



ASSET MANAGEMENT SERVICES MAINTENANCE FRAMEWORK PLAN

1. INTRODUCTION

The University of Tasmania has a property portfolio with an asset replacement value in the order of \$526M. These assets are used in support of the University's core functions of teaching, research and community service.

The University aims to grow its student population from 11,510 EFTSU in 2003 to 15,000 EFTSU in 2010. This will have significant implications for how we manage our physical asset portfolio. We will need assets that excel in meeting the needs of teaching and research and which will create a distinctive environment that will attract students and staff.

Asset Management Services (AMS) have an important role by ensuring that limited maintenance and capital works resources are managed to obtain the best possible outcome for the University. Decision about assets, including acquisition, maintenance, operating costs, and disposal costs will need to be made on information on the existing asset base and on the projected needs of the University.

By engaging in a strategic approach to maintenance we will increase and enhance the effective use of the University physical assets. At the same time, we will decrease the risk of a reduction in services and future financial burdens that will occur as a result of the lack of maintenance.

2. OBJECTIVES

The Maintenance Framework Plan (MFP) will provide the structure within which to strategically manage the maintenance and to optimise the life cycle of the University's assets in accordance with the business needs of the University and service delivery requirements. Its key objectives are:

- Assets are maintained to perform at optimum levels during their life cycle, reducing service disruptions and losses due to failure.
- Critical areas and risks are identified and managed.

- Performance of assets is reviewed to suit service delivery and to ensure assets are fit for purpose.
- The cost of maintaining assets over their life cycle is quantified.
- Information is gathered to assist future decision-making and budgeting.

3. SCOPE

The MFP applies to the University's building assets and associated fixed plant and equipment. It includes building fabric and structure, fixed plant and equipment that are part of a building's services, civil works (roads, paved areas, fencing etc) and site services (water, gas, electricity, stormwater drainage, sewerage). The Plan only applies to assets for which AMS have been assigned responsibility. It does not apply to computers, telephones, vehicles or to specialist equipment under the control of Heads of Budget Centres.

4. DEFINITIONS

Assets: the University's maintainable building assets and associated fixed plant and equipment.

Backlog Maintenance: maintenance that is necessary to prevent the deterioration of the asset or its function but which has not been carried out.

Corrective Maintenance: the actions performed, as a result of failure, to restore an item or asset to its original condition, as far as practicable. Corrective maintenance may or may not be programmed.

Criticality: the measure that defines how critical the function of an asset is in respect to the delivery of the University's core service delivery outputs.

Deferred Maintenance: maintenance which is due to be carried out in the current financial year but which intentionally will not be carried out because of shortage of funds or unavailability of parts. Such maintenance should be added to the Backlog Maintenance awaiting attention.

Functionality: the measure of how well a current asset fits in with the operation of the business and the design of the space for its current use.

Life cycle costs: the full cost of maintaining an asset during its life time and includes procurement, operating and maintenance, as well a, disposal costs.

Maintenance: all actions necessary for retaining an item or asset in or restoring it to its original condition. Maintenance excludes building cleaning.

Maintenance Provider: The University's head Maintenance Contractor

Maintenance Standard: a measure of the condition that an asset is required to meet.

Minor New Works: works/repairs that are required to enhance assets/facilities to standards suitable for their intended function. This includes refurbishment.

Preventive Maintenance: the actions performed to retain an item or asset in its original condition as far as practicable by providing systematic inspection, detection and prevention of incipient failure. Preventive maintenance is normally programmed.

Utilisation: the measure of determining an asset's relevance to its business requirements by defining how intensively the asset is used.

5. MAINTENANCE MISSION

To maintain the physical infrastructure to the greatest benefit of the University and to contain costs.

6. MAINTENANCE POLICY

Maintenance programs and plans will be aligned with the business planning and service delivery requirements of the University. Maintenance will be managed to ensure the most efficient and effective expenditure of limited resources to optimise life-cycle costs of assets.

