

Asset management and maintenance planning

Department of Health Guideline
QH-GDL-354-1-5:2018

1. Purpose

The intent of this guideline is to provide best practice recommendations for asset management and maintenance planning activities related to building assets and their supporting infrastructure.

This guideline forms part of the *Asset management and maintenance* policy (QH-POL-354:2015) and *Asset management and maintenance* standard (QH-IMP-354-1:2015).

All departments (as defined in Section 8 of the *Financial Accountability Act 2009*) must comply with the requirements of the *Maintenance Management Framework* (MMF). The MMF identifies the policy requirements to prepare a maintenance strategy, develop a strategic maintenance plan, assess maintenance demand, allocate adequate maintenance budgets and develop an annual maintenance works program.

2. Scope

This guideline applies to all employees, contractors and consultants within the Department of Health divisions and commercialised business units (DoH-CBUs) and does not apply to health technology equipment or information communication technology equipment.

This guideline can be used by Hospital and Health Services either as it is, by re-branding or as a base for a Hospital and Health Service specific guideline.

3. Requirements

3.1 Objectives

Asset management and maintenance planning should support the following:

- building and infrastructure maintenance work that complies with legislation, government policy and best practice requirements while effectively managing associated risks
- appropriate management of whole-of-life building and infrastructure costs
- maintain the physical condition and standard of buildings and supporting infrastructure to ensure continuity of service delivery functions.

3.2 Asset management and maintenance plan

The Asset Management and Maintenance Plan (AMMP) is a key output of the maintenance planning process and provides a review of past, current and a forward three year focus on maintenance planning. The AMMP is an integral element for development of the Total Asset Management Plan (TAMP) and identifies:

- maintenance requirements
- maintenance strategies and implementation responsibilities
- building maintenance works program
- maintenance budgeting
- perceived risks and proposed mitigation strategies for works not programmed
- continuous improvement opportunities through benchmarking and performance review
- asset management capability.

A specific AMMP template has been established to assist in the development of annual AMMPs. It provides a consistent structured tool to identify and record maintenance requirements, strategies, planned expenditure and the program of works. Detailed instructions and guidance on how to develop and complete the AMMP are provided within the template. The template is reviewed and updated annually by the Assets and Facilities Unit. The current version of the template and associated excel spreadsheets can be sourced via the [Asset Services Team: A-Z Directory of Useful Links](#) on QHEPS.

Roles and responsibilities associated with building asset management and maintenance planning are defined in Appendices 1 and 2.

3.3 Identification of the asset portfolio and information

It is essential to ensure that all building assets are identified and that associated master data is appropriately maintained. Prior to the preparation of the AMMP, the Finance and Materials Management Information System (FAMMIS) asset register should be reviewed and reconciled with data in the Computerised Maintenance Management System (CMMS) to ensure financial assets and maintainable assets are identical to those listed in the AMMP for maintenance purposes. Refer to the *Single asset identifier (SAID)* guideline for further information on the numbering system for identifying and recording assets and maintainable items.

As the CMMS is the source for all maintenance data used to develop AMMPs, it is crucial that the CMMS data integrity is maintained at all times. Maintaining the accuracy of condition assessment data within the CMMS is critical as this data is used to develop condition-based maintenance strategies and inform the maintenance works program.

The AMMP utilises information sourced from the CMMS which includes the maintenance activity data. The CMMS activity types, descriptions, examples, work order types and maintenance category (planned or unplanned) are provided in Appendix 3. Failure to allocate work under the correct activity type may distort information and impact on benchmarking and performance reporting. For further information on maintenance information management refer to the *Maintenance information management* guideline.

All asbestos containing materials in buildings whether confirmed or assumed, is to be identified and recorded in the CMMS, as this is the data source for all Queensland Health asbestos registers. This is critical to inform asbestos management requirements and scheduled asbestos surveys. The *Queensland Government Asbestos Management Policy for its Assets* and the *Asbestos management* guideline provides further information on asbestos management.

