Scope of Building Maintenance

The scope of building maintenance is established by the Maintenance Management Framework (MMF), within the context of the overall management of buildings. The maintenance of Queensland Government buildings should optimise their service potential and minimise their whole-of-life costs. To achieve these goals, it is important to obtain accurate and objective knowledge of buildings’ physical and operating condition, including risk and financial impact associated with maintenance.

The purpose of this policy advice note is to guide departments in the identification of building assets, building-related assets and building maintenance activities. Correct identification of buildings, building-related assets and building maintenance activities will facilitate determination of a level of resources that will ensure government buildings are adequately maintained.

What does this policy advice note provide?

This policy advice note defines building assets for the purposes of the MMF and will assist departments to distinguish components which form part of a building from those which do not. There may be instances where there are no sharp lines of demarcation and a degree of interpretation will be required. This policy advice note also provides guidance regarding the types of activities that should be considered building maintenance, as distinct from building operations.

What are building assets?

A building is defined as any roofed structure that encloses space and is intended for use as a shelter (for people, animals or property) or for recreational, industrial, commercial or other functions. This definition includes all Class 1 to Class 10 buildings, as set out in the Building Code of Australia, which is part of the National Construction Code.
In terms of the MMF, maintenance of building-related assets such as building services, site improvements and temporary buildings that provide storage or shelter, should be reported as building maintenance.

For the purpose of planning and undertaking maintenance, buildings and building-related assets are broken down to component levels. In this policy advice note, buildings, their components and building-related assets are collectively referred to as ‘building assets’.

Costs associated with the maintenance of non-building assets should be assigned to operational or other budgets, rather than reported as building maintenance expenditure.

What are the components of building assets?

This section contains definitions and examples of the various building asset components. The definitions are consistent with those in the *Australian Cost Management Manual – Volume 2* (published by the Australian Institute of Quantity Surveyors), which refers to the components of a building as element groups, elements and sub-elements.

Using a standard method to break building structures into smaller components facilitates consistency in:

- maintenance reporting
- the establishment of condition standards
- the costing, planning and implementation of maintenance works.

**a) Substructure**

Substructure - the structurally sound and watertight base upon which to build.

Includes: basement and foundation excavations; piers, piles, pedestals, beams and strip footings; foundation walls; drop aprons; hardcore filling; work slabs and damp-proofing or other membranes; floor structures; sub-soil drainage; ducts, pits, bases and service tunnels; entrance steps, ramps and their finishes; steps and ramps in the one floor level; structural screeds and toppings; internal swimming pools; all other work up to but excluding the lowest floor finish.

**b) Superstructure**

Columns - the upright supports for the upper floors and roof, forming part of a framed structure.

Includes: internal and external columns, from tops of columns to bases; column casings; all protective non-decorative coatings.

Upper floors - floor structures that occur above the lowest level of a building.

Includes: all beams; concrete precast and in-situ floors; waffle slab and filler block floors; metal floors; computer floors; timber framed floors; structural screeds and toppings; concealed insulation; balconies; overhangs and sunhoods integral to floor structures; steps and ramps in the one floor level; all protective non-decorative coatings.
**Staircases** - structural connections (together with their associated finishes) between two or more nominal floor levels, or between levels and the roof, plant rooms or motor rooms.

Includes: the supporting framework of a staircase, its treads and risers; landings; ramps between floor levels; fire escapes; access ladders; spiral staircases; string and soft finishes; balustrades and handrails.

**Roof** - the structurally sound and watertight covering over the top of the building structure.

Includes: portal frames; roof construction; gables and other walls in roof spaces; parapet walls and roof balustrades; thermal insulation; roof lights and dormers with their sun screenings; eaves, verges and fascias; rainwater goods; internal stormwater drainage runs; awnings and open lean-to roofs; all protective non-decorative coatings.

**External walls** - the vertical structures, extending from 'substructure' to 'roof', that enclose the building. Does not include ‘windows’ and ‘external doors’.

Includes: structural walls; basement walls and tanking above lowest floor finish; spandrel, curtain and window walls; external shop fronts; glazed screen walls; columns and isolated piers to non-framed (load bearing) structures; gallery and balcony walls and balustrades; solar screen walls; plant room air flow screens; all insulation to external walls; all external finishes to columns, slab edges, beams, projecting overhangs and walls; lintels and flashings at openings; ring beams and stiffening beams not integral to floor, ceiling or roof slabs.

