendly, non-threatening yet authoritative voice of professionalism.

Subsequent pages in this document illustrate concepts from a range of possibilities. The desired outcome is to provide a library of ideas that can fit a range of individual site conditions.

Mid-Term

Beyond the short-term need for more overt precautions associated with the resumption of social gatherings, we presume that the procedural and behavioral practices established early during this pandemic will form the basis to reinforce new norms and expectations from the general public. Early phase operations, protocols, furnishings, signage, and graphics may become less temporary in function and appearance and more attuned to specific property needs and aesthetics.

Long-Term

Short-term/mid-term solutions are the most pressing and require immediate need for re-inforcement of currently routine social interaction restrictions and safety measures. Some attention has also been paid to related considerations for long-term operations, hardscape modifications, furnishings, and management protocols that require more thought for design, development, and implementation. These types of long-term strategies also imply greater cost for more permanent effect.

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FACILITY TOUCHPOINT OUTLINE

An outline that considers all typical touchpoints of students, potential users and visitors to a property. These are broken into short- and long-term categories and is meant to be as comprehensive as possible. The extent to which any of these touchpoints are addressed is dependent on client determination.

Pre-Visit Orientation: via website

ARRIVAL

PARKING

- **Lot / Structure**
  - Directional Signage
  - Optimal Space Parking Grid
  - Pavement / Floor Graphics
- **Shuttles**
  - Directional Signage
  - Pavement Graphics
- **Smokers Shelter**
  - Informational Signage
  - Directional Signage
  - Pavement / Floor Graphics

Building Entry & Plant Entry

- **Queuing**
  - Outdoor Experince:
    Shade Structures, Seating
    Planting, Informational Signage
    Ground Plane - distancing, directional signage & queueing graphics
- **Health Screening**
  - Sanitizer Portal:
    Walk-Through Sanitizer Atomized Mist
    No-Touch Sanitizer Dispenser
    Temp Check Station
    Wipes/Gloves/Masks
    Visiting Protocols Display/Signage
- **Doors**
  - All Entries:
    No-Touch Sanitizer Dispenser
    Directional Signage
    Door Handle Treatments
    Automatic Operator
    Secondary Entry:
    Limited Access or Exit Only
- **Lobby Seating**
  - Seating Limited or Eliminated
    Floor Distancing Graphics
- **Reception / Check-In**
  - Staffed Check In:
    Sneezeguard
    No-Touch Sanitizer Dispenser
    Purse/Briefcase Hang
    Floor Graphics - Distancing & Queueing
    Automated Check In:
    Via Remote
- **Security**
  - Sneezeguard
    Informational Signage
    Floor Distancing/Queueing Graphics
- **Dock / Dock Doors**
  - No-Touch Sanitizer Dispenser
    Directional Signage
    Door Handle Treatments
    Automatic Operator

CIRCULATION

- **Stairs / Stairwells**
  - Handrail Treatment
    Door Handle Treatements
- **Elevators**
  - Limited Access
    Use Graphics
    Floor Graphics
    Button/Voice Activation
    No-Touch Sanitizer Dispenser
- **Corridors / Hallways**
  - One-Way Traffic Signage
    Queuing Graphics
    Water Fountains

INTERIOR SPACES

- **Office / Office Suites**
  - Door/Door Handle Treatments
    Light Switches
    Phone
    Keyboard/Mouse
    Chair Arms
    Office Equipment
    Waiting Area
- **Meeting Rooms / Training**
  - Directional Signage (especially if two doors)
    Door/Door Handle Treatments
    Lights/Outlets
    Instructional Technology
    Sanitizing Wipes Dispenser
    Reduced Seat Quantity
    Floor Graphics, Santizing Instructions
- **Locker Rooms / Showers**
  - Equipment
    Sinks/Counters/Hand Dryers
    Shower
- **Restrooms**
  - Door/Door Handle Treatments
    Tissue/Wipes Dispenser
    Sinks/Counters/Hand Dryers
    No-Touch Automatic Door Operator
- **Manufacturing / Warehouse**
  - No-Touch Sanitizer Dispenser/Handwashing Stations
    Equipment
    Face Masks/Shields
    Directional Signage
    One Way Pathways/Corridors
    Floor Graphics, Santizing Instructions
- **Phone Booths**
  - Sanitizing Wipes Dispenser
- **Break Rooms / Vending**
  - No-Touch Sanitizer Dispenser, Handwash Sink
    Service Area - Sneezeguard
    Appliance Handles/Vending Controls
    Drawer Pulls/Faucets
    Counters
    Prepackaged
    Coffee Stations
    Smaller Dispersed Break Rooms
- **Medical / Clinic**
  - Finishes/Materials
    Entry Location
    Testing/Quarantine
    Lab
- **Mother's Room / Wellness Rooms**
  - No-Touch Sanitizer Dispenser, Handwash Sink if available
- **Multi-Faith Room**
  - No-Touch Sanitizer Dispenser, Handwash Sink if available
- **Gym / Fitness**
  - Locker Rooms/Showers/Restrooms
    No-Touch Sanitizer Dispenser, Handwash Sink if available
    Equipment
- **Bike / Transit Storage**
  - Tables/Benches/Seating
- **Outdoor Spaces**
  - Storage
    Maintenance
- **Back of House**

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Getting Back to Productivity **USER EXPERIENCE**

User Moment Vignettes

Before you even leave for work...

Check to confirm the building is open and see if there is any additional guidance or instructions.

Take your own temperature and submit the results using your phone or computer to the building's Security App for confirmed clearence that morning. A pre-confirmed acceptable temperature allows one to bypass the screening station.

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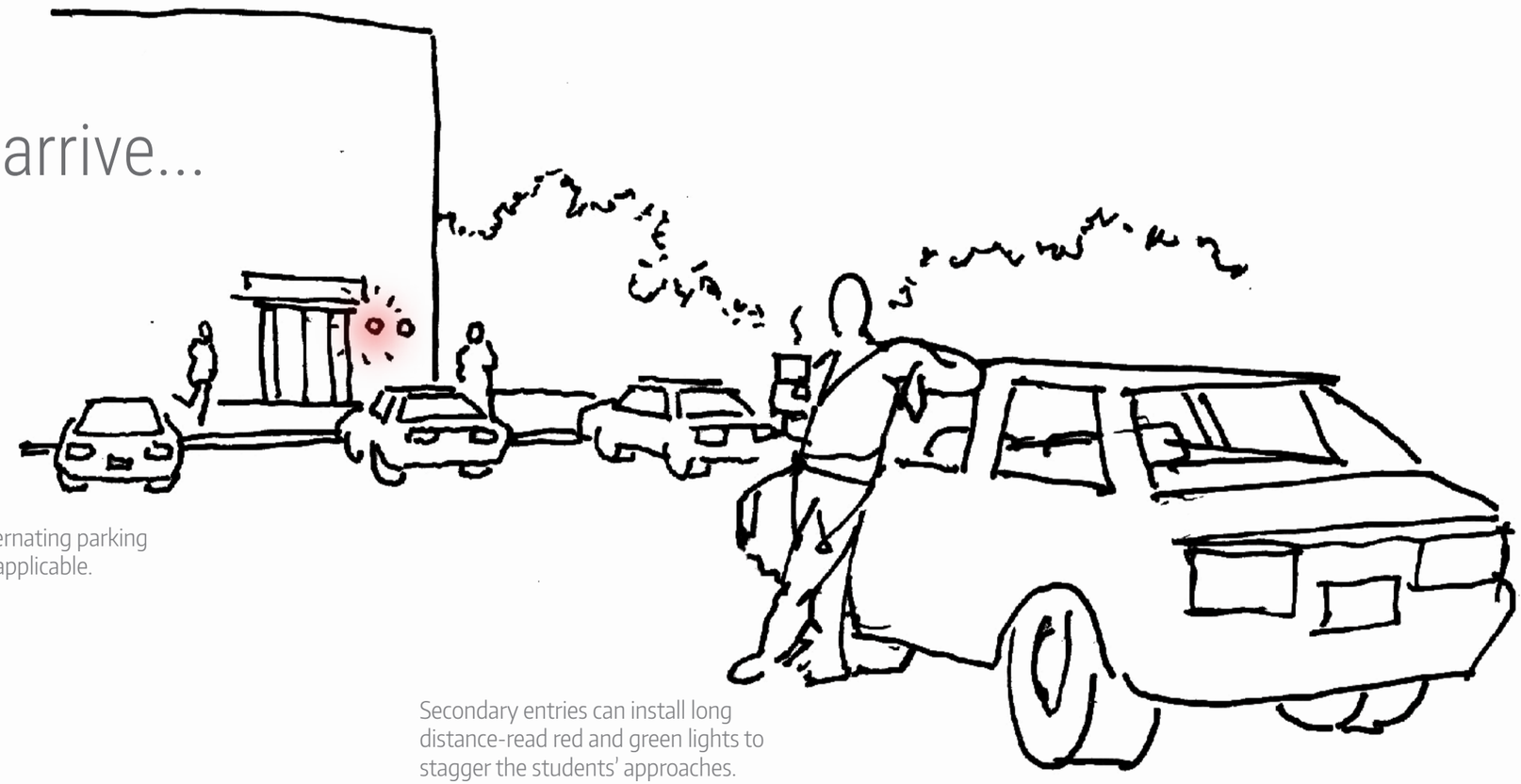
As you arrive...



Follow prescribed alternating parking space instructions if applicable.

Secondary entries can install long distance-read red and green lights to stagger the students' approaches.

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Primary & Secondary Building Entries

These entries will have additional signage in place to inform and guide the workforce.

Peak traffic times may require staffed assistance to minimize congestion.

Additional seating and informal shading devices may be added if exterior wait times demand.

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User Moment Vignettes

Once Inside...

Follow all posted "rules of the road" and behavioral expectation guidelines.

These guidelines are extremely important. Be sure to post in strategic, high-traffic areas.

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USER EXPERIENCE & FACILITY CONSIDERATIONS

Responding to COVID-19

Getting Back to Productivity

USER EXPERIENCE

Experience Journey Diagram

1. At Home — App, Digital Check In

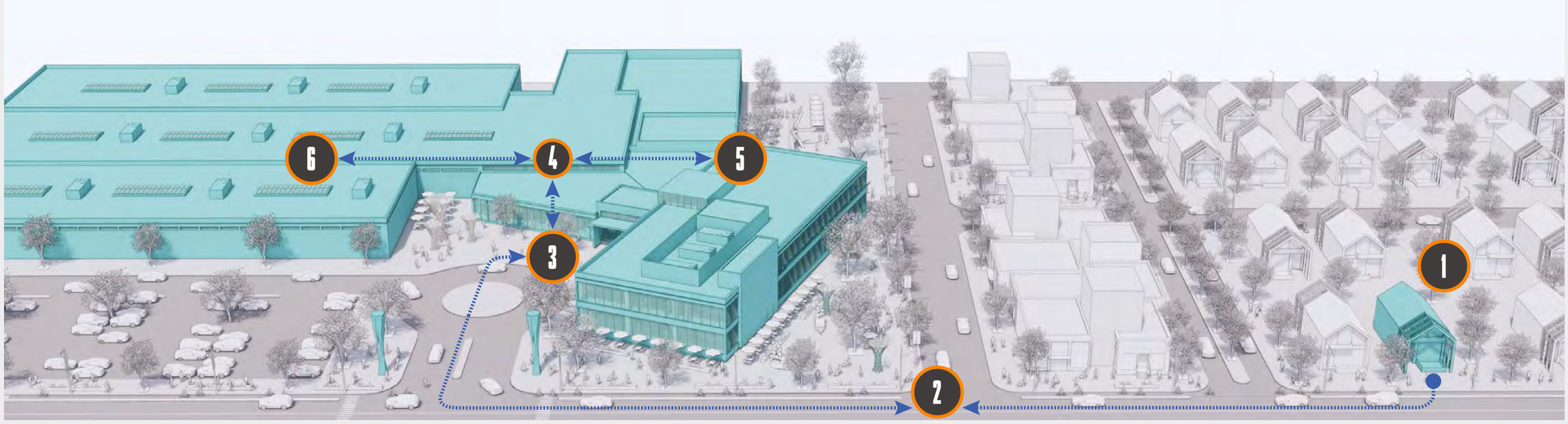
2. Commute — Drive, Transit, Walk, Park, Shuttle