3.4 Benchmarking and performance review

Key performance indicators (KPIs) are available within the Decision Support System (DSS) and have been incorporated into the AMMP template to facilitate benchmarking and performance review. This also assists to identify areas requiring improvement and to guide future planning strategies.

Once completed, the AMMP will identify the annual maintenance budget for the planned year which in turn determines the maintenance expenditure target for KPI 2 for benchmarking and performance reporting for that budget cycle. For further detail on the KPIs refer to the *Benchmarking and performance indicators* guideline.

3.5 Maintenance demand assessment

A maintenance demand assessment must be undertaken to financially quantify and ascertain the maintenance requirements as part of the AMMP process. This process includes all maintainable, financial and leased assets, components, elements, systems services, plant and equipment for a building asset and its supporting infrastructure. The scope of the maintenance work in the demand assessment process should include the following:

- condition assessment and asbestos survey requirements
- preventative and statutory maintenance
- condition based maintenance (results from condition assessments and asbestos surveys)
- deferred (backlog) maintenance
- unplanned maintenance based on historical information
- lifecycle replacement of ageing components
- consider impact of new or proposed major capital works projects.

Other planning documents such as the current TAMP, should be checked to determine if any disposals, refurbishments or other redevelopment activities are planned for buildings to assist in identifying appropriate maintenance strategies.

3.6 Maintenance budget preparation

Once the maintenance demand assessment has been completed the annual maintenance budget can be developed based on the outcome of the assessment. The AMMP template is required for this activity.

The following categories are used within the AMMP to develop the maintenance budget:

- planned: statutory and preventative service maintenance
- planned: condition-based maintenance
- unplanned maintenance
- lifecycle replacements
- backlog maintenance
- condition assessments / asbestos surveys
- administration.

Review of historical expenditure against the above categories may assist in identifying appropriate budget allocations for the planned years. Maintenance budgets do not include non-maintenance activities such as new minor works, operational building costs (e.g. utility charges, leasing and cleaning costs) and capital works upgrades or improvements. Further guidance on what is maintenance can be found in the *Non-Current Asset Policies for the Queensland Public Sector*, the MMF and the MMF Policy Advice Note on *Capital or Expense? - A Guide for Asset and Maintenance Manager*.

An appropriate budget allocation needs to be provided for planned maintenance activities (preventative, condition-based and statutory maintenance) and a provision for unplanned maintenance activities (corrective/breakdown and incident maintenance). During the budget build process, consideration should be given to the specific budget provisions provided to planned maintenance and unplanned maintenance as this correlates to benchmarking and performance indicator KPI 5. DoH-CBUs are required to achieve a maintenance target ratio of 60 to 70 per cent planned maintenance expenditure to total maintenance expenditure.

Maintenance identified via lifecycle replacement planning should be prioritised and included in the AMMP. Lifecycle replacement planning is undertaken as a separate activity to the AMMP. The outcomes from this planning are used to inform the AMMP. For further information on lifecycle replacement planning refer to the *Lifecycle replacement planning* guideline.

Review of backlog maintenance works and the risk of not carrying out works should be undertaken to prioritise works for inclusion in the AMMP. Very high and high risk backlog maintenance items identified within the CMMS must be included in the AMMP and should be given priority to be addressed in the planning year based on criticality. Where risk treatments are adopted in lieu of funding very high and high risk items, the items must be rerated and the

projected risk rating updated against the backlog item in the CMMS. For further information on backlog maintenance refer to the *Backlog maintenance management* guideline.

Condition assessments and asbestos surveys are a key element of the asset management and maintenance planning process as they inform condition-based maintenance strategies. Where condition assessments or asbestos surveys are due but have not yet been carried out, these should be included as scheduled work activities in the AMMP for the planning year. For further information on condition assessments or asbestos management refer to the *Condition assessment* and *Asbestos management* guidelines.

Miscellaneous administration costs associated with the support and delivery of maintenance need to be included as part of the maintenance budget.