**Windows** - openings in ‘external walls’ to provide light and ventilation.

Includes: flyscreens; louvres; guard grilles; remote control opening/closing gear; sun protection to windows; curtains; blinds, track and pelmets; window sills and linings; hardware and decoration.

**External doors** - the access ways into the building for both pedestrians and vehicles.

Includes: frames; linings; glazing; architraves; hardware; panels and highlights (above the door frame) and other decoration; fly doors; roller shutters; garage doors; fire doors; grille and chain-wire doors; gates; service cupboard doors and thresholds.

**Internal walls** - vertical structures that permanently divide internal spaces into separate rooms or enclose duct and other non-useable areas.

Includes: walls and piers; internal columns and isolated piers to non-framed (load bearing) structures; lintels; damp courses and bearing strips; stiffening beams not integral to floor, ceiling or roof slabs; part height solid walls glazed over to ceiling; un-ducted air flow grilles; firewalls and smoke screens.

**Internal screens and borrowed lights** - structures that temporarily divide internal spaces; partitions that feature openings to allow the transfer of light through ‘internal walls’.

Includes: proprietary type office partitioning; glazed screens; internal shop fronts; fold away and operable walls; overhead framework and supporting beams; chain wire and grille screens; toilet partitions and screen walls; borrowed lights; balustrades and rails not associated with staircases; all finishes and decorations.
Internal doors - passageways through ‘internal walls’, internal screens or partitions; provide access to service cupboards and ducts.

Includes: frames; linings; glazing; architraves; pelmets; hardware and door grilles; chainwire and grille doors; toilet doors; cell and strong room doors; fire doors; roller shutters; service cupboard doors; duct access panels; fanlights and panels over fanlights; linings to blank openings; all finishes decorations.

c) Finishes

Wall finishes - finishes and/or decoration of the interior face of any ‘column’, ‘external wall’ or ‘internal wall’.

Includes: finishes to internal faces of external walls and columns; acoustic wall linings; face and coloured blocks and off-form concrete; splashbacks; dados; regulation wall vents.

Floor finishes - finishes to ‘upper floors’ and ‘substructure’ that are suitable for foot traffic.

Includes: balcony floor finishes; skirtings; screeds; timber floor finishes; dividing strips; mats and matwells; duct and pit covers; carpeting used as a permanent floor finish; timber and other finishes to concrete floors; finishes to steps within the floor level.

Ceiling finishes - finishes and/or decoration of all internal soffits (undersides) of ‘upper floors’ and ‘roof’; external soffits of unenclosed covered areas.

Includes: suspended false ceilings; proprietary suspended ceiling systems; acoustic ceiling linings; linings to roof lights; ceiling manholes; framing to bulkheads and cornices.

d) Fittings

Fitments - built-in or fixed items that furnish or equip a building.

Includes: benches; cupboards; shelving; racks; seats; counters; notice boards; signs and name plates; coat rails and hooks; mirrors; wall hatches; daisies and stages.

However, loose furniture (i.e. items of furniture that are not built-in and are easily re-locatable) is considered a non-building asset. Examples of loose furniture include tables, chairs, desks, lounges, freestanding cupboards and shelving, and filing cabinets.

Special equipment - items of a unitary nature available for purchase commercially, and/or of a type not covered by other elements.

Includes: window cleaning apparatus; boiling water units; sink heaters; refrigerated drinking-water coolers; sanitary macerators; circulating fans.
In circumstances where equipment has been provided for a purpose-built building, this equipment should be considered part of the building. This rule applies when equipment is built-in, affixed or installed in such a manner that removal would necessitate extensive restoration works or result in substantial cost. Examples of this type of equipment include spray painting booths, incinerators, autoclaves, sterilisers, bakery equipment, laundry equipment and cranes.

However, equipment that can be easily removed from a building (or building site) after erection/installation is not considered part of the building. In this context, the primary function of the building is as a shelter. Non-building plant and equipment can be disconnected, dismantled and removed without significant impact on the building in terms of:

- damage to the building structure, including internal partitions
- affecting the function of the building as a shelter
- the need to restore, change or upgrade the building after removal.