3. Entry — Queuing, Lobby, Reception, Security

4. Circulation — Access - Doors, Elevators, Stairs

5. At the Office — Internal Areas of Interaction

6. At the Plant/ Warehouse — Internal and External Areas of Interaction



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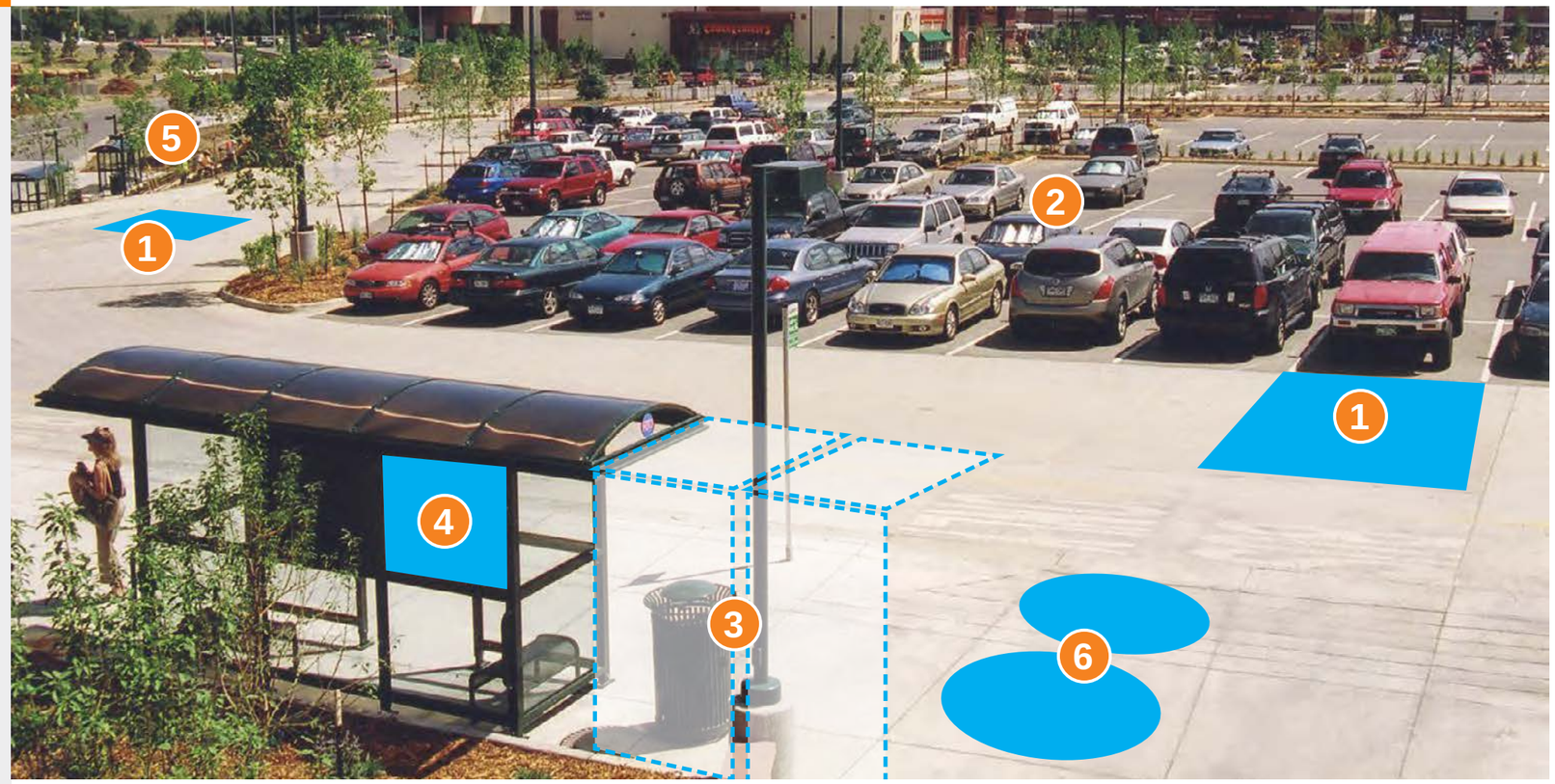
USER EXPERIENCE

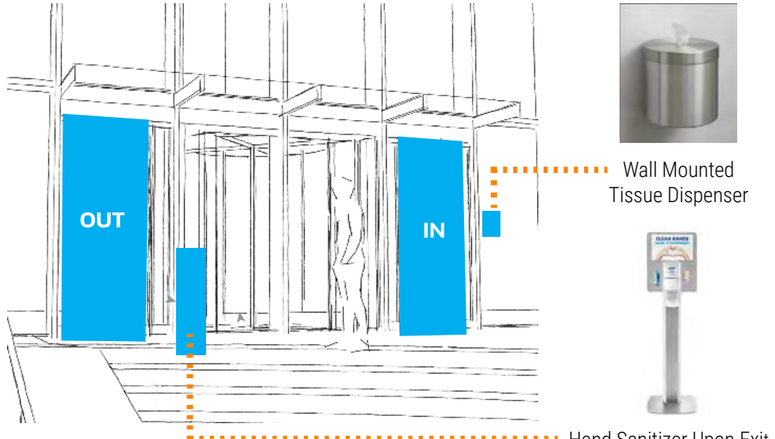
Arrival and Exterior Entries

Best Practices

ADDITIVE

1. Directional signage for parking lot and shuttle
2. Optimization of parking space grid
3. Expansion of smoking/shuttle to accomodate social distancing
4. Informational signage for smoking shelters and to convey protocols and procedures
5. Shade structures and seating
6. Distancing, directional signage and queueing graphics

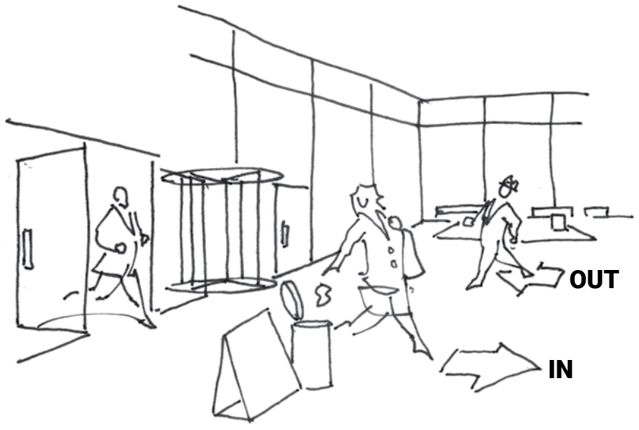




Wall Mounted
Tissue Dispenser

Hand Sanitizer Upon Exit

Typical exterior entry with directional signage



Typical interior entry with directional signage

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USER EXPERIENCE

Lobby Entry

Best Practices

ADDITIVE

1 Informational signage

- Building and space guidelines for use
- Reception desk and security area protocol
- Overall expectations, protocols, and procedures

2 Hygiene station
- Masks and gloves
- Hands-free hand sanitizers
- Hands-free trash can
- Wall mounted tissue dispenser

3 Reception desk / Security area
- Queuing markers
- “Sneeze guard” barrier
- Coatrack and table for personal articles

4 Wellness station
- Registered Nurse or Certified EMT Attendant
- Temperature station

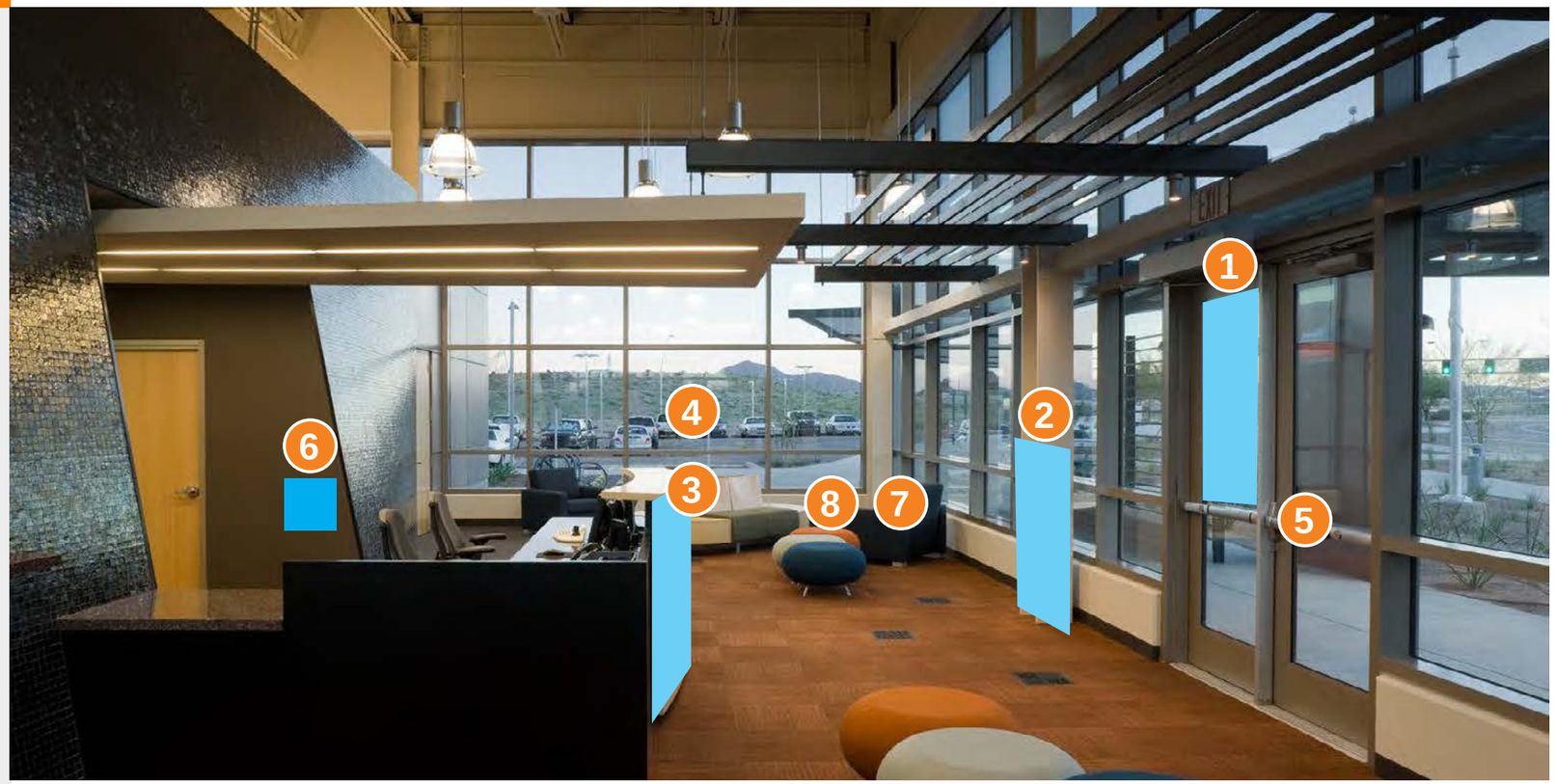
5 Hands free alternate door handles and keyed entries (pending code requirements)

6 Sanitizing station after security

SUBTRACTIVE

7 Products utilizing silver technology

8 Reading materials, paper brochures, etc.



Posted behavioral guidelines

Entry-scaled Hand Hygiene Station with Signage

Hygiene Station

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Getting Back to Productivity