Maintenance funding is prioritised within allocated resources as follows:

- Statutory compliance
- Occupational Health and Safety
- Business Needs
- Cost of asset
- Asset life cycle
- Consequential damage

7. MAINTENANCE STANDARDS

Each asset will be allocated a grading to identify the maintenance standard that is required for that particular asset. Maintenance standards, conditioning auditing and frequency of servicing / maintenance will vary depending on the importance of an asset in achieving the University's business needs and strategic priorities. The actual asset condition will be compared against the desired maintenance standard, or in the case of legislation, the required maintenance standard, on a three-year basis. Variations from the standard that are identified will form part of the planned corrective and/or backlog maintenance plans.

8. GRADING OF MAINTENANCE STANDARDS:

AAA - "Exceptional"

In such areas the requirement to preserve the asset in "as new" condition continuously and indefinitely, and to correct unacceptable conditions swiftly and unobtrusively.

AA - "High"

In such areas the requirement to preserve the asset in good condition both visually and functionally, and to respond promptly in the event of failures. An example would be the audiovisual equipment in a main lecture theatre.

A - "Standard"

This standard is the "default" standard, which should apply if no special conditions are present. It is aimed at preserving essential functionality, complying with statutory health, safety and environmental obligations, and rectifying faults before consequential damage incurs additional cost. In such cases the requirement is to preserve the operational capacity of the asset as much as possible. This standard does not in itself require close attention to physical appearance except in so far as it is desirable in order to meet the other criteria.

B - "Minimal"

This standard applies to assets that have a limited life or are in use on an interim basis. Maintenance is aimed at minimising current operational costs whilst continuing to preserve essential functionality for operational purposes and complying with statutory obligations to the maximum extent possible. The standard is normally applied where the expected remaining life of the asset is less than five years or where little use is expected.

C – “Mothball”

This standard applies to assets that are not in current use, either being closed or relocated. Maintenance is aimed at maintaining safety and security, protecting against vandalism or other damage and limiting any cost penalties.

9. CRITICALITY OF ASSETS

Each asset will be allocated a grading to define how critical their function is in respect to the delivery of the University’s core service delivery outputs. The rating will inform the level of preventive maintenance and response rate in the event of failure.

Grading of Criticality:

Essential – This grading indicates that the asset’s function is absolutely essential if the core business is to continue functioning as intended. An example would be a freezer storing ice core samples.

Important – This grading still allows for a high level of criticality to core business requirements without being extreme. An example would be the failure of a fume cupboard in a chemistry lab.

Desirable – This grading applies when the basic needs of the service delivery are met. An example would be staff training rooms, meeting rooms, offices etc.

Non-Essential – This grading applies to an asset that may have limited life span or is not considered to be an integral part of the basic core business requirements. An example would be a material storage room.

Not Required – This grading applies to an asset that offers absolutely no return to the basic core business requirements.

10. UTILISATION

Each asset will be given an utilisation grading which reflects the current utilisation of the asset. The level of utilisation will effect the life cycle of the asset and as a result the asset’s maintenance requirements.

Grading of Utilisation:

Continuous – This grading describes an asset that is in constant or continuous use, i.e. 24 hrs/day, 7 days a week. An example would be the security surveillance system.

High – This grading applies to assets that may be used on a regular basis and for extended periods. An example would be the University's libraries.

Normal – This grading applies to standard level of usage such as office administration areas.

Rare – This grading applies to an asset that no longer meets the business requirements and is therefore not being used to the full extent. Examples include disused storage areas.

Over utilised - This grading applies to an asset that is being used beyond its intended capacity.

11. FUNCTIONALITY

Each asset will be given a functionality grading to reflect how well a current asset fits in with the operation of the business and the design of the space for its current use.

This information will assist in forecasting replacement and/or refurbishment needs and will influence the level and nature of maintenance.

Grading of functionality

Ideal – This grading applies to an asset that is perfectly suited to the core business and is likely to be so in the foreseeable future. An example may be lecture theatre.

Appropriate – This grading applies to an asset that still has a high level of suitability but its suitability may change in the future. An example may be the fire detection system.

Usable – This grading applies to an asset that suits the basic needs of the business. An example would be an electrical system.