The following sub-categories can be used to identify items as non-building plant and equipment:

- **Portable and attractive equipment** - generally smaller items of a stand alone, hand-held or plug-in nature.
  
  Examples include: hand-held tools; portable power tools; cameras; calculators; battery-operated clocks.

- **White goods and general office equipment** - generally plug-in electrical items; usually included as office facilities.
  
  Examples include: urns (plug-in); fridges/freezers; clothes washers; computers, printers; facsimile machines; photocopiers; shredders and microwave ovens.

- **Production and business equipment** - generally used for carrying out the core business activities (e.g. production, training, testing, research) of the building occupant; can be easily removed without significant impact on the building.
  
  Examples include: scientific equipment; woodworking equipment; metal working equipment; sewing machines; welding machines; biological safety cabinets.

- **Ancillary equipment** - generally used for routine operational purposes.
  
  Examples include: motor vehicles and tractors; trailers; boats; ride-on mowers; pool cleaning and servicing equipment; cleaners’ equipment; garden hoses and sprinklers.

**e) Services**

**Sanitary fixtures** - normal fixtures connected to the soil and waste plumbing systems, and all associated ancillaries.

Includes: WC suites; urinals; basins; sinks and tubs; troughs and runnels; drinking fountains; slop hoppers; showers; hobs; shower curtains and trays; terminal outlets integral with fixtures; flusherette valves; soap and toilet paper holders; towel rails and hand driers.
Sanitary plumbing - systems to allow - the disposal of all waste and soiled water from fixtures and equipment out to the external face of the external walls.

Includes: stacks and vents; all loose traps; floor wastes; internal sewer drainage runs, pumps and ejectors; acid-resisting pipes and drains; box ducting and paintwork.

Water supply - systems to supply water from the point of entry to the building to the points of consumption.

Includes: storage tanks; pumps; water treatment plants; water heaters and coolers; reticulation pipework, including pipeline components; terminal outlets not integral with fixtures and/or equipment; controls other than those associated with water consuming items of equipment; box ducting; insulation; sheathing; paintwork and identification; building and electrical work forming part of the water supply.

Gas services - systems to supply town, natural, simulated natural and liquefied petroleum gas from the point of entry to the building to the points of consumption.

Includes: portable gas cylinders; booster compressors; manifolds and regulators; box ducting, painting and identification; building and electrical work forming part of the gas services; reticulation pipework and pipeline components; terminal outlets not integral with fixtures and/or equipment; gas detection systems.

Space heating - systems to heat the interior of buildings by means of convection, radiation or other form of heating.

Includes: unitary heaters; reticulated steam, hot water or hot oil systems; warm air systems; electric floor or ceiling heating systems; fireplaces, hearths or associated work in chimney stacks; boiler plant; insulation and painting; controls and associated electrical work.

Ventilation - systems to circulate air within buildings by means of supply and/or exhaust systems.

Includes: mechanical ventilators; non-mechanical roof ventilators; supply and/or exhaust fans; ducted systems; exhaust hoods; ducting, plant, controls and associated electrical work.

Evaporative cooling - systems to cool air within a building by evaporative processes; such systems can also include ancillary heating.

Includes: evaporative coolers; rock bed regenerative systems and ancillary heating devices; ducting, insulation, painting and associated electrical work.

Air conditioning - to maintain and control temperature, humidity and quality of air within predetermined limits within buildings.

Includes: package air conditioners; systems for cooling only; plant (chillers, cooling towers, air handling units, pumps etc); ductwork and air conditioning grilles; controls and associated electrical work.

Fire protection - systems to detect and/or extinguish fires.

Includes: sprinklers and other automatic extinguishing systems; fire indicator boards; manual and automatic fire alarm installations; fire fighting equipment; hydrant installations; hose reels and cupboards; hand appliances.
Electric light and power - systems to provide all light and power, and emergency light and power, from (and including) the main distribution board to (and including) power outlets and light fittings.

Includes: main distribution board; sub-mains and distribution boards; emergency lighting systems; power sub-mains to mechanical equipment and sub-mains and/or sub-circuits to other equipment and/or final sub-circuits.

Communications - systems to provide audio and video communication within a building.

Includes: all telephone cabling; internal telephones; public address, call, emergency warning and intercommunication systems; personal paging; dock and/or bell systems; TV antenna and closed circuit TV.

