

Chapter 13 Building, construction and renovation

13.1 Background

This chapter provides an overview of some of the infection prevention and control best practices during construction, renovation or maintenance within a Health Organisation. This advice is adapted from the [International Health Facility Guidelines 2022](#), [SESLHD Infection prevention and control during construction, renovation or maintenance procedure 2024](#), [Western Australia Infection prevention and control during Construction and Renovation Activities Policy 2023](#), and [Australasian Health Facility Guidelines Part B and Part D](#).

Building construction, renovation and maintenance activities undertaken within a Health Organisation impose health risks, as they can disturb and disseminate reservoirs of dust, debris and microorganisms into the environment.

Health Organisations are to ensure that all construction, renovation and maintenance activities on their sites are undertaken in a safe and appropriate manner to reduce disease transmission risk to patients, visitors, carers, volunteers and health workers. These activities require planning and coordination to minimise the risk. The planning should include involvement of a multidisciplinary team, inclusive of infrastructure (facilities maintenance and engineering), support services, infection prevention and control, work health and safety (WHS), the external project team and the manager of the relevant department/s.

A formal approach to risk assessment and management should be part of all building construction and renovation activities. It is not a one-off activity but rather an ongoing process throughout the whole development or redevelopment process. Health Organisations are to have a process for assessing risk and adopting appropriate precautions in consultation with local infection prevention and control early in the planning and building stages of any new build, demolition, refurbishment or construction activity. Refer to [Australasian Health Facility Guidelines](#) for more information.

The risk assessment should include processes to identify opportunities to prevent the transmission of infectious organisms during construction activity and implement engineering and environmental controls in any facility that will be built, renovated or repaired.

13.2 Infection prevention and control risk assessment

In occupied facilities, a range of systems and precautions will need to be implemented to support construction and renovation activities. The infection prevention and control risk assessment should include the following:

1. Define the activity
2. Identify population at risk
3. Define class of precautions
4. Establish mitigation plan.

Define the activity

Prior to any type of work beginning, whether it be maintenance or large construction, Health Organisations are to consider the implications of the activities and associated risks. For the purpose of infection prevention and control risk assessment, construction activities have been divided into four types: A, B, C and D (see table 54 Construction activity type).

Table 54 Construction activity type

Type	Construction activity
Type A Inspections and general upkeep activities	Includes but not limited to: removal of ceiling tiles for visual inspection (limited to 1 tile per 5 m ²), painting (but not sanding); installation of wall covering; electrical trim work; minor plumbing; any activities that do not generate dust or require cutting into walls or access to ceiling other than for visual inspection.
Type B Small scale, short duration activities, which create minimal dust	Includes, but is not limited to: installation of telephone and computer cabling, access to chase spaces, cutting into walls or ceiling where dust migration can be controlled.
Type C Any work that generates a moderate to high level of dust	Includes, but is not limited to: demolition or removal of built-in building components or assemblies, sanding of wall for painting or wall covering, removal of floor covering/wallpaper, ceiling tiles and casework, new wall construction, minor ductwork or electrical work above ceiling, major cabling activities.
Type D Major demolition and construction projects	Includes, but is not limited to: heavy demolition, removal of a complete ceiling system, preparation of foundations which causes earth disturbances, and new construction.

Identify population at risk

At-risk population (patients/residents and health workers) can be exposed and infected through the introduction and dispersal of dust (contaminants) during construction in the healthcare environment. Each Health Organisation has its own unique population with different susceptibility to construction related infections. Mapping critical care areas will help to take the right precautions. Not all patients carry the same level of risk or require the same level of environmental controls. By knowing which at risk populations (table 55 Clinical risk assessment of at-risk population) are most susceptible to these activities, can actively reduce the potential of exposing these groups unnecessarily.

Health Organisations are to conduct a risk assessment of the patient population within or adjacent to construction site/s prior to the commencement of any construction or renovation (table 56 Risk areas in Health facilities/organisations). Infection prevention and control risk assessments require the integration of multiple strategies and should include the use of the hierarchy of controls framework in conjunction with infection prevention and control principles to strengthen the risk assessment. See section 10.4 for more information.

This is particularly important when demolition or major construction works are planned within the Health Organisation. This type of activity is recognised as the most significant risk for the severely immunocompromised patient group (refer to table 55 Clinical risk assessment of at-risk patients). All clinicians must be aware of potential risks to their patient group when construction projects are undertaken and take all measures to identify symptoms, diagnose, treat, and consult infectious diseases as necessary.

