INFRASTRUCTURE ACTIVITIES DURING A PANDEMIC

Health Technical Advice HTA-2020-002

Victorian Health and Human Services
BUILDING AUTHORITY

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Preface

The purpose of this Health Technical Advice (HTA) is to provide guidance to health services on the types of infrastructure activities that should continue during the COVID-19 pandemic. The HTA sets out the process for assessing activities so as not to put hospital staff, patients or contractors at risk of catching COVID-19, or spreading it within the broader community. This process should be completed with your nominated VHHSBA project manager and key hospital stakeholders, such as infection control, engineering staff and capital works teams.

This HTA is not to take the place of any health service specific infectious diseases or pandemic mode plans or any facility specific emergency response plans associated with acute infectious disease outbreak.

Final recommendations and proposed solutions should be discussed and agreed as part of a collaborative multidisciplinary team of engineers, building operators, scientists, infection prevention specialists, and epidemiologists.

This HTA is to be read in consultation with the government's construction sector coronavirus sector guidance <https://www.coronavirus.vic.gov.au/coronavirus-sector-guidance-construction>. When prioritising construction and maintenance activities consideration must be given to the stage of the pandemic and the demand for ICU and critical care beds and the risk to health care workers and or patients from undertaking the works.

The issue

The health asset base consists of more than 2,500 buildings on 965 sites across the state. Across these assets there are over 100 projects underway. The coronavirus pandemic has introduced a range of complexities in managing this asset base through:

- spread of infection to health system users and the broader community
- maximising health system resources to responding to the pandemic
- ensuring capital and maintenance works do not affect the continued operation of hospitals
- doing preventative maintenance to ensure the continued operation of the hospital during the peak period.

The purpose of this HTA is to provide health service engineering staff and other interested persons with information on the following:

- process for identifying capital and maintenance works that can continue during the pandemic
- for those works that do continue, processes that should be put in place to minimise the spread of infection
- preventative maintenance that should be prioritised to assist with ensuring services continue to operate effectively during the pandemic
- approaches to asset management requirements that may be required during the pandemic.

In the event that contractors need to enter the site, a sample email is at Appendix 1 informing them of their responsibilities in respect to COVID-19. Health services can add any additional local processes as required.

Asset management

Strategic asset management plans provide the framework for asset decision making across the asset lifecycle. All asset decisions are made based on a risk framework and with reference to organisational objectives. The *Victorian Health and Human Services Asset Management Policy* provides the guiding principles in which to manage assets. Health Services are encouraged to access reference materials to ensure asset management activities are conducted in manner which is reflective of the present risk climate.

Asset management resources are available to public health services through the Victorian Health Asset Management Communities of Practice (VHAMCoP) SharePoint site <https://dhhsvicgovau.sharepoint.com/sites/VHAMCOP>

Access to the site can be requested by emailing Asset Management <assetmanagement@dhhs.vic.gov.au>

Capital projects during a pandemic

Capital projects are to be assessed on a case-by-case basis to determine the risk they would pose to increasing the risk of spreading COVID-19 and the impact on health service resources. Special consideration should be given to projects progressing to ready the health system to responding to the pandemic.

The assessment of projects is detailed in the infection control principles for the management of construction and construction within health care facilities[1]. The four basic steps are outlined below.

Step 1 – identify the construction activity

Identify the construction activity type as Figure 1 below.

Figure 1: Types of construction activity

Type A	Inspection and non-invasive activities: these include, but are not limited to, activities that require removal of ceiling tiles for visual inspection (limited to one 600 mm square tile per 15 m^2), painting but not sanding, wall covering, electrical work, minor plumbing that disrupts water supply to a localised patient care area [e.g. one room] for less than 15 minutes, access to floor ducts, and other maintenance activities that *do not generate* dust or require cutting of walls or access to ceilings other than for visual inspection.
Type B	Small scale, short duration activities that create minimal dust. These include, but are not limited to, activities that require access to duct spaces, cutting of walls or ceilings where dust migration can be controlled for the installation or repair of minor electrical work, ventilation components, telephone wires or computer cables, and sanding of walls for painting or wall covering to *only repair* small patches. It also includes plumbing that requires disruption of the water supply of more than one patient care area (> two rooms) for less than 30 minutes.
Type C	Any work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies such as counter tops, cupboards, and

[1] See Department of Health website Infection Control Principles for the Management of Construction Renovation Repairs and Maintenance within Health Care Facilities <https://www2.health.vic.gov.au/about/publications/policiesandguidelines/Infection-Control-Principles-for-the-Management-of-Construction-Renovation-Repairs-and-Maintenance-within-Health-Care-Facilities>

	sinks. These include, but are not limited to, activities that require sanding of walls for painting or wall covering, removal of floor coverings, ceiling tiles, new wall construction, minor duct work or electrical work above ceilings, major cabling activities, and any activity that *cannot be completed* with a single work shift. It also includes plumbing that requires disruption to the water supply of more than one patient care area (> two rooms) for more than 30 minutes but less than one hour.
Type D	Major demolition, construction and renovation projects. These include, but are not limited to, activities that involve heavy demolition or removal of a complete cabling system and new construction requiring consecutive work shifts to complete. It also includes plumbing that results in disruption to the water supply of more than one patient care area (> two rooms) for more than one hour.