Transportation - systems to move personnel and/or goods from floor to floor or area to area.

Includes: lifts, hoists and conveyor systems; escalators; all associated equipment and work other than structural building work.

Special services - services or installations not covered by other elements.

Includes: monitoring systems; cool rooms and process cooling; special conditioned rooms; staircase pressurisation systems; compressed air; medical and industrial gas systems; dust extraction systems; security systems; lightning protection; stage lighting and theatre equipment; reticulated soap dispenser systems; laundry, heat and water reclaim systems and the like.

f) External services

External stormwater drainage — disposes of rain and surface water from the site.

Includes: pipe runs from the external faces of buildings; inspection pits; sumps; road gullies; culverts; box drains; grated trenches; runs from pools and fountains; outfalls and head/walls; agricultural and sub-soil drains; connections to existing runs and pits.

External sewer drainage - allows removal of waste and soiled water from the site.

Includes: pipe runs from the external faces of buildings; grease gullies; inspection pits and manholes; acid resisting and special drains; dilution pits; petrol and plaster arrestors; septic tanks; collection and holding wells; absorption trenches; transpiration areas; pumps and ejectors; connections to existing runs, pits and mains.

External water supply - systems to supply water up to the external faces of buildings and up to other major consuming points external to the building, such as swimming pools, fountains, artificial ponds, irrigation and ground watering outlets.

Includes: storage tanks; water towers; pumps; water treatment plants; water heaters and coolers; reticulation pipework, including pipeline components; terminal outlets not integral with fixtures and/or equipment; insulation; sheathing; painting and identification; meters and meter enclosures; water bores; irrigation and ground watering systems; building and electrical work forming part of the water supply.
External gas - systems to supply town, natural, simulated natural and liquefied petroleum gas up to the external faces of buildings and other consuming points external to the building.
Includes: storage cylinders and tanks; meters and regulators; meter enclosures; reticulation pipework and pipeline components; building and electrical work forming part of the external gas supply.

External fire protection - systems to supply fire hydrant and gas and vaporising agent runs up to external faces of buildings; external sprinkler systems; connection of fire protection systems between buildings. Also includes systems to detect and/or extinguish fires in fixed plant or equipment located in the open air.
Includes: standby and booster pumps; pipe runs; storage and reticulation of gas and vaporising agents; hydrant points; overhead and underground cables for fire detection systems.

External electric light and power - systems to supply electric power to main distribution boards of buildings and to provide lighting and power to external site areas.
Includes: connections to source of power supply; consumer mains; sub-station equipment; emergency generating plant; main switchboard, underground and overhead cables; pylons and all trenches for cabling; street and area lighting; illuminated signs and building flood lighting.

External communications - external communication cables terminating at frames of buildings; communication systems between buildings and to external site areas.
Includes: underground and overhead cables; pylons; connections to existing cables; external speakers; hooters; clocks; bells; closed circuit TV; community antenna systems.

External special services — external services or installations not included in other elements.
Includes: external connections to special services; service tunnels, ducts or conduits in connection with external reticulation of services elements; dust extraction plant; incineration plant; bulk storage for medical and industrial gases.

What are site improvements in relation to building assets?
Site improvements provide infrastructure support for buildings, thereby assisting with the delivery of departmental services. In terms of the MMF, the cost of maintaining these site improvements should be reported under building maintenance.
The following constitute improvements to the site:

a) Roads, footpaths and paved areas - trafficable areas between and around buildings for vehicles and pedestrians.
   Includes: car parks; playgrounds; kerbs; crossovers; bollards; steps and associated balustrades.
b) **Walls, fencing and gates - structures that enclose or define the extent of the site and portions within that site.**
   Includes: all walls, fences and gates on the site; fencing on vacant land.

c) **Outbuildings and covered ways - small buildings supplementary to the main building(s), and covered areas or bridge links for pedestrian or vehicular site circulation.**
   Includes: detached covered ways not alongside buildings; garages; bicycle sheds; incinerator buildings; residential and gatekeepers’ cottages; garbage shelters; workshops; chapels; stores; sheds; stair blocks; electrical, mechanical and other services for outbuildings or covered ways.

d) **General improvements - structures/installations that enhance the appearance of the site and provide incidental site facilities for the use of occupants.**
   Includes: seats; fountains; petrol bowsers (pumps) and tanks; sculptures; flagpoles; signs and notices; cricket nets, basketball posts and goal posts; sports pitches and open air swimming pools.