Table 55 Clinical risk assessment of at-risk population

Level of risk	Risk factors
No evidence of increased risk	All patients, health workers, service providers and contractors not listed below
At-risk patients	- Current use of prolonged courses of high dose steroids particularly if hospitalised for prolonged periods - Moderately to severely immunocompromised - Mechanical ventilation - Chemotherapy without neutropenia* - Dialysis
High-risk patients	- Neutropenia* for less than 14 days following chemotherapy - Solid organ transplantation - Neonates in Intensive Care Units (NICU) - Adult Acute lymphoblastic leukaemia (ALL) on high dose steroid therapy - Chronic Granulomatous Disease
Very high-risk patients	- Allogeneic bone marrow transplantation within 12 months of transplant, if >12 months, consult with haematologist - Autologous peripheral blood stem cell transplantation, such as during the neutropenic period - Neutropenia for greater than 14 days following chemotherapy or immunosuppressive therapy. For example, acute myeloid leukaemia (AML), acute lymphoblastic leukaemia (ALL), primary CNS lymphoma - Aplastic anaemia - Severe Combined Immunodeficiency Syndrome or Chronic Granulomatous Disease of Childhood - Peripheral stem cell transplantation, such as, during the neutropenic period.

* Neutropenia defined as absolute neutrophil count (ANC), $<1 \times 10^9/L$.

Define class of precautions

The precaution classification matrix (refer to Table 57 Precautions matrix) offers four distinct classes of precautions based on the identified activity type and patient risk group. Each class lists control elements to be implemented before start of work and maintained during work activities. The risk assessment document should be reviewed when there are substantial changes to the work effort, which can either increase or decrease the classification. Once the type of construction project and risk group is defined, then the information is matched in a matrix to determine the infection prevention and control classification most appropriate for the project (refer to table 56 and Appendix 13A).

Table 56 Risk areas in health facilities/organisations

Group 1 – Low	• Office areas • Non-patient/low risk areas not listed elsewhere
Group 2 – Medium	• Patient care and other areas not listed under groups 3 or 4 • Laundry • Cafeteria • Dietary • Material management • Allied Health • Admissions/discharge • MRI • Nuclear medicine • Echocardiography • Laboratories not specified under group 3 • Public corridors used by patients and to transport linen & supplies
Group 3 – Medium/high	• Emergency department • Medical imaging – general • Recovery rooms • Delivery rooms • High dependency unit • Newborn nurseries • Paediatrics (except paediatric ICU) • Microbiology labs • Virology labs • Long stay, subacute units • Pharmacy • Endoscopy • Bronchoscopy • Dialysis
Group 4 – Highest	• Oncology units • Radiation therapy • Oncology clinical areas • Chemotherapy • Transplant • Pharmacy admixture/clean rooms • Operating rooms • Sterile supply units • Cardiac catheterisation • Angiography rooms • Outpatient invasive procedure rooms • Anaesthetic and pump rooms • All intensive care units – adult, paediatric, neonatal • Burns unit

The intent of the precaution's matrix is to provide the level of mitigation necessary only at a given point of a project. Many projects begin with higher classes of precautions, primarily due to demolition activities, then require stepdown levels of precaution on the journey to completion.

Table 57 Precautions matrix

Construction activity risk level	Type A	Type B	Type C	Type D
Group 1	Class* I	Class II	Class II	Class III/IV
Group 2	Class I	Class II	Class III	Class IV
Group 3	Class I	Class III	Class III/IV	Class IV
Group 4	Class III	Class III/IV	Class III/IV	Class IV

* Refer to Appendix 13A for detailed instructions required for each Class.

Match the construction activity type (A, B, C, D) determined in table 54 with the patient risk group determined in table 55 (low, medium, high, highest) to ascertain the class of precautions required (I, II, III, IV).

Establish risk mitigation plan

The risk mitigation plan should identify the minimum required infection prevention and control strategies using the Table 57 precautions matrix and Appendix 13A Infection prevention and control construction guidelines. These controls include several physical as well as individual personnel actions. The risk mitigation plan should address as a minimum:

- the extent of construction work
- the identification of the patient population at risk
- the location of the patient population in relation to the site and construction
- ventilation system types and potential impact
- traffic and supply routes
- determination of air monitoring requirements, methodology and frequency
- air quality samples taken to establish a baseline
- the identification of possible contaminants and their locations.