Although new minor works may be undertaken by employed engineering and maintenance staff, it is not classified as a maintenance activity and should not be funded out of allocated maintenance budgets. However, new minor works should be identified in the AMMP and their potential impacts on maintenance considered as part of the maintenance planning process.

Any maintenance expenditure that has been capitalised will not reflect in KPI 2 in DSS and therefore will need to be tracked separately for capital maintenance reporting purposes. The AMMP template allows for capital expenditure to be identified for benchmarking purposes.

3.7 Risk management

Where available maintenance budgets are unable to meet the maintenance demand, it may be necessary to defer maintenance items identified from the maintenance demand assessment. Where this occurs, all risks should be evaluated and risk treatments implemented to ensure the safety of staff, visitors and patients. For further guidance on risk management governance refer to the *Risk Management Policy* QH-POL-070:2015, *Risk Management Standard* (QH-IMP-070-1:2015), *Risk Assessment and Treatment Guideline* (QH-GDL-070-1-1:2015) and *AS/NZS ISO 31000:2009 Risk management - Principles and guidelines*.

3.8 Asset management capability

As part of asset management and maintenance planning, consideration should be given to the current and future resource availability and the capability of the resources to deliver on the AMMP. A capability assessment tool has been developed to assess asset management capability and is available from the Assets and Facilities Unit. A section has also been included in the AMMP template to annually assess and benchmark asset management capability.

4. Supporting documents

Forms and templates

- *Asset Management and Maintenance Plan* template
- *Asset Management and Maintenance Plan* spread sheet template
- *Asset management capability tool*
- *Total Asset Management Plan* template

Related references/information

- *Asbestos management* guideline
- *Asset management and maintenance* policy (QH-POL-354:2015)
- *Asset management and maintenance* standard (QH-IMP-354-1:2015)
- *AS/NZS ISO 31000:2009 Risk management - Principles and guidelines*
- *Backlog maintenance management* guideline
- *Benchmarking and performance indicators* guideline
- *Capital Works Management Framework*

- *Condition assessment guideline*
- *Financial Accountability Act 2009*
- *Lifecycle replacement planning guideline*
- *Maintenance information management guideline*
- *Maintenance Management Framework*
- *Maintenance Management Framework Policy Advice Note on Capital or Expense? - A Guide for Asset and Maintenance Managers*
- *Queensland Health Building Infrastructure Maintenance Task Specification Library*
- *Queensland Government Asbestos Management Policy for its Assets*
- *Capital infrastructure project delivery policy (QH-POL-374-2015)*
- *Finance Management Practice Manual Policy (QH-POL-267:2015)*
- *Non-Current Asset Policies for the Queensland Public Sector*
- *Risk Management Policy (QH-POL-070:2015)*
- *Risk Management Standard (QH-IMP-070-1:2015)*
- *Risk Assessment and Treatment Guideline (QH-GDL-070-1-1:2015)*
- *Single asset identifier (SAID) guideline*

5. Definitions

Term	Definition
Asset	A resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.
Asset management	The coordinated activity of an organisation to realise value from assets (ISO 55000 definition).
Asset management and maintenance plan	A structured tool that demonstrates a plan for managing, recording and reporting asset activities including planned expenditure through a program of works, asset management and maintenance strategies, performance, risk management and related actions to assist in budget discussions with finance departments and executive management.
Backlog maintenance	Maintenance that is necessary to prevent the deterioration of an asset or its function but which has not been carried out.
Computerised Maintenance Management System (CMMS)	The CMMS (SAP Plant Maintenance Module) is Queensland Health's corporate asset maintenance system which is used to identify, manage and maintain the buildings and associated infrastructure. It is a module within FAMMIS. The CMMS provides comprehensive reporting on all aspects of maintenance activities and performance.
Condition assessment	A technical inspection by a competent assessor to evaluate the physical state of building elements and services and to assess the maintenance needs of the facility.
Finance and Materials Management Information System (FAMMIS)	A computer based integrated business management solution which utilises SAP enterprise resource planning software and contains financial, asset accounting, materials management and maintenance information.