USER EXPERIENCE

Manufacturing / Warehouse Entry & Security Check-in

Best Practices

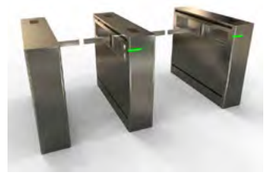
ADDITIVE

1. Add Wellness Station and Quarantine Room near employee entry for quick isolation of suspected cases
2. Free-standing hands-free hand sanitizer prior to entry
3. Automatic sensored door opener (touch-free) (pending code requirements)
4. Separate entry and egress for shift changes
5. Informational graphics/signage to convey protocols and procedures

SUBTRACTIVE

6. Turnstyle cages (replace with touchless tap turnstyle entry)
7. Time clock system (replace with tap devices versus punch card)
8. Door hardware (replace with hand / arm or foot opening capability)

Wellness Station and Quarantine Room Before or After Building Entrance



Touchless Tap Turnstyle

Tap Time Clock System

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Getting Back to Productivity

USER EXPERIENCE

Medical Room and Infirmary

Best Practices

ADDITIVE

1 Information signage to convey protocols and procedures

2 Mounted PPE, tissue and/or touchless paper towel dispensers

3 Touchless waste bin

4 Touchless mounted hand sanitizer

5 Frequent cleaning of hard surfaces
- Integral sink/counter surface

6 Hands-free faucets
- Auto sensors
- Foot controlled

7 Hands-free soap dispenser

SUBTRACTIVE

8 Unnecessary furnishings and/or fixtures
- Ensure furnishings have appropriate surfaces; eliminate arms on chairs if possible
- Bleach cleanable surfaces/materials

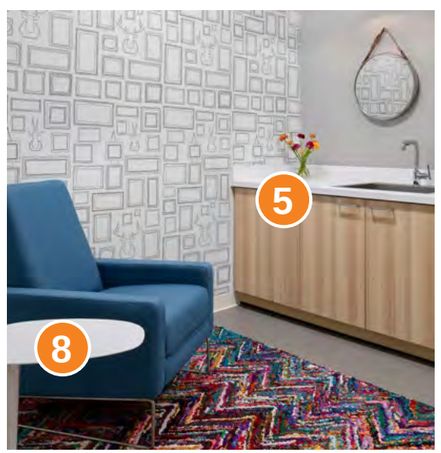
9 Manual faucets

10 Manual soap or tissue dispenser

11 Temporarily remove cabinet fronts at high touch locations

12 Door hardware for no-touch capability (pending code requirements)

13 Upgrade finishes to provide more healthcare-focused materials
- Bleach cleanable/silver technology (sheet flooring, seamless countertop/integral sink etc.)



PPE Station

Hands-Free Faucet

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USER EXPERIENCE

Breakroom and Vending

Best Practices

ADDITIVE

1 Information signage to convey protocols and procedures

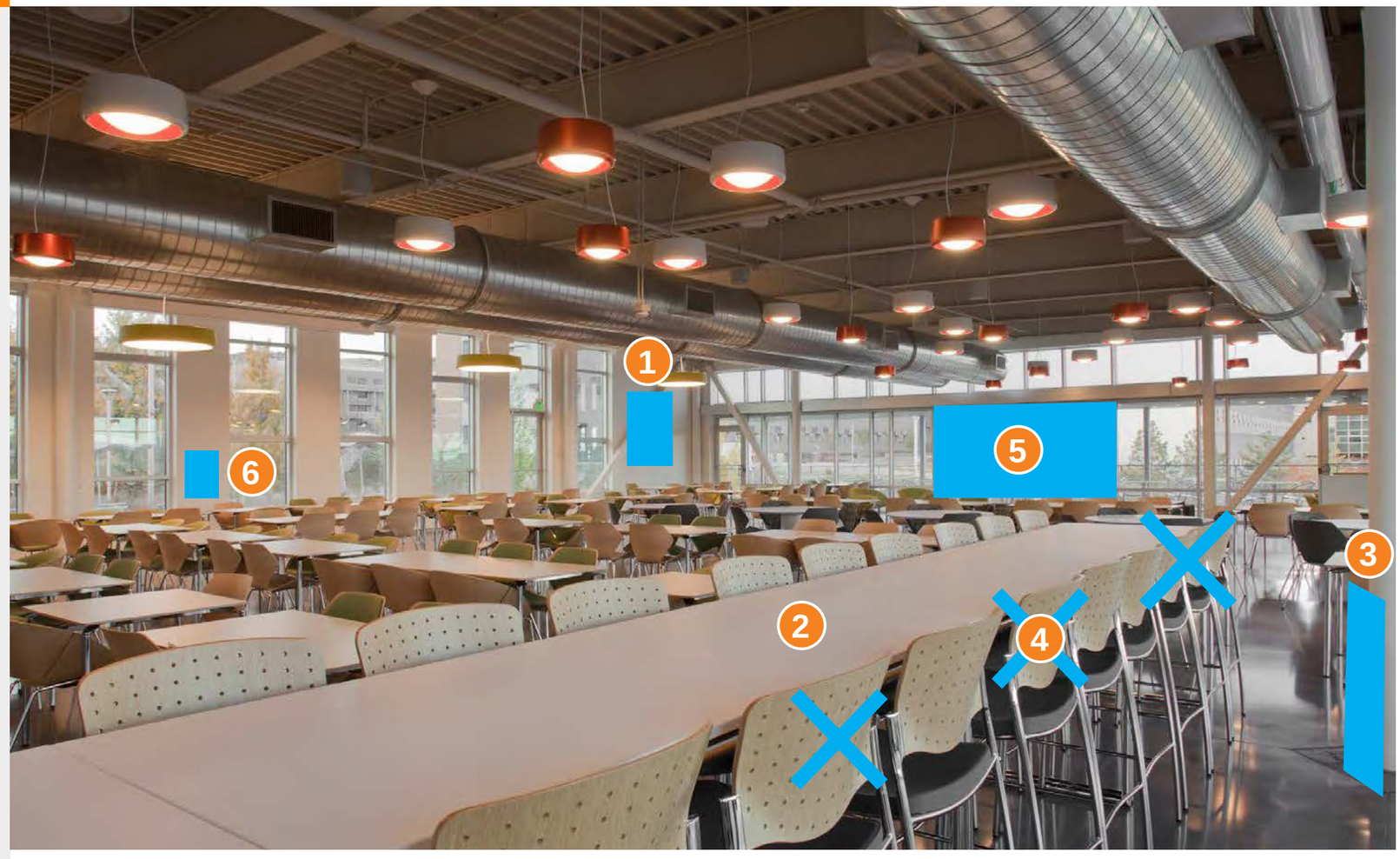
2 Frequent sanitizing of hard surfaces and change to anti-microbial surfaces

3 Hygiene station
- Masks and gloves
- Hands-free hand sanitizers
- Hands-free trash can
- Wall mounted tissue dispenser

4 Maintain distance of 6’ between seating areas
- Reconfigure dining tables/chairs for distancing
- Remove extra chairs and tables
- Multiple smaller breakrooms for less interaction
- Microwaves spaced to allow distancing

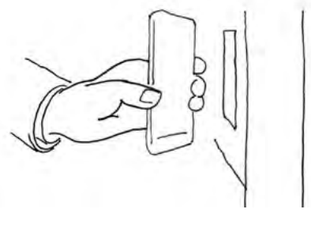
5 Vending machines
- Include hygiene station nearby
- Add touch free payment/product selection options
- Add more fresh food options to eliminate need for microwave use using micro-market services that incorporate self service, touch free and limited touch points for food
- Touch free payment options (google pay, apple pay) available, incorporate additional option to add product selection from a distance from app

6 Drinking fountains and bottle fillers



Bottle Filler Fountain

Vending Machine Alternatives



Touchless Payment Options

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USER EXPERIENCE

Restrooms and Locker Room / Showers

Best Practices

ADDITIVE

1. Information signage to convey protocols and procedures
2. Lockers with touchless solutions
   - Limit open coat racks
   - Reconfigure to allow for one way circulation
3. Touchless paper towel and/or mounted tissue dispensers
4. Toilet seat tissue covers
5. Touchless mounted hand sanitizer
6. Touchless soap dispensers
7. Touchless faucets
8. Touchless trash cans at doorways
9. Hand / arm door opening capability
10. Foot / toe door opening capability
11. Plexi-glass partition or screen between sinks
12. Floor signage to maintain distance of 6’
13. Frequent cleaning of hard surfaces
    - Seamless countertop/sink solutions

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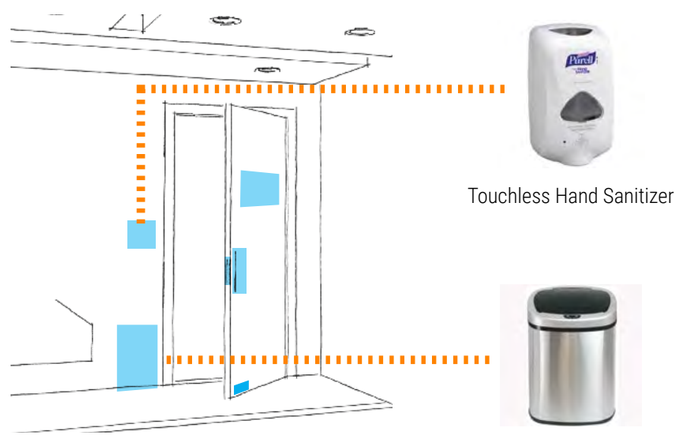