13.3 Risk management

Infection prevention and control measures to be considered during construction and renovation include:

- At the time of site induction for building workers, infection prevention and control should be presented as a major component of the WHS induction. This induction process should be documented and signed off by each participating worker
- Monitoring worker compliance with procedures. The builder should routinely communicate the results of this monitoring to the workers. A systematic approach should be in place to ensure the management of major breaches

- Consultation with the facility microbiology department and/or microbiologist. Collaboration between the facility's microbiology department and infection prevention and control is essential, especially during redevelopments when infections may appear out of the norm
- Increased frequency of HEPA filter changes in high-risk departments that may be at risk of exposure during construction work activities
- Installation of barriers to contain the impact of construction
- Inspections by the nominated representatives during the construction of the barriers. These inspections should be monitored and reported
- Documenting all inspections, including a non-conformance system for defaults, complete with a corrective and preventative action loop.

Minimise patient exposure to construction-associated contaminants by:

- understanding airflow traffic direction, intake at potential construction zone to ensure no transfer and drop off into patient care areas
- if possible, relocating at-risk patients who are adjacent or near to the construction zone
- where indicated, inform high-risk patients of the risks of exposure when going near construction zone
- ensuring surgical masks are available to high-risk patients to wear in transit when near construction zones, if it is unavoidable
- where HEPA-filtered positive pressure rooms are available, high-risk inpatients must have priority access.

13.4 Environmental control

Environmental controls such as effective ventilation, dust suppression and adequate cleaning is required to minimise any impact on air quality within the construction zones to reduce the risk of potential adverse health effects. For more information refer to [NSW Health Engineering Services Guide](#). The following key considerations are essential for ensuring effective ventilation and air quality control within construction zones, particularly in sensitive environments:

- The design, installation, and commissioning of ventilation systems for new builds, or upgrades to current infrastructure, requires technical expertise from qualified biomechanical or ventilation engineers who are also responsible for the operation, maintenance and monitoring of these systems
- Negative pressurisation of the construction zone is recommended to eliminate dust or pollutant penetration into clinical areas. The exhaust or extraction systems specified in the contract documentation must be constantly monitored and maintained to ensure no failures occur. These inspections should be documented and reported on
- If HEPA filtration is required, a person must be nominated as the responsible person for that duty. The filters should have differential pressure monitoring with alarms. Spare filter elements must be kept on hand. These inspections should be documented and reported on
- Dust-proof barriers between patient care areas and any building work should have airtight seals (sealing and taping all joint edges including top and bottom and sealing temporary doors/hoarding/air locks connecting the construction zone to the adjacent area/occlusion where relevant of ventilation ducts within the construction/building work area)
- Consideration to be given to sealing service ducts in adjacent areas

- Additional dust containment measures as necessary (use of water sprays)
- Review of air exhausted to outside the building from the construction site to ensure this is undertaken in a safe manner
- Ensuring all waste material is removed with minimal creation of dust, for example, bagging of waste, covering of skips/waste bins
- Dust sheets/walk on and off dust mats should be single use or replaced regularly
- Restriction to staff, patients, residents, clients, and visitors entering construction areas
- Installing more elaborate barriers as indicated for long-term projects
- Routine inspections of barriers should be conducted by the hospitals nominated representative from the contractor. These inspections should be documented and reported
- Cleaning pre, during and post construction incorporating increased cleaning frequency in adjacent area/s by the builders/contractors
- A high level of site cleanliness is essential. It is recommended that tools with efficient dust extraction systems connected to HEPA filters be used. Tasks, such as sanding plasterboard, present a high level of potential risk. Therefore, it is recommended that mechanical sanding with vacuum duct collection be used
- HEPA vacuuming, not sweeping, should be used to clean up. Conventional vacuum cleaners disseminate huge quantities of dust and fungal spores and should not be used
- Movement in and out of the site must be controlled by restricting access to only those who have undergone site induction. This will assist greatly in reducing the spread of contaminants
- All inspections should be documented including a non-conformance system for defaults, complete with a corrective and preventative action methodology
- The infection prevention and control implications of preserving any existing structures during a refurbishment should also be considered and assessed for infection risks as part of the planning process.