Step 2 – identify the patient risk group

Identify the patient risk groups in Figure 2 affected by the activity. If two groups are affected select the highest risk group.

Figure 2: Population and geographic risk groups

Group 1 **Lowest risk**	• office areas • public areas • workshops • plantrooms (subject to risk assessment)
Group 2 **Medium risk**	• unoccupied wards • outpatient clinics (except for oncology and surgery) • admission/discharge units • research laboratories • allied health areas including but not limited to – physiotherapy – occupational therapy – social work – dietetic/nutrition – prosthetics/orthotics – psychology
Group 3 **Medium to high risk**	• all patient care areas unless stated in Group 3 or 4 including but not limited to – general medical and surgical wards other than those listed in Group 4 – paediatrics – geriatrics – long-term care – normal newborn nurseries • emergency rooms • transport trouts of patients from any of the above categories • radiology/MRI • post-anaesthesia care units • labour and delivery (non-operating room) • nuclear medicine • physiotherapy respiratory function areas • echocardiography • medical laboratories (specimens) • dental clinics

Group 4 **Highest risk**	• all intensive care units and high dependency units • all operating rooms • day surgery • labour and delivery operating rooms • anaesthesia areas • oncology and haematology units and outpatient clinics for patients with cancer • transplant units and outpatient clinics for patients who have received bone marrow or solid organ transplants • wards and outpatient clinics for patients with AIDS or other immunodeficiency • dialysis units • tertiary care nurseries • transport routes of patients from any of the above categories • all cardiac catheterisation and angiography cares • cardiovascular/cardiology patients • all endoscopy areas • pharmacy admixture rooms • sterile processing rooms • computer centre • central inventory department

Step 3 – establish the construction class

Match the construction activity type with the patient risk group to establish the construction class as detailed in Figure 3.

Figure 3: Construction class matrix

Risk group	Construction activity			
	Type A	Type B	Type C	Type D
Group 1	I	II	II	III / IV
Group 2	I	II	III	IV
Group 3	I	III	III / IV	IV
Group 4	I - III	III / IV	III / IV	IV

Prioritising capital works

While projects need to be assessed on a case-by-case basis, in broad terms, the following activities should not continue during a pandemic when there is significant demand for ICU and critical care beds or significant risk to health care works and patients:

- any construction activity that affects Group 4 risk groups
- any construction activity that falls into construction classes III and IV.

Special consideration should be given to projects progressing to ready the health system to responding to the pandemic.

Engineering infrastructure shutdowns, including black start testing, should not be done during periods of significant healthcare response demand during a pandemic, and must be aligned with agency specific pandemic mode plans.

For construction activities that do continue, extra precautions must be put in place by the contractor to ensure that personnel entering the site are appropriately screened to minimise the transfer of infection. This could include, but is not limited to:

- personnel signing a statutory declaration that they have not been overseas, or in contact with anyone who has COVID-19, or screening all personnel entering the site at the start of their shift
- maintaining social distancing as much as possible during shifts, breaks, toolbox meetings and at change of shifts
- wearing personal protective equipment appropriate to the hospital area being worked in and in alignment with hospital specific PPE requirements, which could extend to face masks, gowns and shoe covers
- regular cleaning of common areas and touchpoints, including tools
- having clear processes in place to identify personnel that would have been in contact with someone if they tested positive for COVID-19.

Maintenance activities during a pandemic

Preventative maintenance

During the peak of a pandemic health facilities and engineering systems will be operating at, or above, capacity. It is therefore recommended that health services undertake preventative maintenance prior to the peak, with the following areas and assets prioritised:

- intensive care units and perioperative functions, including associated medical equipment
- HVAC systems
- UPS systems, including ensuring that essential life-safety equipment is correctly connected to UPS systems.

Essential maintenance

Under the building regulations by the end of financial year health services are required to have completed routine servicing of all essential safety measures including sprinklers, detectors, fire extinguishers, hydrants and hose reels.