Typical Restroom Doorway

Touchless Hand Sanitizer

Touchless Trash Can

Getting Back to Productivity

USER EXPERIENCE

Manufacturing / Warehouse

Best Practices

ADDITIVE

1 Far UV-C technology above conveyors for incoming packages from outside vendors

2 Plexi-glass partitions to separate spaces into zones

3 Improved ventilation

4 Hygiene station
- Masks and gloves
- Hands-free hand sanitizers
- Hands-free trash can
- Wall mounted tissue dispenser

5 Mounted touchless hand sanitizers

6 Information signage to convey protocols and procedures

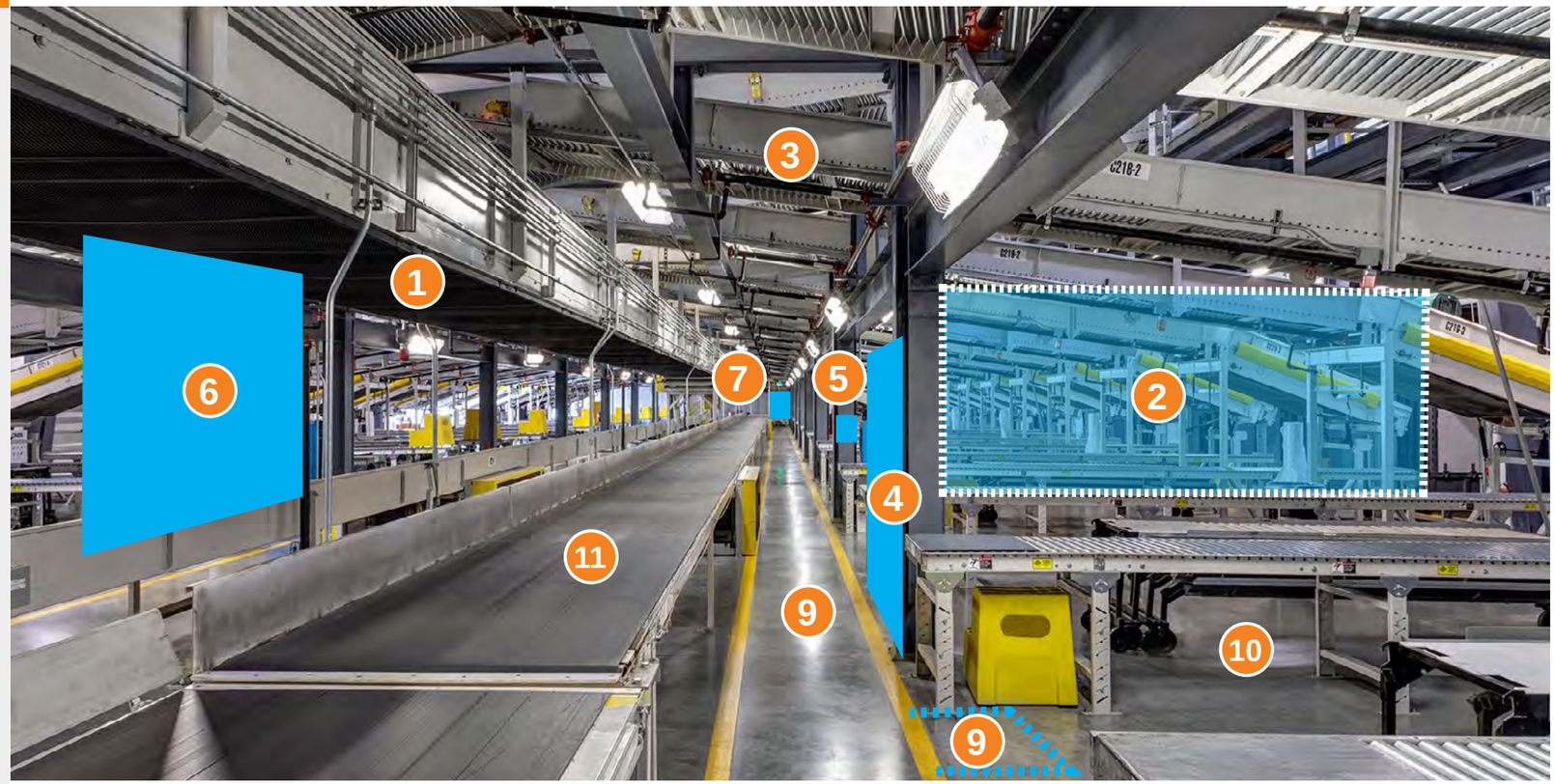
7 Hard-piped hand washing sinks in lieu of portable stations

8 Drinking fountains replaces with bottle fillers

9 Walkways between conveyors and equipment to allow for 6’
- Consider open source AI options to encourage employee distancing
- If 6’ distance is not possible, look for waiting locations while others walk past

10 Additional or nearby storage space for required PPE (e.g. masks, gloves)

11 Conveyor belts to sanitize automatically



Touchless Hard-Piped Sink

Hygiene Station

Bottle Filler Fountain

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Getting Back to Productivity

USER EXPERIENCE

Office Space and Corridors

Best Practices

ADDITIVE

1 Identify occupied seats

2 Reconfiguration of work area
- Reduce shared office workstations
- Distance of 6’ between workstations
- Space comunal seating or remove if not easily cleaned

3 Integrated barriers or partitions between work areas

4 Disposable towels to maintain clean surfaces

5 Mounted tissue dispensers

6 Touchless waste and recycling bins

7 Free-standing hands-free hand sanitizer

8 Hygiene station
- Masks and gloves
- Hands-free hand sanitizers
- Hands-free trash can
- Wall mounted tissue dispenser

9 One-way circulation paths

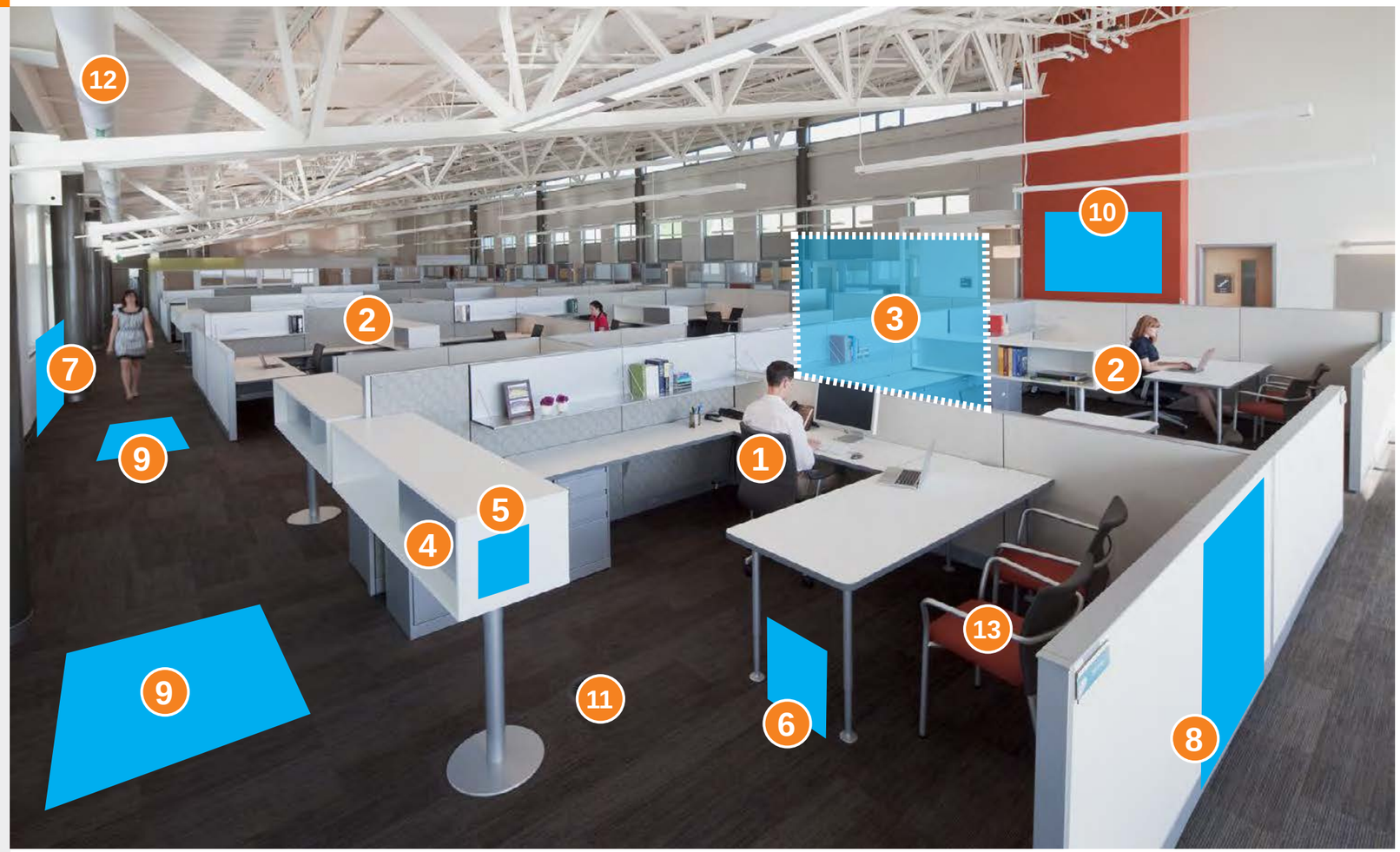
10 Information signage to convey protocols and procedures

11 Clean carpet or soft surfaces (e.g. visitor chairs)

12 Air quality sensors to measure air filtration

For more information on our workplace COVID response, please visit:

www.stantec.com/en/ideas/topic/covid-19/health-well-being-in-a-post-covid-19-world



Mounted
Tissue Dispensers

Touchless Waste
& Recycling Bins

‘NanoSeptic’ is an environmentally safe, self-cleaning material that cleans and disinfects by continuously oxidizing organic matter. It can be applied on door handles, equipment, mouse pads, phones, elevator buttons, bathroom vanities, etc.

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USER EXPERIENCE

Interior Doors

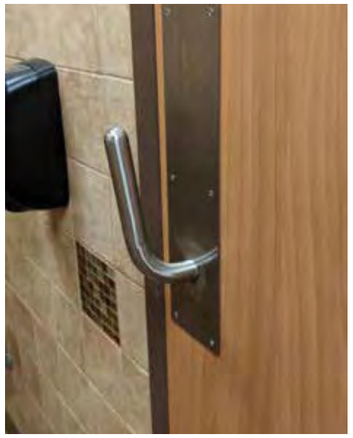
Best Practices

ADDITIVE

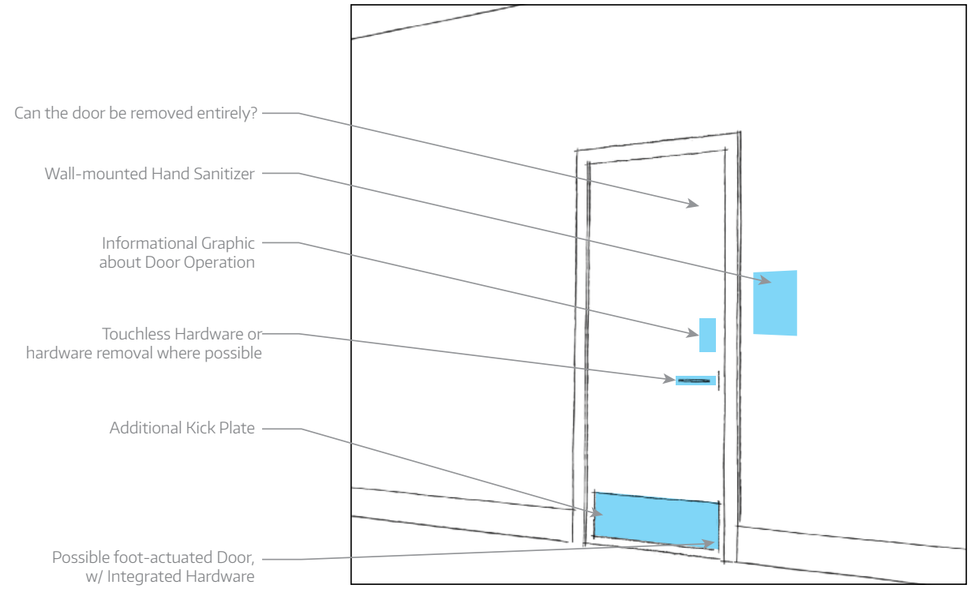
1. Hand / arm door opening capability
2. Foot / toe door opening capability
3. Mounted tissue and/or touchless paper towel dispensers
4. Wall-mounted hands-free hand sanitizer
5. Informational graphics/signage to convey protocols and procedures
6. Automatic sensored door opener (touch-free)

SUBTRACTIVE

7. Door removal (code permitting)
8. Double-swing capability (code permitting)



Possible Door Solutions



Typical interior door condition

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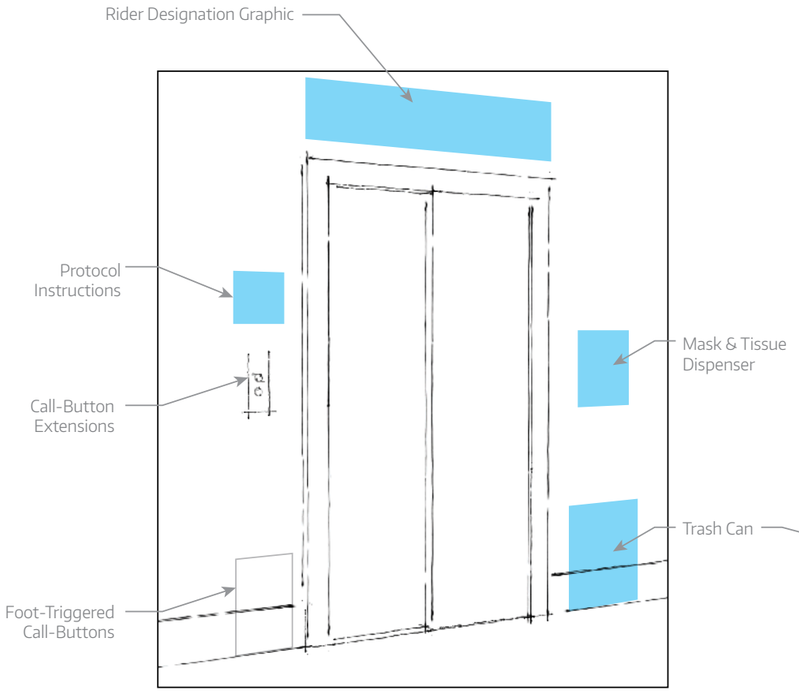
USER EXPERIENCE