Term	Definition
Lifecycle replacement	The replacement of buildings, items or equipment with the intention of replacing components at the end of their useful/economic life with modern engineering equivalents.
Maintenance demand assessment	<p>Is an assessment of the maintenance requirements for a portfolio of building related assets, and will be a combination of:</p> <ul style="list-style-type: none"> • condition assessment • preventative and statutory maintenance • condition based maintenance (results from current condition assessments) • deferred maintenance • unplanned maintenance based on historical information • lifecycle replacement of aging components • special works (e.g. removal of asbestos) • impact of any new works recently completed (new building). <p>To ascertain the maintenance requirements of the building portfolio being assessed.</p>
Planned maintenance	<p>Preventative service maintenance – prevents asset failure by systematic inspection and monitoring to detect and avoid deterioration or failure. It also entails testing to confirm correct operation.</p> <p>Condition based maintenance – Programmed maintenance work, based on condition assessment or other priorities, that returns any maintainable asset to an acceptable standard.</p> <p>Statutory maintenance – Compulsory maintenance to meet requirements mandated in acts, regulations and other statutory instruments. This includes standards and codes.</p>
Total Asset Management Plan	An overall summary plan that consolidates all separate asset management plans into a single organisational plan. The TAMP will cover the total lifecycle of an asset from conception, creation, maintenance and operation to disposal.

Version Control

Version	Date	Comments
1.0	19 December 2017	New document

Asset Management and Maintenance Roles and Responsibilities Matrix

		Activity														Comments					
		DoH Asset Management Team	DoH Asset Information Management Team	DoH Property Services Team	DoH Priority Capital Program Team	DoH Facilities	DoH Capital Infrastructure Delivery Unit	QH FAMMIS Help Desk	QH FAMMIS Security	QH FAMMIS	QH FAMMIS Training	HHS	DoH-CBUs (e.g. HSQ)	DoH Finance	DoH Decision Support System		DoH eHealth	DoH Infrastructure Strategy Planning Branch	DoH HSQ Strategic Procurement and Supply	DoH Senior Management	
Asset Management and Maintenance Planning	Policies, Standards and Guidelines	DoH Asset Management and Maintenance Policy, Standard and Guidelines - Develop and maintain	R	C		C/I						C/I	C/I	C		C	C	C	A	HHSs are responsible to develop their own policies, standards and guidelines or may adopt the DoH's.	
	DoH Asset Management and Maintenance Policy, Standard and Guidelines - Implement	S	I		I	R/A					I	R/A				I					
	Real Property Management Policy and Standards - Develop and maintain			R		C					C	C								A	HHSs are responsible to develop their own policies, standards and guidelines or may adopt the DoH's.
	Real Property Management Policy and Standards - Implement	I		R/A		R	I				I	R				I					
	Monitor and implement legislative requirements on building related assets	S	S	S		R/A	S				R/A	R/A								I	
	Corporate Task Specifications - Develop and maintain	R/A	C			C					C	C									
	Local Task Specifications - Develop and maintain	S/I	S/I			R/A					R/A	R/A									
	Corporate Task Specifications - CMMS templates	S	R/A			C/I					C/I	C/I									
	Corporate and Local Task Specifications - Implement	S	S			R/A					R/A	R/A									
	DoH CBUs Asset management and maintenance procedures, processes, frameworks and systems	C/I	S			R/A					C	R/A									HHSs are responsible to develop their own.
	Climate change strategies and policies including emission targets (under development)	S/C/I				R/A					R/A	R/A								I	
	Planning / Analysis	DoH Corporate KPIs and other benchmark measures - Develop and maintain (including new KPI's)	R	S			C/I				C/I	C/I		S						A	
	DoH Corporate KPIs and other benchmark measures - Report	R	S/I								R/A	R/A		S						A	
	Utility benchmarking, analysis and reporting	S/C/I									R/A	R/A									
	Maintenance demand assessment	C				R/A					R/A	R/A									e.g. building condition / performance assessments, backlog, preventative, statutory and reactive maintenance.
	Asset Management and Maintenance Plan (AMMP) - Template	R/A	C		C						C	C									
	Asset Management and Maintenance Plan (AMMP) - Populate template	S	S								R/A	R/A	S				I				
	DoH Life Cycle Planning - Tool	R/A	S								C/I	C/I									
	Life Cycle Planning	S	S								R/A	R/A					C				
	DoH CBUs - Asset management and maintenance budgets	I				R/A					C	R/A	C								
	Total Asset Management Plan (TAMP) - Templates	I									C	C				C	R/A			A	
	Total Asset Management Plan (TAMP) - Populate templates	S									R/A	R/A			R/A		R				
	Total Asset Management Plan (TAMP) - Queensland Health Consolidated (portfolio level)	S			I		I				S	S	S		S		R			A	
	State Health Infrastructure Plan (SHIP) - Develop	S			I		I				S	S			S		R			A	