Prior to any demolition, refurbishment and construction activity, the Health Organisation should appoint an infection prevention and control and clinical microbiology team that determines and evaluates:

- risk of airborne dissemination of microorganisms during construction activity
- whether any environmental or air sampling is required and, if required, how sampling will be undertaken
- infection prevention and control requirements of the new, renovated, or repaired facility
- whether additional infection prevention and control measures are required for patients, health workers and visitors during construction activity
- what infection prevention and control measures are required by construction workers during construction activity
- how the local infection prevention and control unit should participate in site inspections and commissioning of the new or refurbished facility.

Building contractors, engineers and any other individuals involved in construction activity should comply with infection prevention and control requirements, as determined locally, when on site. A

notification and remediation process should be implemented to address any breaches in infection prevention and control that have arisen during construction activity. The following points are to be adhered to by the building contractors and other relevant stakeholders as appropriate:

- appropriate physical barriers, for example, floor to ceiling hoarding where required and timely repair of any breaches in hoarding barriers
- appropriate containment strategies for transportation of debris, for example, covering waste with plastic sheeting before removing it from the construction zone
- appropriate dust containment strategies, for example, utilisation of dust mats at the exit and entrance to an internal construction zone
- identification of possible contaminants and their locations - ceiling dust, service shafts (especially in damp conditions), bird droppings, presence of environmental organisms
- regular cleaning, vacuuming and damp mopping of affected areas
- consideration for occluding air ducts and other openings if applicable, such as air conditioning outlets and extraction fans, in consultation with facilities maintenance
- regular observation and monitoring of construction work, noting breaches in the barrier precautions and implementing additional controls as required
- air monitoring requirements and/or air sampling if applicable. If air sampling is required it should be factored into the building costs prior to construction occurring.

Ensure line managers are notified of any complications related to the construction work as soon as possible.

During the construction or renovation phase dust barriers and other protective measures should be regularly monitored. The frequency of monitoring depends on a risk assessment of the area involved, for example, if high risk areas and patient groups are involved then daily monitoring should occur using the Environmental monitoring compliance checklist (Appendix 13B).

At the completion of construction, the infection prevention and control requirements for sign off will require a documented risk assessment. The risk assessment will be scalable depending on the extent of construction.

13.4.1 Assessment of existing air quality controls

Health Organisations undertaking major construction or renovation, including demolition and excavation are to:

- identify the location of all air-conditioning intake vents in relation to proposed works
- identify the areas within the facility served by these vents
- confirm type of primary air filter installed is compliant with AS 1324.1 2001 *Air filters for use in general ventilation and air conditioning*
- retrofit air vents that do not comply with this standard, especially if servicing high-risk areas. If the air handling units cannot tolerate the retrofit of these filters, then the highest rating tolerable should be installed
- increase routine inspection, maintenance and replacement of filters as necessary during the construction works
- where construction work is being undertaken, the competent person completing the Legionella risk management plan should evaluate the risk of construction dust on the cooling water system and increase monitoring sampling and cleaning/maintenance where required.

Refer to [NSW Guidelines for Legionella Control in Cooling Water Systems](#) for further information

- cleaning, disinfection and maintenance processes and schedule must be consistent with AS/NZS 3666.2: 2011 *Air-handling and water systems of buildings - Microbial control*, these may need to be increased during periods of heavy excavation.

13.5 Microbial sampling

Air and water sampling should be part of the risk management program and be implemented during commissioning. Cumulative data should be used to establish indoor and outdoor background levels of filamentous fungi for a particular site. Sampling should involve engineering and specialist microbiologists.

The purpose of microbiological air sampling is to gauge the efficacy of the HVAC systems, including high-efficiency particulate air (HEPA) filters following installation or after major structural refurbishment.

13.5.1 Fungal spore sampling

Baseline microbial sampling for fungal spores may be considered prior to the commencement of major construction and renovation activities (for example, group 3 and 4 areas). Cumulative data is used to establish indoor and outdoor background levels of fungi or bacteria for a particular site.

The location for sampling is determined in consultation with the facility planners and in consultation with key stakeholders, such as Microbiology, WHS, Infectious Diseases, Infection prevention and control, using the location of the proposed works, population and geographical risk groups.