Elevator

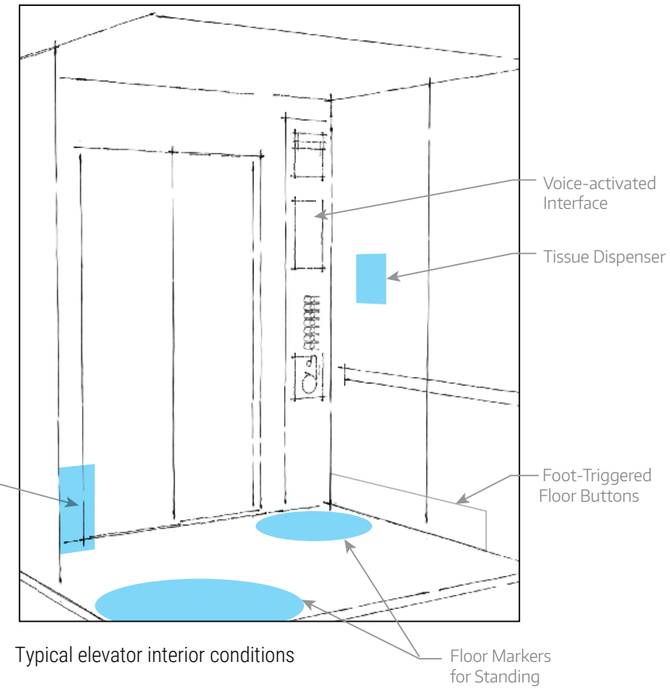
Best Practices

ADDITIVE

1. Designated Elevator Graphics
   - By Name
   - By Floor
   - By Department
2. Instructional Graphics
   - Mask-Only Area
   - Limited Occupancy
   - Designated Floor Markers for Standing
   - Button-Pressing Instructions
3. Tissue Dispenser (wall-mounted)
   - Trash Can + Tissues (inside and outside)
4. Mask Station
   - Mask Dispenser
   - Trash Can
5. Frequent cleaning cycle
6. Automatic Opener (touch-free)
   - Replace with New Hardware / New Interface (e.g. voice-controlled)



Typical elevator exterior conditions



Typical elevator interior conditions

Possible elevator solutions to limit hand-to-surface contact

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Getting Back to
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PROGRAM IDENTITY / GRAPHIC STUDIES

Responding to COVID-19

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USER EXPERIENCE

Program Identity | Brand Recognition

Conceptual

It may be advantageous to develop a specific brand identity for the "Back to Productivity" initiative.

An effectively branded identity for the program can provide quick recognition for the user in need of guidance, information and reassurance while reorienting to a specific building environment.

A tone that is proactive, friendly and engaging has the potential for building trust in owner/management preparedness.

The following pages reflect initial ideation for potential program naming and graphic personality as well as intentional visual ties to Stantec or particular client's branding identity.

All One.Together™

Better.Together™

Together One.™

Together As One.™

One Together.™

All One. Together™

All In.Together™

Be One.Together™

All For One™

Be Safe. Together.™

For Goodness Sake!™

Safe & Aware™

Aware is Care.™

Keep it Safe.™

From Me to We™

Respect the Space™

Safe.Clean.Aware.
Respect the Space

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Program Identity | Brand Recognition

Conceptual

AWARE IS CARE™

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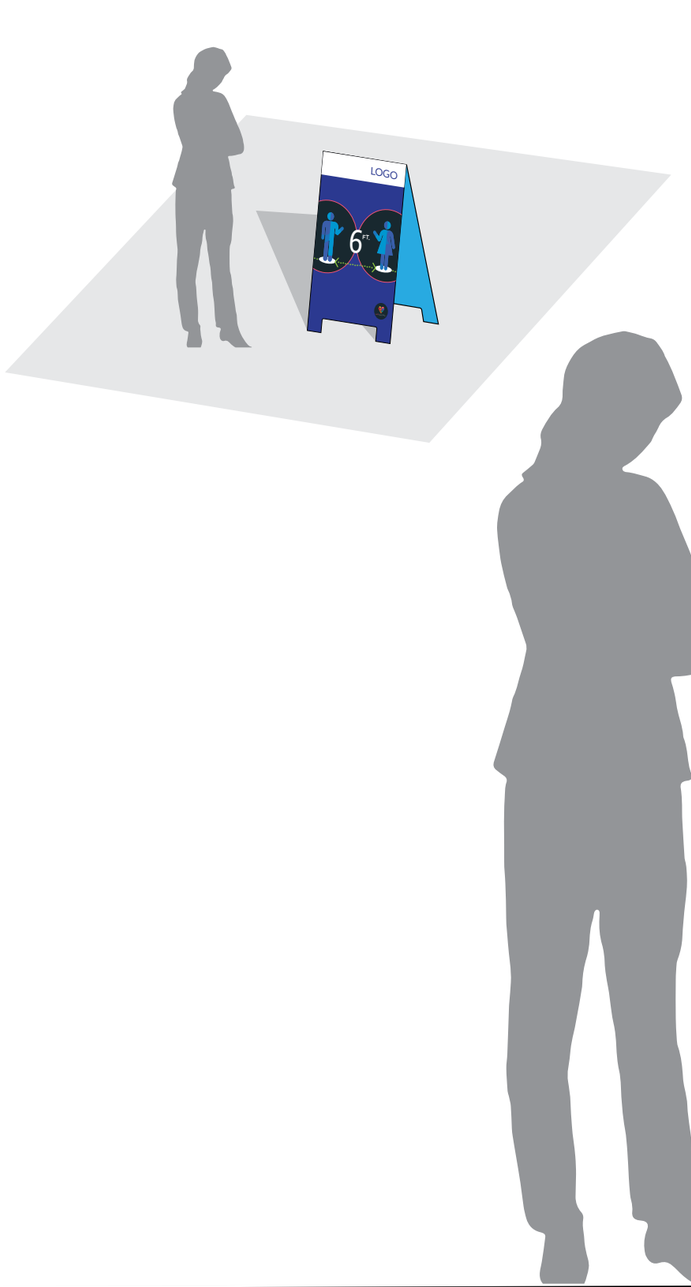
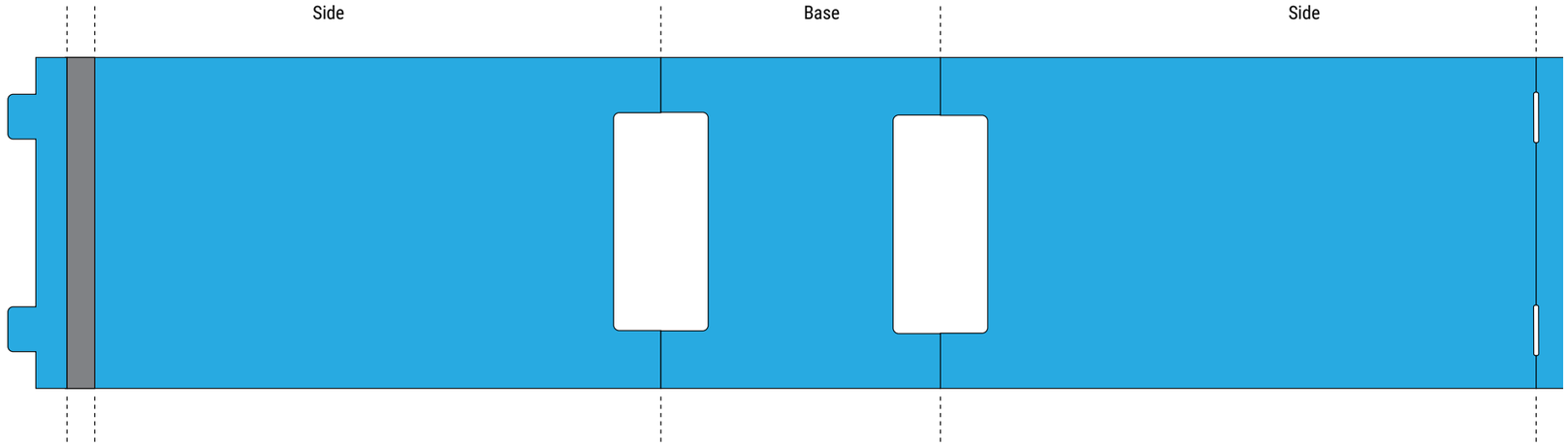
Getting Back to Productivity

USER EXPERIENCE

Program Identity | Graphic Studies

A-Frame Sign





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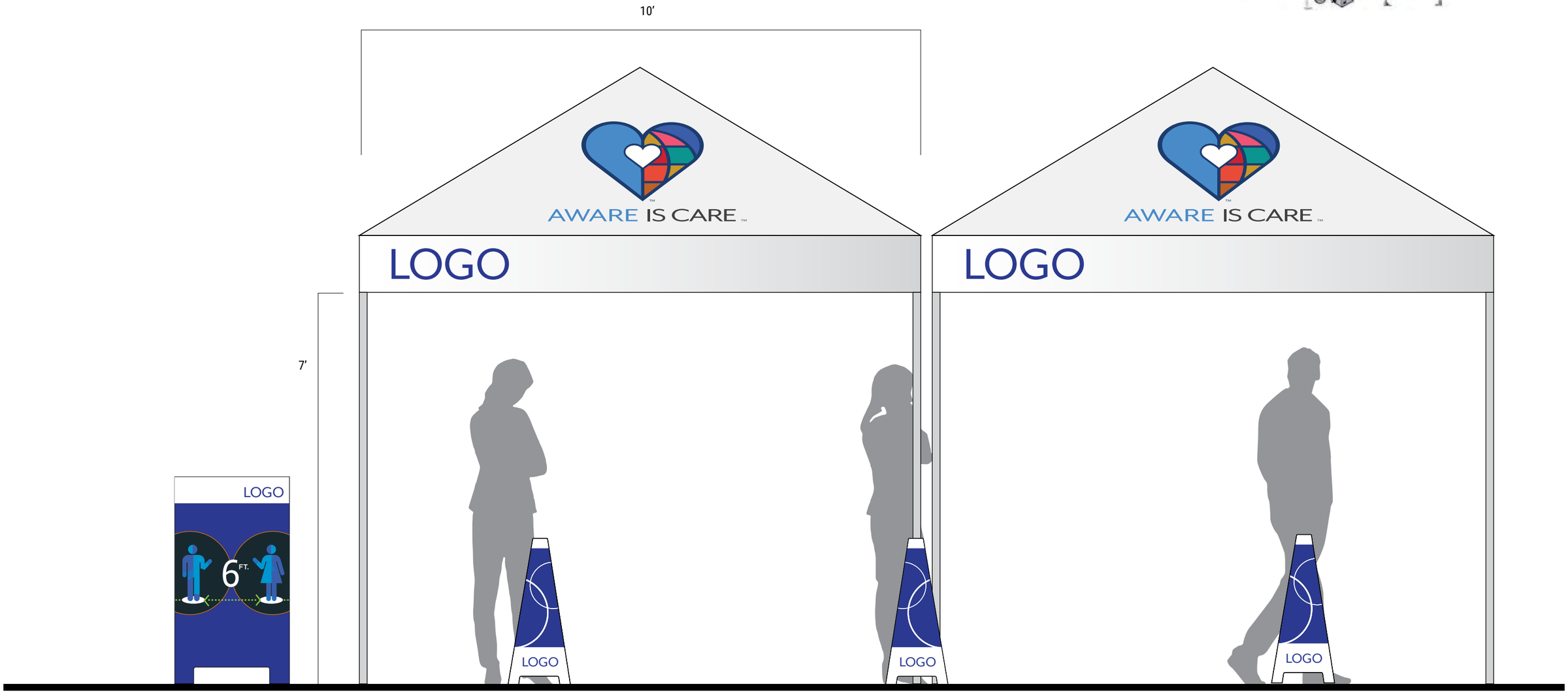
USER EXPERIENCE