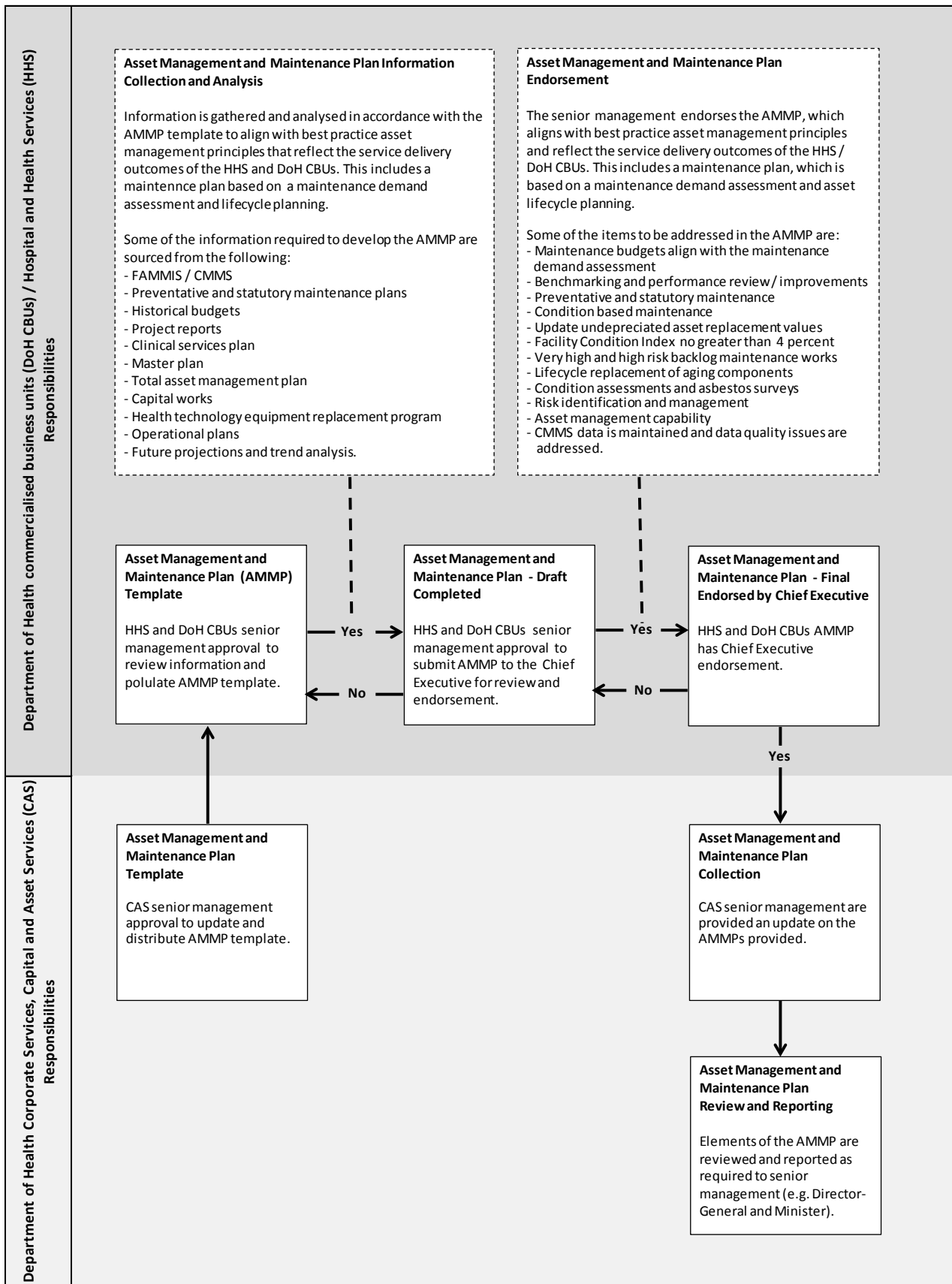
Asset Management and Maintenance Roles and Responsibilities Matrix (continued)