13.5.2 Dust monitoring

Construction or renovation, including demolition and excavation can have a substantial, temporary impact on local air quality. The most common impacts are increased particulate matter (PM) concentrations and dust soiling. Depending on the risk of effects from dust occurring, monitoring may need to be carried out during both demolition and construction activities to:

- establish a period of baseline monitoring prior to the start of construction activities (including any demolition or site clearance works)
- ensure that the applied mitigation measures are effective
- all construction activities must be managed to ensure they do not cause exceedances of air quality objectives or limit values for PM₁₀ and PM_{2.5}, nor surpass recognised threshold criteria for dust deposition or soiling
- provide an 'alert' system regarding increased emissions of dust, and a trigger for cessation of site works or application of additional abatement controls
- help attribute any high levels of dust to specific activities on site to enable appropriate action may be taken.

In the selection of monitoring locations, a number of issues need to be considered, including:

- a decision on the number of monitoring locations that are to be established
- whether the monitoring devices are to remain in a permanent position throughout the entire construction works
- whether monitoring is required for direct comparison with the objectives or limit values.

There are a number of practical issues that also must be considered, such as the availability of electrical power, access to the monitoring sites, and security.

As reports are often retrospective. It is important for builders to document findings of daily visual assessments, including obvious reasons for increased release of dust, such as weather (dry periods with higher wind speeds) and site operations (activities with increased potential for dust release). This assists to provide evidence to Health Organisation about strategies that were used at the time of the spike to mitigate risk, such as increasing the use of sprinkler systems.

When these conditions are occurring, the nominated representative (building supervisor) should increase the frequency of visual assessments of dust release and monitoring of any visible surface soiling. This is particularly the case if the prevailing wind is in a direction towards sensitive receptors. If cooling water systems are impacted, increase frequency of microbial water sampling to assess elevated legionella risk.

13.5.3 Operating theatre commissioning microbiological testing

There is no national or international consensus on the methods, frequency, types of sampling or acceptable levels of microbial contamination. However, there is evidence to support microbiological air sampling of operating rooms as part of the commissioning process of a new facility or following major refurbishment, as an adjunct to other heating, ventilation and air conditioning (HVAC) quality assurance controls.

The purpose of microbiological air sampling is to gauge the efficacy of the HVAC systems, including high-efficiency particulate air (HEPA) filters following installation or after major structural refurbishment. Refer to Appendix 13C for Microbiological air sampling of operating rooms.

13.6 Environmental sustainability

The NSW Health Infrastructure Design Guidance Note No. 058 – Environmentally Sustainable Development (ESD) provides a comprehensive framework for integrating sustainability into the built environment of healthcare facilities. It outlines minimum sustainability requirements that must be considered in all Health Infrastructure projects, including:

- Energy efficiency measures such as all-electric heating systems, high-performance building fabrics, and solar PV installations.
- Operational waste management plans that detail priority waste streams, waste generation, and on-site collection and storage strategies to reduce landfill and support recycling.
- Climate resilience initiatives, including water-sensitive urban design, increased rainwater harvesting, and heat island effect mitigation through landscaping and reflective materials.

These measures align with broader NSW Health goals for net zero emissions and support the delivery of safe, high-quality care while reducing environmental impact. Embedding these design principles into infection prevention and control planning and infrastructure ensures infection prevention and control practices are resilient to climate risks and contribute to sustainable healthcare delivery.

Health Organisations are to embed sustainability initiatives and deliver value to the community by creating future-focused and sustainable healthcare infrastructure and asset solutions. For more information refer to [NSW Health Infrastructure Sustainability Commitment and Strategy](#).

Health Organisations are to ensure that the environmentally sustainable solutions will not affect quality and safety of patients. For example, mixed mode air conditioning systems are not recommended for acute inpatient settings where it is important to control the quality of the air through ventilation (air changes per hour), air flow and filtration to remove particles.

For more information refer to Chapter 14 Environmental sustainability and infection prevention and control.

13.7 Commissioning a healthcare building

Commissioning a healthcare facility with an infection prevention and control focus involves a structured, multidisciplinary approach to ensure the environment is safe, clean, and compliant with relevant standards before patient care begins. This includes verifying that all surfaces and equipment are thoroughly cleaned and disinfected, ensuring HVAC and water systems meet operational and microbiological standards, and confirming that critical infrastructure such as isolation rooms, hand hygiene stations, and HEPA filtration systems are functioning as intended.