Program Identity | Graphic Studies

Single Shade Units - 10’ x 10’ Canopy

Short-Term



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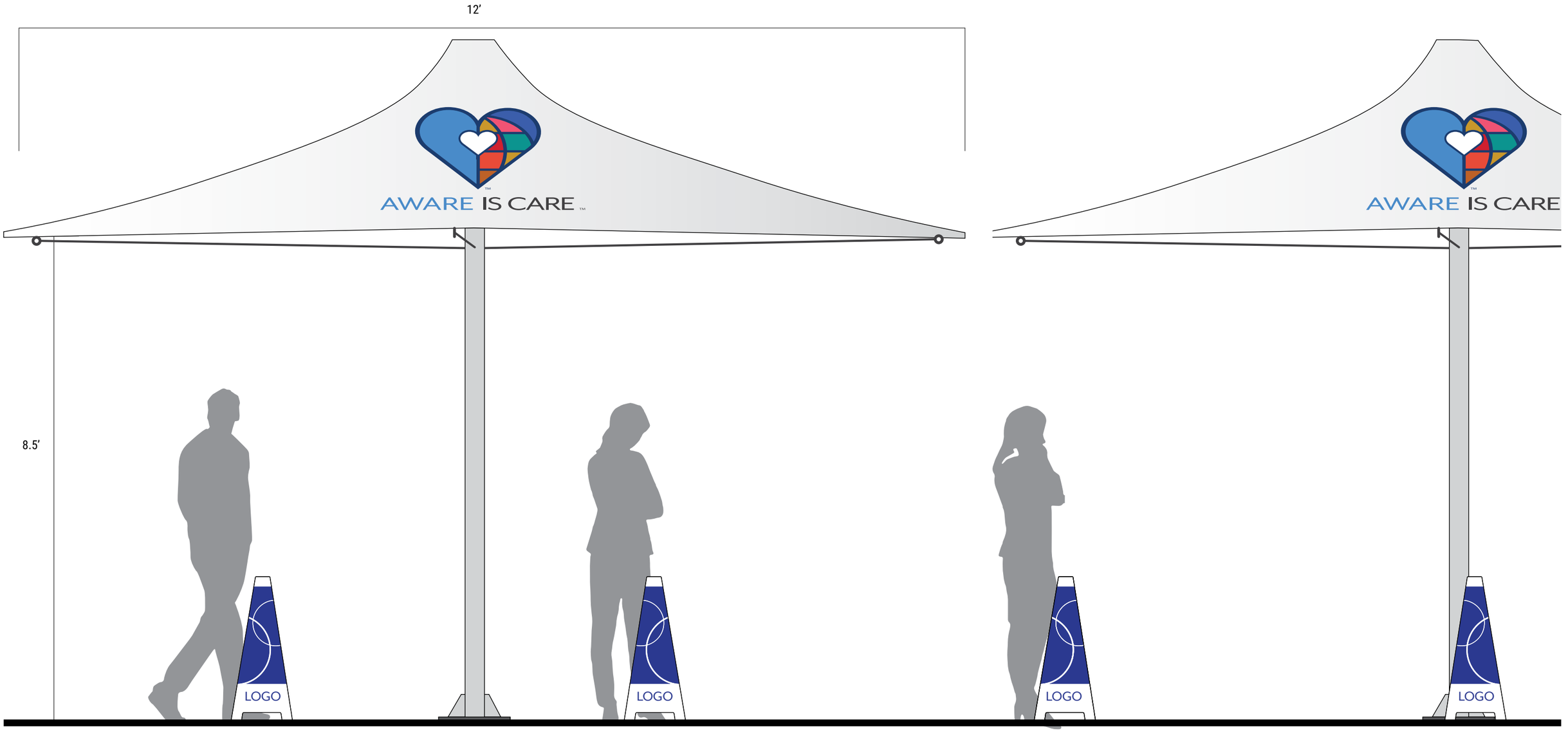
USER EXPERIENCE

Program Identity | Graphic Studies

Single Shade Units - 12’ x 12’ Canopy

Mid- to Long-Term

MDT-tex®



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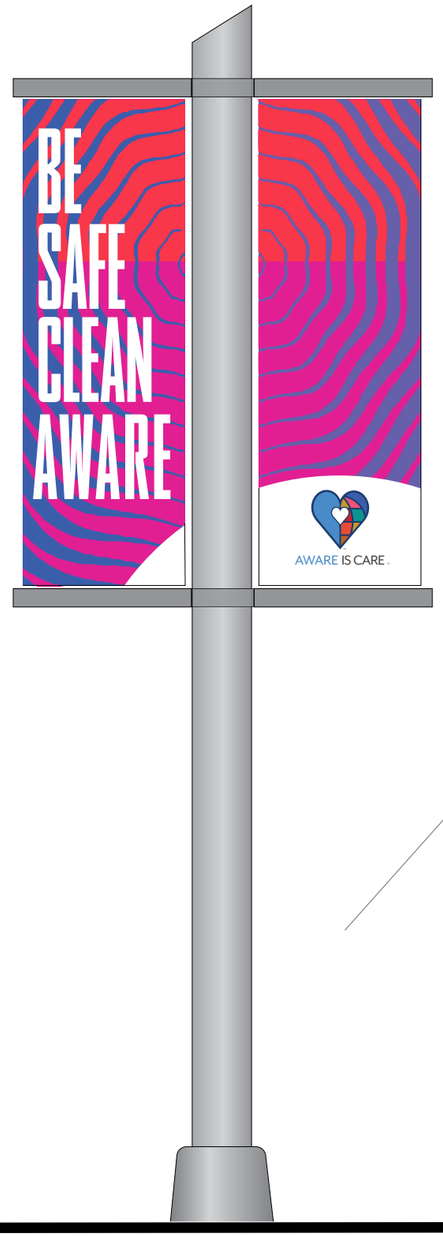
USER EXPERIENCE

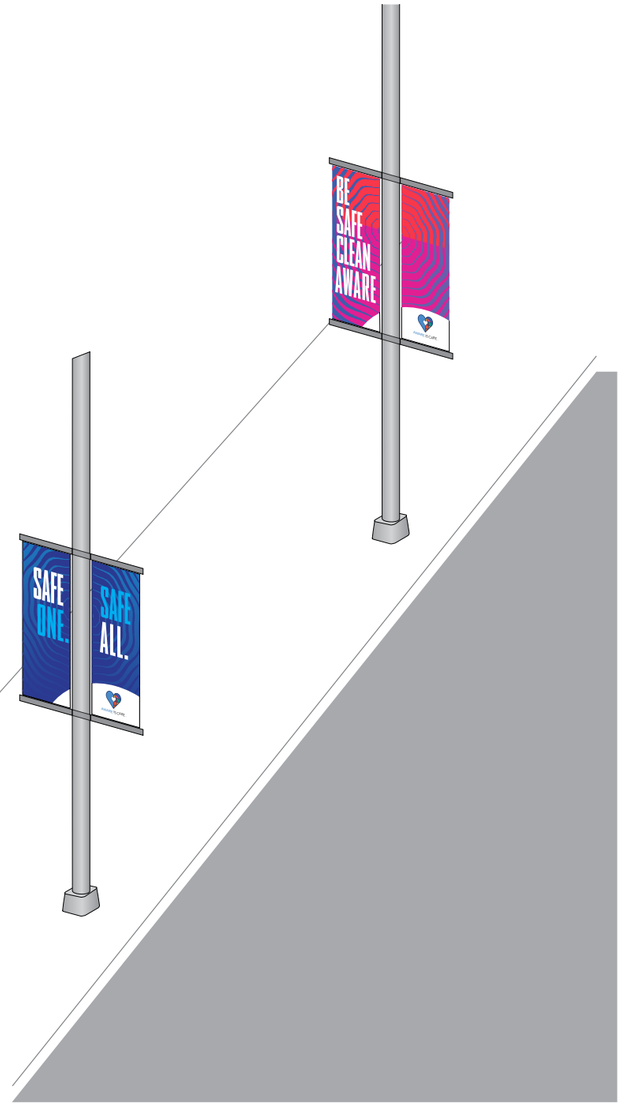
Program Identity | Graphic Studies

Parking / Shuttle Lot Awareness

Public Banner Program

AWARE IS CARE ™





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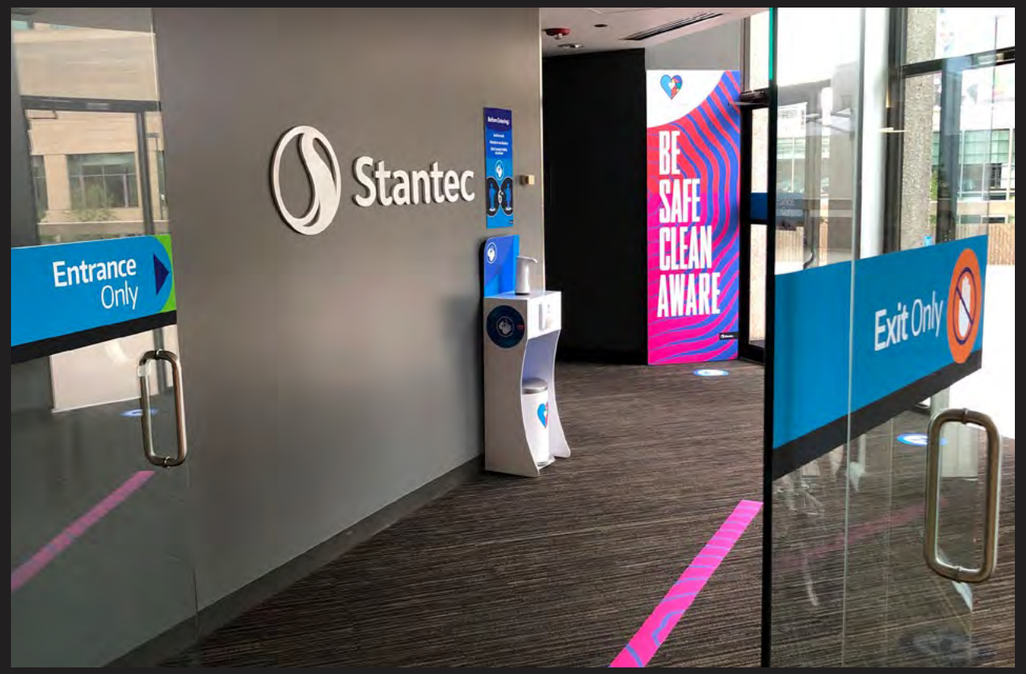
CAMPAIGN IMPLEMENTATION - STANTEC DENVER