		Activity	DoH Asset Management Team	DoH Asset Information Management Team	DoH Property Services Team	DoH Priority Capital Program Team	DoH Facilities	DoH Capital Infrastructure Delivery Unit	QH FAMMIS Help Desk	QH FAMMIS Security	QH FAMMIS	QH FAMMIS Training	HHS	DoH-CBUS (e.g. HSQ)	DoH Finance	DoH Decision Support System	DoH eHealth	DoH Infrastructure Strategy Planning Branch	DoH HSQ Strategic Procurement and Supply	DoH Senior Management	Comments		
Asset Management and Maintenance Planning	Information Management	CMMS - Help desk		S					R/A														
		CMMS - Review and authorise access including training requirements		R/A						I				R/A	R/A							DoH Asset Information Management Team is FAMMIS District Coordinator for Statewide plant maintenance only.	
		CMMS - Provide access		I						R/A				I	I								
		CMMS - Training delivery		S									R/A										
		CMMS - Training records		S									R/A	R	R								
		CMMS - Master Data		S	S									R/A	R/A								e.g. data health checks
		FAMMIS - Financial asset register						R/A						R/A	R/A	C/I		R/A					
		CMMS - Changes (system configuration)		C/I	A			C/I				R/C		C/I	C/I								
		Decision Support System (DSS) - Maintain CMMS module and provide access		C/I	A			C/I						C/I	C/I		R/C						
		CMMS - Review and maintain upload templates e.g. condition assessments		C/I	R/A			C/I						C/I	C/I								
		ICMMS - Web-based Application			S									I					R/A				
		cmmsMobile Application			S									I					R/A				
	CMMS - Undepreciated Asset Replacement Value review and update (business area level)		C/I	S			R/A						R/A	R/A	S								
	Operational	Energy and utility procurement management		S/C/I										R/A	R/A						R		
		Energy productivity solutions		S/C/I										R/A	R/A								
Demand management solutions			S/C/I										R/A	R/A									
Facility management							R/A						R/A	R/A									

Note: Capital Works are excluded

R	RESPONSIBLE	Responsible – owns the problem/project, responsible for doing.
A	ACCOUNTABLE	To whom "R" is accountable – who must sign-off (approve) on work before it is effective.
S	SUPPORTIVE	Can provide resources or can play a supporting role in implementation.
C	CONSULTED	To be consulted – has information and/or capability necessary to complete the work.
I	INFORMED	To be informed – must be notified of results, but need not be consulted.