Collaboration between infection prevention and control professionals, engineering, facilities management, and clinical teams is essential to identify and mitigate risks early, ensuring a safe transition to operational readiness.

Infection prevention and control commissioning - risk assessment

The risk assessment checklist (table 58 Infection prevention and control commissioning) outlines key elements required to assess infection prevention and control readiness during the commissioning of healthcare areas.

Each element is evaluated against established standards to ensure a clean and safe environment for patient care. Where standards are not met, recommendations are provided along with an assessment of the associated risk level (low, moderate, or high).

This structured approach supports consistent decision-making and helps identify areas requiring corrective action prior to occupancy or use.

Table 58 Infection prevention and control commissioning - risk assessment checklist

Infection prevention and control commissioning risk assessment element	Meets required standard: Yes/No or N/A	Recommendation if No	Risk level (low, moderate, high)
The area has been vacuumed with a HEPA filter vacuum.			
The area has been thoroughly cleaned. This includes all horizontal and vertical surfaces to ensure all dust and debris has been removed.			
All installed medical/information technology equipment is clean.			
The cleaning has been performed with the correct detergent/disinfectant (chemical or other).			
Air conditioning is working correctly and within recommended parameters as per engineering and building services and/or the contractor.			
The operating theatre or pharmacy clean room: air sampling and particle counts have been performed, and results are within acceptable limits.			
HEPA filters and clean flow systems (where installed) have been recertified.			
If the water supply has been disrupted: maintenance/contractor has flushed water through all taps and water sampling has occurred (as per the Guidelines for the Control of Legionella (2013), as necessary, with results within acceptable levels (<10 cfu/ml).			
Sinks and plumbing fixtures are suitable for the task and properly located (as per relevant Standards).			
Air intake and exhaust outlets are located and working properly.			
Single rooms meet requirements for patient isolation.			
Hand hygiene basins are correctly set up, for example, water flow, sealed near wall, hand hygiene products available.			
Alcohol based hand rub is available, installed in correct height, positions and no risks identified, for example, near electrical outlets.			

Appendix 13A Infection prevention and control construction guidelines

Class	Guideline
Class I	Execute work by methods to minimise raising dust from construction operations Replace any ceiling tile displaced for visual inspection as soon as possible.
Class II	Provide active means to prevent air-borne dust from dispersal Seal unused doors with duct tape Contain construction waste before transport in tightly covered containers Damp mop and/or vacuum with HEPA filtered vacuum Place dust-mat at entrance and exit of work area and replace or clean when no longer effective Isolate HVAC system in areas where work is being performed Wipe all surfaces at completion of project.
Class III	Isolate HVAC system in area where work is being done to prevent contamination of the duct system Complete all construction barriers before construction begins Maintain negative air pressure within work site utilising HEPA filtered ventilation units or other methods of maintaining negative pressure. In each jurisdiction, the relevant public safety officers will monitor air pressure Do not remove barriers from work area until complete project is thoroughly cleaned Wet mop or vacuum twice per eight-hour period of construction activity or as required to minimise tracking Remove barrier materials carefully to minimise spreading of dirt and debris associated with construction. Barrier material should be wet wiped, HEPA vacuumed, or water misted prior to removal Contain construction waste before transport in tightly covered containers Place dust-mat at entrance and exit of work area and replace or clean when no longer effective Wipe all surfaces at completion of project Infection prevention and control signoff on completion of cleaning and prior to occupation.
Class IV	Isolate HVAC system in area where work is being done to prevent contamination of duct system Complete all construction barriers before construction begins Maintain negative air pressure within work site utilising HEPA filtered ventilation units or other methods of maintaining negative pressure. In each jurisdiction, the

relevant public safety officers will monitor air pressure

Seal holes, pipes, conduits and punctures to prevent dust migration

Construct anteroom and require all personnel to pass through the room. Wet mop or HEPA vacuum the anteroom daily

During demolition, dust producing work or work in the ceiling, disposable shoes and coveralls are to be worn and removed in the anteroom when leaving work area

Do not remove barriers from work area until completed project is thoroughly cleaned

Remove barrier materials carefully to minimise spreading of dirt and debris associated with construction

Barrier material should be wet wiped, HEPA vacuumed, or water misted prior to removal. Contain construction waste before transport in tightly covered containers

Place dust-mat at entrance and exit of work area and replace or clean when no longer effective

Keep work brooms clean and remove debris daily

Wet mop hard surface areas at completion of project

HEPA vacuum carpeted surfaces at completion of project

Wipe all surfaces at completion of project

Infection prevention and control signoff on completion of cleaning and prior to occupation.