Responding to COVID-19



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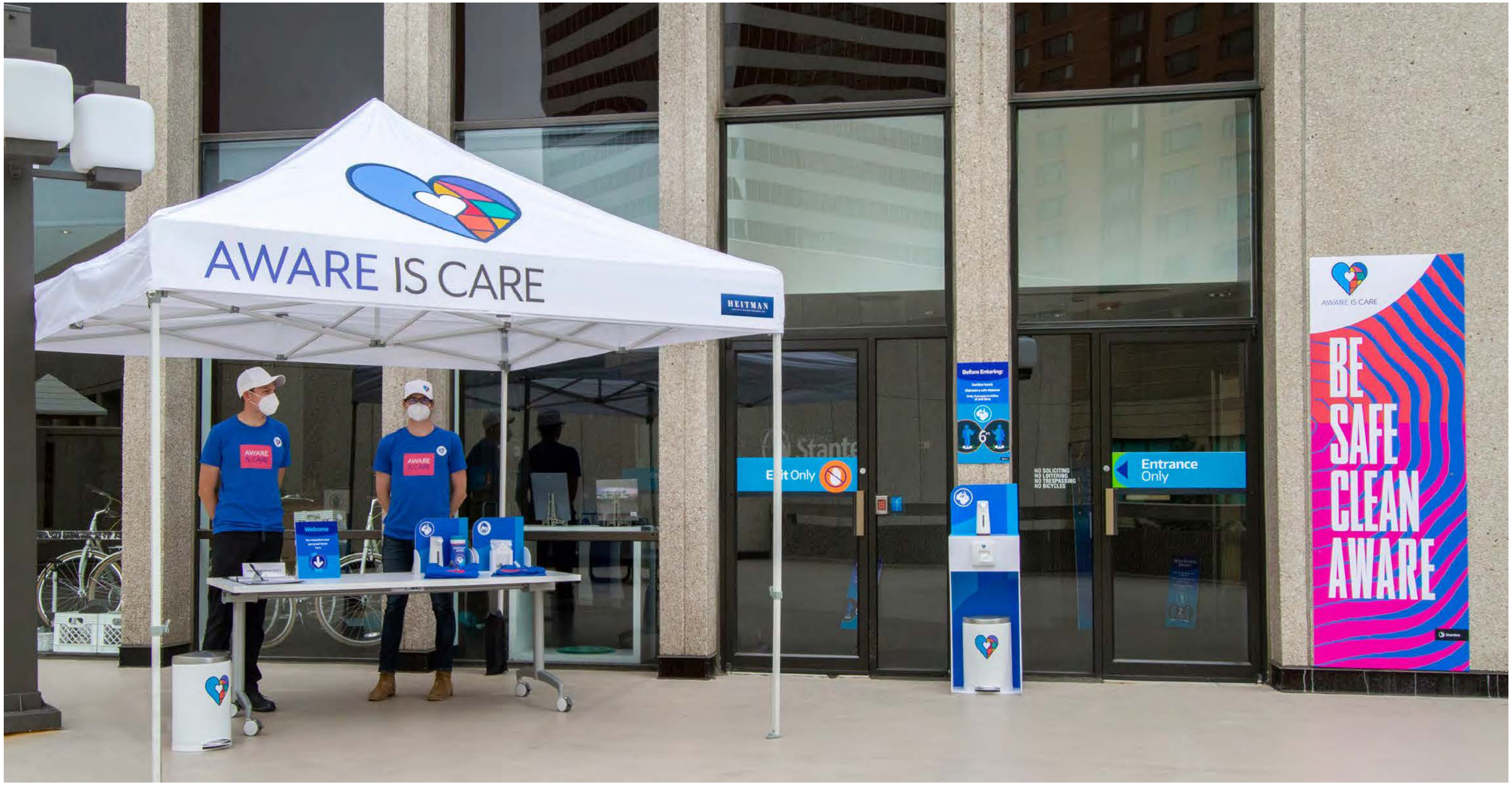
USER EXPERIENCE

Exterior Spaces

Office Entry



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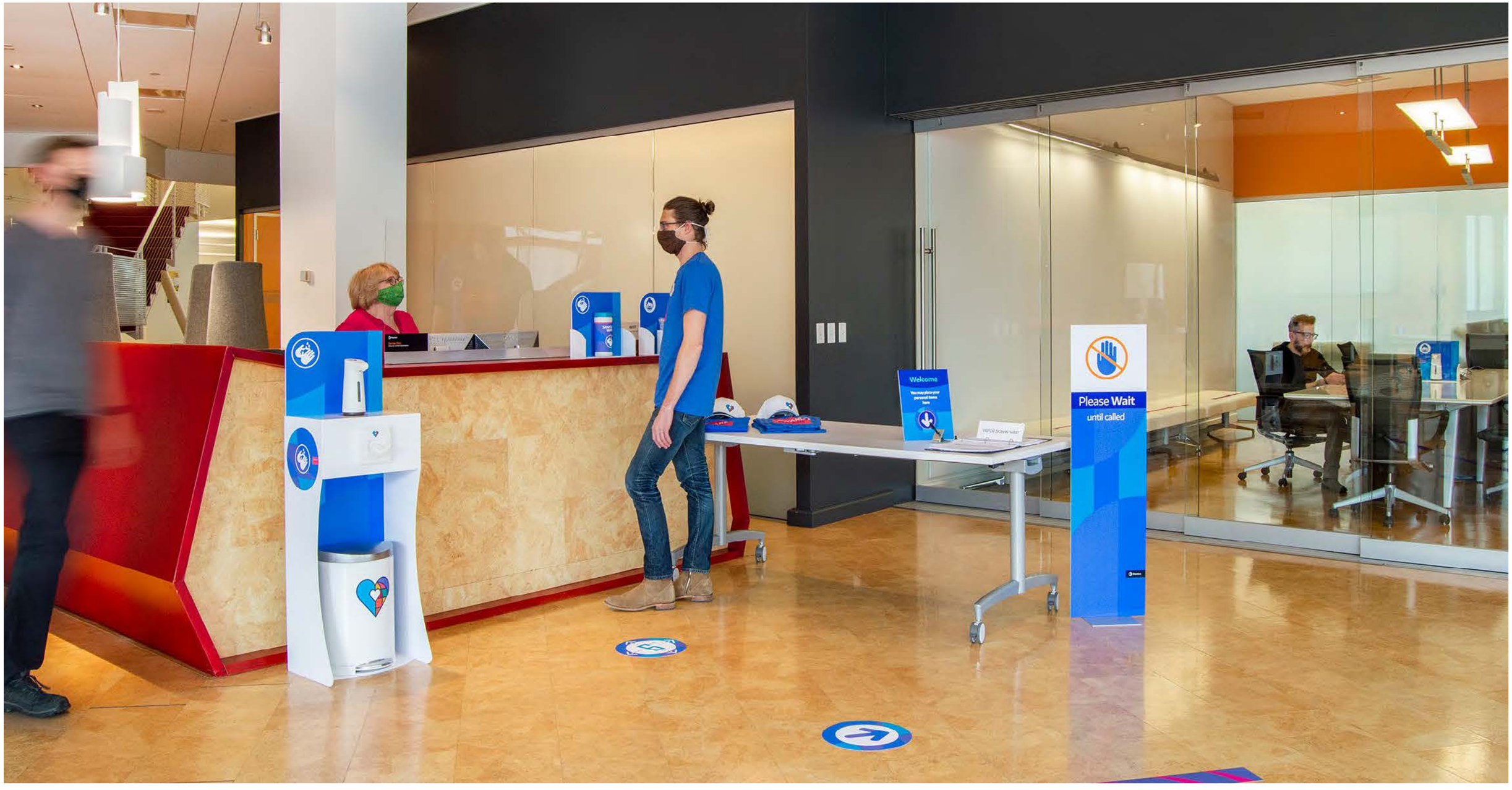
USER EXPERIENCE

Interior Spaces

Lobby / Reception



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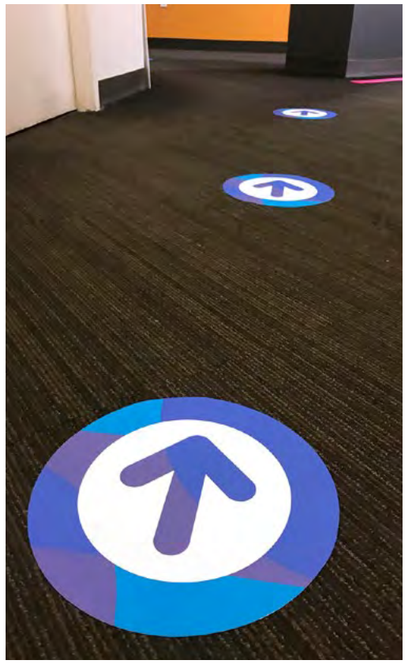
Interior Spaces

Conference & Meeting Rooms



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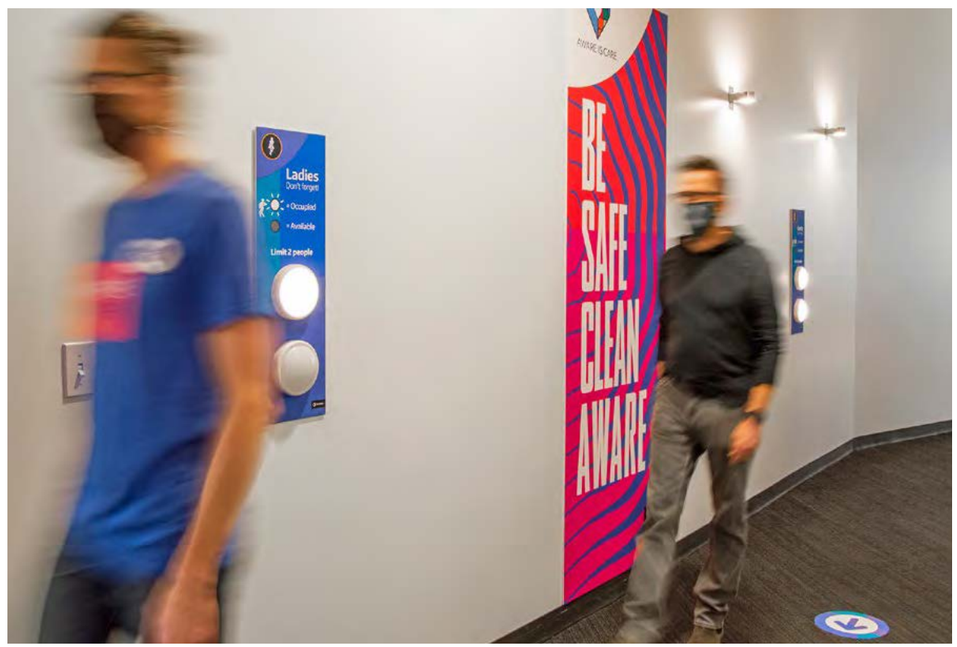
Interior Spaces

Restrooms & Kitchen Area



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Interior Spaces

Individual Workspace

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Getting Back to
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BUILDING REACTIVATION

Responding to COVID-19

Getting Back to
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BUILDING REACTIVATION

Reactivation of Your Building

In the wake of COVID-19, building owners and operators must adapt their buildings to re-activation considerations. To help you plan your move back into your building (and beyond), we've assembled the following suggestions to help you start to think about your building systems. These suggestions are general in nature and intended to be a starting point for discussions about building re-activation. Each organization's and building's needs and limitations are different – if you're unsure, contact us for advice specific to your building before implementing changes to your systems.

Beginning Re-Activation

- Make a re-activation plan by building, system, and item.
- Inspect current state of systems in detail; check for system leaks and water ingress.
- In the event of partial occupancy, not all building systems may be required; identify which systems require re-activation.
- Prioritize which systems need to be brought back online first.
- Review physical changes to the environment, building, or occupancy arrangements that may have occurred.
- Identify potential points of failure and what immediate re-activation maintenance may be required, including decommissioning temporary systems, refilling of systems, repairs, etc.
- Consult with Authorities Having Jurisdiction to determine specific measures required before re-activating. Engage the architect and building engineering team.
- Consider the safety impacts on facilities maintenance staff and occupants at each stage of your plan.