Asset Management and Maintenance Plan Responsibilities Chart



CMMS Maintenance Activity Types

Activity type	Description	Examples	Work order type *	Category
AD – administration	Used to identify miscellaneous administrative activities associated with the support and delivery of maintenance.	<ul style="list-style-type: none"> workshop cleaning 	MST	planned
AR – asbestos removal	Used to identify asbestos containing material removal activities.	<ul style="list-style-type: none"> replacing / repairing a roof made of asbestos containing material 	MAM	planned
AS – ad hoc survey	Used to identify an ad hoc asbestos survey.	<ul style="list-style-type: none"> project asbestos survey 	MAM	planned
CB – condition based assessment	Used for the tasks to restore the condition or performance of equipment and building infrastructure to an acceptable standard. It is also used for any identified corrective maintenance arising from assessment activities.	<ul style="list-style-type: none"> replacing worn carpeting repainting of hospital corridor 	MAS MPM MWR	planned
CF – corrective (follow-up work)	Used to identify corrective work that has been identified when performing planned / preventative maintenance which was not part of the planned activity.	<ul style="list-style-type: none"> Identification of a leaking panel seal on an air-conditioning unit during regular monthly inspection 	MWR	planned
FS – five-yearly survey	Used for a five-yearly asbestos survey.	<ul style="list-style-type: none"> five-yearly asbestos survey 	MAM	planned
LR – lifecycle replacement	Used for the replacement of equipment and/or infrastructure deemed to be at the end of its useful life. Note the replacement of equipment and/or infrastructure is always to be on a basis of “like with like”.	<ul style="list-style-type: none"> replacement of standby generating sets replacement of a lift replacement of a nurse call system 	MAS MWR	planned
PM – preventative maintenance	Used for systematic inspection, monitoring, adjustment and parts replacement tasks to detect and/or avoid deterioration or failure. It can also be used for any testing undertaken to confirm correct operation.	<ul style="list-style-type: none"> replacement of motor oil every 10,000 hours inspection of an automatic opening door check operation of public address system 	MPM MST	planned
SM – statutory maintenance	Used to identify equipment or facilities that have a statutory requirement to be maintained under a defined policy or legislation.	<ul style="list-style-type: none"> monthly inspection air filters annual inspection of fire hydrants and smoke detectors 	MPM MST	planned
TT – test and tagging	Used for the common maintenance task of testing and tagging electrical equipment	<ul style="list-style-type: none"> test and tag of electrical equipment 	MPM MST	planned

Activity type	Description	Examples	Work order type *	Category
TS – three-yearly survey	Used for a three-yearly asbestos survey.	<ul style="list-style-type: none"> three-yearly asbestos survey 	MAM	planned
WA – warranty pre-expiry checks	Used in order to meet and maintain a warranty for equipment or facilities. For example, equipment may need to be serviced every three months in order to satisfy its two-year warranty. Failure to service the equipment may void the warranty. Therefore a planned / preventative work order with an activity type of WA would be created for the three monthly services.	<ul style="list-style-type: none"> three-monthly inspection and service of on-site sewerage system monthly load test and inspection of standby generating sets monthly inspection of laboratory analysis equipment 	MPM	planned
YS – yearly survey	Used for a yearly asbestos survey.	<ul style="list-style-type: none"> yearly asbestos survey 	MAM	planned
CM – corrective maintenance	Used to restore equipment and facilities to an operational condition following an unforeseen failure.	<ul style="list-style-type: none"> door handle is broken and needs replacement pan sanitiser is leaking blocked toilets, guttering and drains 	MAS MST MWR	unplanned
IM – incident management	To be used for an unexpected breakage or failure that requires an immediate response.	<ul style="list-style-type: none"> graffiti and vandalism break and entry storm or fire damage 	MWR	unplanned
RC – rush corrective maintenance	Used to identify emergency situations. These situations call for a rush corrective maintenance work order to ensure that the work is promoted in priority before all others. Note this activity type is very similar to corrective maintenance.	<ul style="list-style-type: none"> water main has burst air supply system is blocked 	MWR	unplanned
NW – new minor works	To be used for work undertaken that results in enhancements or additions being performed on an existing asset.	<ul style="list-style-type: none"> new wall needs to be built to divide a room new shelving for an office new whiteboard for a training room 	MAS MWR	minor works
OA – operational activities	To be used for costs not directly chargeable to an asset.	<ul style="list-style-type: none"> moving furniture regular landscaping and grass mowing training and meetings replacing gas bottles 	MWR	operational

* CMMS Work Order Type descriptions:

MAM: asbestos maintenance

MAS: maintenance assessment

MPM: preventative maintenance

MST: standing order

MWR: maintenance work request