However, temporary site improvements are considered non-building assets. These are structures that are erected on a site for a short period, generally for specific events/activities. Examples include temporary signs, cloth banners, displays and fete stalls.

Landscaping is considered a non-building asset. Landscaping includes any vegetation and associated improvements provided to enhance the aesthetic appearance of the site. Examples include lawns, gardens, vegetable plots, shrubs and plants, sports ovals, and ornamental pools.

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**What are building maintenance activities?**

Section 3.0 of the MMF defines the term “building maintenance”.

This section provides clarification regarding a number of maintenance-related activities. These activities should be reported as building maintenance.

**Payment of statutory fees**

Statutory fees, such as those required to comply with legislation, are considered part of building maintenance. Examples include fees for:

- registration of plant and equipment with Workplace, Health and Safety Queensland
- environmental licenses (fuel fired plant, fuel installations)
- fire system connection to the fire brigade.

**Maintenance cleaning**

Maintenance cleaning is considered part of building maintenance if its purpose is to preserve or protect the building asset, or to improve the asset’s appearance. Examples include:

- high-pressure water blasting and washing down of building exteriors
- removal of algae from paths where it presents a slip hazard.
However, day-to-day hygiene-type cleaning is not considered part of building maintenance. Hygiene-type cleaning includes general cleaning of walls and floors, washing down of surfaces, vacuuming, polishing and shampooing.

**Various external works**

Some external works are considered part of building maintenance if they are necessary to prevent damage to buildings. Examples include:

- the lopping of trees/branches to prevent leaves clogging gutters
- removal of tree/plant roots that are threatening foundations and underground services
- maintenance of firebreaks i.e. an area that forms a protective barrier against the spread of fire from adjacent heavily vegetated sites
- mowing and clearing of vacant sites to minimise vermin problems
- activities associated with erosion control

However, day-to-day landscaping activities necessary to maintain aesthetics (e.g. grass mowing/slashing; pruning and trimming of trees, shrubs and plants; tending to gardens and vegetable plots; and the removal of horticultural waste) are considered building operational activities.

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**What are building operational activities?**

Building operational activities are routine functions undertaken for hygienic, aesthetic and security purposes, and for the supply of utilities. These activities are necessary to keep the building in a habitable and usable condition but are not considered building maintenance activities. In some instances, these routine functions may be undertaken at the same time as maintenance activities and/or by the same service provider. In such cases, costs for building operational activities should be charged to operational or other budgets.

**Pest control**

Pest control is considered a building operational activity. This includes activities associated with the regular treatment for and eradication of red-back spiders, cockroaches, dust mites, lice, mosquitoes, dogs, cats and possums.

However, treatment for preventing termites or white ants from gaining access to building assets is considered a building maintenance activity.

**Security services**

Services related to the monitoring and operation of a security system should be considered building operational activities.

Examples include:

- alarm monitoring and false alarm charges
- mobile security patrols
- alarm monitoring phone line rentals
- security audits
- provision of security personnel.
Refuse/waste collection and disposal

The collection and disposal of general refuse and other waste is considered a building operational activity. Examples include:

- removal of general refuse
- emptying grease traps/septic
- cleaning acid traps
- providing sanitary services
- removal of trade waste.

Operational personnel

In circumstances where personnel are provided for the operation of buildings, their services should be considered building operational activities. Examples include:

- boiler operators/attendants
- sewerage plant operators
- janitors
- gardeners
- security staff.

Operational consumables and utilities

The supply of operational consumables and utilities used for the delivery of a department’s services is considered a building operational activity. Examples include:

- pool chemicals
- material for water purification or treatment purposes
- water
- gas
- fuel for engines and generator sets
- office consumables such as guillotine blades, first aid kits
- any form of material used to neutralise disposed acidic wastes
- electricity
- telecommunication services.

However, the supply of consumables related to the building is considered a building maintenance activity. Examples of consumables related to the building include fluorescent tubes, incandescent bulbs, air and fuel filters and lubrication material.
References

*Maintenance Management Framework* (Department of Housing and Public Works)

*National Construction Code (Building Code of Australia)* (Australian Building Codes Board)


For further information

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