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Getting Back to Productivity

BUILDING REACTIVATION

Building Reactivation Checklist

HVAC & Plumbing Systems

HVAC Systems

- Replace used filters with maximum level the system will support, ideally MERV 13 or higher.
- Flush out the building prior to occupancy with fresh outdoor air. Make sure conditioned air reaches all spaces.
- Increase outdoor ventilation rates during occupancy periods and extend operating hours to enhance air turnover. Consider disabling demand control ventilation and increasing outdoor air to 100% if the building systems will accommodate this. Consider disabling heat recovery systems if there is a risk of bypass.
- Maintain the building relative humidity between 40% and 60%, if the building envelope, finishes, and systems can accommodate it.
- Revert BAS settings to occupied mode. Consider BAS schedule of occupied mode and if original schedules and durations will be maintained. Consider extended occupied operation for extended flushing of the occupied spaces.
- Investigate additional air treatment e.g. UVGI disinfection, ionization filtration.
- Ensure cooling towers are cleaned and well-maintained, and follow appropriate start-up processes e.g. chemical treatment. Check pneumatic controls systems are operational and refrigeration systems charged. Check for Legionella.

Plumbing Systems

- Carry out a Legionella risk assessment. Investigate stagnant water systems for risk of contamination.
- Flush hot and cold water through all points of use to replace all water inside building piping with fresh water. Flush hot water until it reaches its maximum temperature.
- Disinfect hot and cold water systems as close to occupancy as possible; check residual disinfectant levels and test water samples from outlets and tanks.
- Inspect and refill plumbing traps and floor drains that may have dried out; check drains are free flowing.
- Consider retrofitting to hands-free plumbing fixtures and adding lids to water closets.

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BUILDING REACTIVATION

Building Reactivation Checklist

Electrical & Life-Safety Systems

Electrical Systems

- Inspect equipment before re-energizing.
- Operate staged reverse lockout system as systems are re-enabled; consider a staged start-up of equipment.
- Ensure labelling is up to date; this is a good opportunity to fix missing labelling as you re-activate systems.
- Check lighting systems, including lamps; also check batteries in emergency lighting and UPS systems charging and holding charge. Re-activate security systems.

Life Safety and Fire Systems

- Notify insurance company and local fire department to confirm any specific re-activation requirements.
- Make sure emergency lights are still functional; test emergency generator and essential power circuits.
- Check diesel fuel tanks for emergency equipment have been filled and quality of fuel; check air compressors for dry sprinkler systems are operating; check that all valves are working and in the correct position; check fire extinguishers.
- Confirm primary emergency and back-up systems operate during mains failure condition; confirm remote monitoring and key-holding arrangements.

For more information about reactivating your building, please visit:

www.stantec.com/en/ideas/topic/covid-19/re-activating-your-building-post-covid-19

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Getting Back to
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HEALTH & WELL-BEING

Responding to COVID-19

Getting Back to
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**HEALTH &
WELL-BEING**

Fostering resilience and adapting to change

As communities emerge from quarantine it's very likely that residual fear about workplace health and safety will linger. We'll all be more acutely aware of the hazards associated with surfaces we touch, and the people we interact with after this prolonged period of social distancing. This awareness will take a toll on our physical and, most notably, mental health.

In the wake of the COVID-19 pandemic the connection between the physical environment and wellness has never been so clear. We'll view the spaces and places in which we live, work and play through a different lens now. Is the air in this building filtered? Are there proper hand-washing facilities? Are there enough sanitizing stations? How many surfaces do I need to touch and how clean are they? Where can I go for a quiet break if the office/plant crowd is too much after being away?

Employers, property owners, and facility managers must prepare for the new mindset.

Our wealth of experience alongside our healthcare sector partners combined with our deep understanding of wellness certifications like WELL and Fitwel have taught us how to leverage design, operations and policies to proactively address risks of pathogen transmission, and create restorative environments where building occupants feel safe, comfortable, and supported. We know what it means to design for a strong and resilient workforce.

These are unprecedented times, calling for creative and innovative responses founded in human empathy. Our goal is to help communities foster human resilience as we navigate a rapidly changing world.

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Getting Back to
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**HEALTH &
WELL-BEING**

Fostering resilience and adapting to change

How do we help our clients realize measurable value on investment into the health, well-being, and happiness of building occupants?

A focus on people has never been more important.

People are fundamental to design, construction, operations and development decisions. When we focus on the human experience of the buildings and spaces we design, we have the ability to add meaningful value to real estate assets, generate savings in personnel costs, enhance human health and well-being, and enrich the overall experience of spaces and places.

The WELL Building Standard™ is a comprehensive framework for the design strategies, operations protocols and organizational policies that aims to measurably improve the safety and health of people in indoor spaces. From our architects and interior designers, to our mechanical engineers and sustainability consultants, our WELL Building experience enables us to provide a facility assessment with respect to human health and well-being. In the context of the most pressing issues arising from COVID-19, we encourage all employers and property managers to consider the following strategies and measures:

Indoor Air Quality (IAQ); Hand-washing Infrastructure; Building Condition Assessment & Recommissioning; Industrial Hygiene; and Mental Health Design Support.

Hand-washing Infrastructure

Pandemic-Related Priorities

Increase adoption and cultural engagement in proper hand-washing practices to mitigate concerns in shared work areas and reduce the risk of pathogen transmission among occupants.

Immediate Interventions

- **Carry out water quality and hand-washing infrastructure assessment, testing, and building audits.**
- **Sanitizing stations using at least 60% IPA sanitizer.**
- **Develop and/or review of operational policies for access, custodial services, and maintenance of hand-washing facilities.**
- **Provide situational cues, messaging, and branding to engage and educate all occupants in proper hand-washing practices.**

WELL Building Reference Criteria

- Enhanced Water Quality
- Water Contaminants
- Hand-washing

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Getting Back to Productivity

HEALTH & WELL-BEING

Indoor Air Quality (IAQ)

Well designed, installed, and monitored mechanical and plumbing systems produce healthy indoor environments where pathogens are filtered, diluted and removed from the occupant breathing zone. Our mechanical engineers apply fundamental principles of thermodynamics and building physics (humidity, air flow, differential pressurization), smart controls and sequencing of operations, and innovative ventilation and filtration technologies to mitigate the presence and spread of potential pathogens and allergens.

Pandemic-Related Priorities

Rapidly address indoor air quality issues—perceived and actual—in existing buildings.

Immediate Interventions

- **Conduct air quality assessments, testing, design and provide engineering guidance to improve ventilation effectiveness of existing HVAC systems, support long-term air-quality monitoring, and create air-quality awareness.**
- **Adapt controls and sequencing to accommodate and monitor additional filtration needs.**
- **Develop messaging and education for building occupants—dashboards, apps, situational cues—to reduce concerns regarding potential pathogen transmission.**

WELL Building Reference Criteria

- Enhanced Air Quality
- Ventilation Effectiveness & Enhanced Ventilation
- Air Quality Monitoring & Awareness
- Pollution Infiltration Management
- Air Filtration
- Microbe and Mold Control

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Getting Back to
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**HEALTH &
WELL-BEING**

Building Condition Assessments & Retro-commissioning

Pandemic-Related Priorities

Assess building systems and controls functionality, including air and water quality issues, in buildings that have been vacant for a period of time.

Immediate Interventions

- **Building assessment, audits and retro-commissioning of HVAC, plumbing, lighting, IT, and fire protection systems to verify operational ability after a prolonged shutdown or reduction in occupancy-related loads.**
- **Controls testing.**
- **Building flush-out, if necessary (e.g. in event of damage or contamination).**
- **Full electrical system inspection - from outside transformers to each panel, breaker, circuit, switch, receptacle, low voltage, etc.**
- **Quality assurance procedures that focus on building enclosure components, including:**

  - Implementation of materials that are durable and can easily be cleaned.
  - Installation of negative air pressure systems to prevent the spread of infection.
  - Inspection and removal of mold, asbestos, and lead.

WELL Building Reference Criteria

- Criteria noted above for air quality, ventilation effectiveness, water quality
- Thermal performance, zoning control, monitoring
- Electric light quality

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HEALTH & WELL-BEING

Industrial Hygiene

Our industrial hygiene, health and safety, hazardous materials and risk assessment teams include electrical, mechanical, and structural engineers; certified industrial hygienists; certified safety specialists; microbiologists; toxicologists; and risk assessment specialists. As subject matter experts, we are active on technical committees of infection control, indoor air quality and other related health and safety issues.

We have experience in biological hazards, safe work practices, and infection control procedures (proper containment, personal protective equipment and disinfectant use). Our team collaborates with you to ensure safety requirements are satisfied with minimal impacts to production or maintenance activities. We work with building owners and operators to identify work site hazards, evaluate risks, and confirm that appropriate precautions and controls are being implemented. We know that mitigating harm to workers is key to bolstering human resilience in the face of disaster.

Pandemic Priorities

Manage remediation and cleaning of contaminated workplaces and sites to protect the well-being of employees, minimize lost-time costs, reduce corporate and personal liability, and increase productivity.

Immediate Actions

- Site risk assessments.
- Development of cleaning protocols, oversight of cleaning activities, and post-cleaning assessments.
- Support during remediation and cleaning activities of contaminated sites, including training, emergency response planning, occupational exposure assessments, and indoor air quality assessments.
- Development of strategies for communicating complex and rapidly changing information on infection control to employees in a way that addresses their concern.

What is Industrial Hygiene?

Industrial Hygienests address the health and safety risks facing people in the built environment, from exposure to hazardous chemicals and contaminants, to emergency response planning and occupational injury or illness

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HEALTH & WELL-BEING

Mental Health Design Support

The fear and stress associated with the COVID-19 pandemic is unprecedented for most of the world and will have both short- and long-term mental and physical health impacts.

Fear about leaving home—which is being promoted as the safest space—along with the strain of changing work-life balance and increased isolation in an already lonely society creates an opportunity for long-lasting trauma. Already people are developing agoraphobic tendencies, where they are scared to leave their home, and children are likely picking up on the stress felt by their families. Perceived and actual safety and comfort is paramount during this time and for the years to come.

As we come out of our work-from-home situations and physical distancing, harnessing the power of design to heal gives us an incredible opportunity to aid in psychological recovery.

Pandemic-Related Priorities

Mental health concerns arising from prolonged periods of physical and social distancing, fear of repeat infection and exposure to pathogens in public spaces and workstations/areas.

Immediate Interventions

- **Building assessment to identify opportunities to enhance or implement evidence-based restorative design strategies and building features in existing buildings.**
- **Development and implementation of biophilic design principles proven to have an immediate, positive impact on mental health.**
- **Operational protocols and organizational policies that impact the mental health and well-being, safety and security of occupants. Strategies are grounded in the principles of biophilic design principles.**
- **Consulting and facilitation of WELL Building Standard certification. WELL is the industry leading framework for addressing indoor environmental quality related to the prevention of contaminant sources and distribution, and mental health and organizational resiliency via design, operational preparedness, and policies.**

WELL Building Reference Criteria

- Mental Health Promotion, Support, and Education.
- Access to Nature
- Restorative Opportunities, Programming, and Spaces.

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References & Additional Resources

CANADIAN RESOURCES

Public Health Agency of Canada

https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19.html

Royal Architectural Institute of Canada

https://raic.org/news/covid-19-updates-information-and-advocacy

Engineers Canada

https://engineerscanada.ca/news-and-events/news/engineers-canadas-response-to-covid-19

US RESOURCES

Center for Disease Control and Prevention (CDC)

https://www.cdc.gov/coronavirus/2019-nCoV/index.html

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

https://www.ashrae.org/technical-resources/resources

American Institute of Architects (AIA)

https://www.aia.org/pages/6280670-covid-19-resources-for-architects

National Society of Professional Engineer (NSPE)

https://www.nspe.org/resources/coronavirus-covid-19-resources

International WELL Building Institute (IWBI)

https://www.wellcertified.com/placesmatter/

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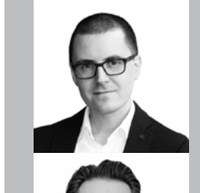

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Getting Back to Productivity SOLUTIONS

Beyond the short-term, our Team is continuing to consider and develop creative ideas and strategies for getting our world “Back to Productivity” – responsibly and safely.

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