Appendix 13B Environmental monitoring compliance checklist

Items	Yes	No	N/A	Corrected
Construction hoarding (panels that surround a construction site)				
Barriers sealed, no penetrations	☐	☐	☐	☐
Walk off mats in place and clean	☐	☐	☐	☐
Barrier doors have closers, and they are working	☐	☐	☐	☐
Door frames have gaskets; doors are closed and properly sealed	☐	☐	☐	☐
Signs posted informing about spread of dust	☐	☐	☐	☐
Comments:				
Negative air				
Negative pressure at barrier entrance	☐	☐	☐	☐
All windows and doors closed behind barrier	☐	☐	☐	☐
Negative air units or exhaust fans running	☐	☐	☐	☐
Negative air filters clean	☐	☐	☐	☐
Negative air units discharge ducts intact	☐	☐	☐	☐
Comments:				
Adjacent areas with health worker or patient access				
Adjacent floor is clean, and no dust tracked	☐	☐	☐	☐
Adjacent ceiling areas intact	☐	☐	☐	☐
Walls intact and dry	☐	☐	☐	☐
Vents dust free	☐	☐	☐	☐
All ventilation ducts from building site sealed	☐	☐	☐	☐
No signs of pest infestation	☐	☐	☐	☐
Comments:				

Traffic flow				
Building contractors accessing site through approved nonpatient care areas	☐	☐	☐	☐
Debris removed in containers	☐	☐	☐	☐
Route and timing of debris removal as per agreement	☐	☐	☐	☐
Comments:				
Occupied areas				
Work authorised and scheduled	☐	☐	☐	☐
Barrier in place and properly sealed	☐	☐	☐	☐
Ceiling access sign posted	☐	☐	☐	☐
Surrounding areas are clean	☐	☐	☐	☐
Comments:				
Water management and legionella control				
Legionella risk management plan reviewed	☐	☐	☐	☐
Warm and cooling water system maintenance per plan	☐	☐	☐	☐
Warm and cooling water system monitoring per plan	☐	☐	☐	☐
Comments:				

Appendix 13C Microbiological air sampling of operating rooms

Air sampling must be undertaken in collaboration with Perioperative Services and Infection prevention and control Services. A National Association of Testing Authority (NATA) accredited laboratories for environmental testing must be utilised for this process. The sampler used must be capable of sampling a minimum of 1,000 litres (1m³) from each OR without causing excessive drying of the recipient's agar surface. The air sampler must be checked prior to ensure it has been collaborated and serviced in accordance with the manufacturer's instructions. Prior to sampling, agar plates should be at room temperature.

Date	
Operating room/anaesthetic bay	
Company	

Pre-procedure

Cleaning attended ☐ Yes ☐ No Date

Door sealed ☐ Yes ☐ No Seal breached ☐ Yes ☐ No

PPE required	Yes	No
Theatre attire	☐	☐
Scrub hat	☐	☐
Surgical shoe cover	☐	☐
Surgical mask	☐	☐
Sterile gloves	☐	☐

Procedure

Prior to entering the room to be sampled	Yes	No
Ensure door has been closed for at least 1 hour	☐	☐
Air sampler was run briefly prior to loading agar strips/plates	☐	☐
Air sampler cleaned prior to and between use	☐	☐
Hand hygiene	☐	☐
On entering the room to be sampled	Yes	No
Air sampler is placed in the middle of the operating table	☐	☐
Technician performs hand hygiene	☐	☐

Technician to don sterile gloves	☐	☐
Places agar strips/plate into the sampler	☐	☐
Sets timer to commence 15 minutes after technician leaves the operating room OR technician closes the doors and exits the operating room	☐	☐
Aseptic technique is maintained throughout the process	☐	☐
Operating room remained empty of personnel until sampling is complete	☐	☐
Post sampling	Yes	No
Hand hygiene	☐	☐
Don sterile gloves	☐	☐
Removes agar strip/plate and packages to avoid contamination	☐	☐
Aseptic technique is maintained throughout the process	☐	☐

Labelling

Date: Hospital name:

Room No. Volume of air sampled

Comments:

.....

.....