In accordance with current obligations, health services are required to provide to DHHS Fire Services a copy of the:

- *Essential Safety Measures* report
- *Signed Certificate 5* (from the DHHS *Capital Development Guidelines*)
- Works programme for outstanding fire safety audit items.

To enable health services to manage pandemic responses, the timing of submissions of reporting identified in the three dot points may be adjusted to suit specific pandemic measures in place.

There are also requirements in the *Financial Reporting Directions* under the *Asset Management Accountability Framework* (AMAF) that are to be reported in health services annual reports. Further advice and updates can be obtained from the *Victorian Health Asset Management Communities Of Practice Resource Centre.*

In the first instance, health services should assess the risk of not undertaking compliance activities against the risk of potential exposure to and transmission of COVID-19. The three-step process outlined earlier in this document can be utilised to assess the risks of undertaking compliance activities.

Further advice will be provided as and when it becomes available. In the meantime, queries can be directed to:

- Essential safety measures: James McNally, Manager Fire Services on 9096 0649 / 0407 847 871 or james.mcnally@dhhs.vic.gov.au
- Asset Management Accountability Framework: Mina Gerguis, Manager, Asset Portfolio on 9194 8554 / 0437 650 113, or mina.gerguis@dhhs.vic.gov.au.

Reactive maintenance

Measures should be considered to ensure a quicker response time to fix any potential faults to minimise outage time of essential assets. Asset operators should work closely with internal staff, contractors and suppliers to ensure availability of timely technical support and spares. Business continuity plans should be in place to ensure that key staff can be replaced should they be directly impacted by COVID-19.

Routine maintenance

Routine maintenance activities with low importance should not be undertaken during a pandemic, with resources directed to preventative, essential and reactive maintenance.

Routine maintenance on essential services, such as fire services, should continue though at an extended frequency. The three-step process outlined earlier in this document can be utilised to assess the risks of undertaking maintenance activities and work should be limited, where possible, to non-patient areas.

COVID-19 peaks are expected to occur during the winter months, however waves of infection and outbreaks may occur at any time of the year. These may align with major maintenance works planned for major hospital engineering infrastructure. Consideration will need to be given to delaying these works after any future peaks, and ideally undertaken during lower periods of infections and during times when significant demand for ICU and critical care beds is at its lowest.

Appendix 1: Sample email to contractors

A State of Emergency has now been declared in Victoria to help combat coronavirus (COVID-19), with measures in place to reduce the community's chances of infection, slow its spread and protect our most vulnerable.

The health and safety of our patients, staff, contractors and consultants is our priority, and we encourage you and your staff to follow the advice provided on the Department of Health and Human Services (DHHS) website <https://www.dhhs.vic.gov.au/coronavirus>

New legal directions require anyone who has recently returned from overseas to self-isolate for 14 days. If you, or any of your staff or sub-contractors, display symptoms of coronavirus or have had contact with someone known to have coronavirus, please contact the coronavirus hotline on 1800 675 398 open 24 hours, 7 days a week.

Please advise us immediately if anyone within your organisation has been diagnosed with or is suspected of having coronavirus, or if you are experiencing or anticipating a reduced work capacity.

Do not attend any property owned or managed by the department if you, your staff or contractors:

- are diagnosed with or suspect you have coronavirus
- suspect you have coronavirus and experience any of the following symptoms: fever, cough, sore throat, fatigue, shortness of breath or breathing difficulties
- have returned from overseas in the past two weeks
- have been in contact with anyone who has returned from overseas in the past two weeks
- have been in contact with a person diagnosed with coronavirus.

Please provide this coronavirus poster <https://www.dhhs.vic.gov.au/sites/default/files/documents/202003/Reduce%20your%20risk%20of%20coronavirus_Poster.pdf> to all staff and sub-contractors and display it in prominent locations in your workplace (e.g. tea rooms, toilets, foyers, lifts).

We also ask you that consider and plan for business continuity should members of your workforce need to work remotely or if they become ill and cannot work. This includes ensuring you have appropriate personal protective equipment and procedures in place to protect your staff.

By observing the required protocols, remaining vigilant, and practicing good hygiene and following government and department health advice, we will have the greatest chance of minimising exposure and transmission risks and protecting everyone's health and safety.

More information

For more information visit:

- Victorian Department of Health and Human Services Victorian updates to the current incident <https://www.dhhs.vic.gov.au/coronavirus>
- Department of Health National updates <health.gov.au/news/latest-information-about-novel-coronavirus>
- WorkSafe Victoria <https://www.worksafe.vic.gov.au/safety-alerts/exposure-coronavirus-workplaces>