Inappropriate – This grading applies to an asset that may be used currently but does not suit the core business. An example would be a classroom being used as a storeroom.

Not suitable – This grading applies to an asset that does not meet the operation of the business. An example would be a chemical store in an administration building.

12. RISK RATING

A risk rating is assigned to an asset that has failed or where an inspection demonstrates that an asset does not meet its ascribed maintenance standard. Risks may include but is not restricted to statutory, occupational health and safety issues, interruption to service delivery, consequential damage to other assets.

Grading of Risks

R1 – This rating applies to an asset that has failed or does not meet the ascribed maintenance standard and should not be used in its current condition. An example is where the asset does not meet statutory requirements and is a high risk to health and safety or where continued operation will result in significant financial loss. The rating will also automatically apply to any asset which has failed and which has a **Criticality Grading 1 Essential**.

R2 – This rating applies to an asset that has failed or does not meet the ascribed maintenance standard and requires high levels of intervention. An example is where the condition of the asset provides a high risk to health, safety or property or where a failure would result in a high financial loss.

R3 - This rating applies to an asset that has failed or falls below the ascribed maintenance standard and requires regular checking and monitoring. An example is where failure will result in intermittent disruptions and inconvenience to operations, but the risk to health, safety or property is minor.

R4 - This rating applies to an asset that has failed or where the ascribed maintenance standard has not been met, but where the probability of risk to health and safety or property is slight and where financial loss is slight.

R5 - This rating applies to an asset where the ascribed maintenance standard has been met and there is no effect on service capability.

13. LIFE CYCLE COSTING

In acquiring an asset, the whole of life costs of an asset are taken into account. This includes procurement, operating and maintenance and disposal costs.

An asset will deteriorate over its life-time. During this process some part or elements of the asset will fail before others. An effective maintenance program will ensure that the asset is maintained to achieve its full life potential by a preventive maintenance program that preserves and by a corrective programme that restores and replaces the elements which have failed.

An effective maintenance program assists in maintaining the value of an asset during its lifetime, but it will not be able to maintain the asset indefinitely in an 'as new' condition. Maintenance expenditure will increase as elements fail. At the same time, improvements to the asset may be required to meet changed service requirements.

As an asset ages or becomes outmoded, decisions will need to be made as to the cost/benefit of expenditure in maintaining the asset, refurbishing, replacing or disposing. Such decisions must take into account the life cycle costs of the current asset and alternative maintenance solutions.

14. MINOR NEW WORKS

When assets are no longer able to meet their functional service delivery requirements, consideration needs to be given as to whether improvements to parts, elements or to the whole asset can achieve the desired outcomes. Minor New Works funding is typically used where improvements result in the enhancement of the asset or where an asset is refurbished.

The linkages between Maintenance and Minor New Works are close and at times blurred. This in turn may affect the judgment as to which funding source applies. In order to ensure the strategic application of limited funds and regardless of funding source, it is important that a Backlog Maintenance Plan incorporates works which may be classed as Minor New Works¹.

¹ Minor New Work processes are currently under review.

15. RESPONSE TIME TO AND COMPLETION TIMES OF CORRECTIVE MAINTENANCE REQUESTS

All job requests for re-active corrective maintenance and that do not require immediate attention are submitted electronically to the Help Desk. The Help Desk assigns the priority to the request. The Help Desk determines the priority in the first instance based on information received by the requestor and where relevant by checking the criticality status and maintenance standard of the asset. If after attending the fault, the Maintenance Provider finds that the priority is not appropriate, the Maintenance Provider will consult the Help Desk to change the priority.

Each priority has a response time and a completion time as indicated below. A response time is the time it takes to first respond to the work request. Completion time is the time it takes to rectify the fault and to complete the actual works.

Completion of a job request may be affected by factors outside of the control of the Maintenance Provider, for example parts may need to be ordered. The Maintenance Provider will indicate in the 'comments' field of the work order the reasons why a job request cannot be completed within the assigned completion time and will advise the requestor and report to AMS.

16. PRIORITY RATINGS

There are three Priority Categories used to distinguish the level of urgency required to rectify the fault.

Immediate

Faults classified as "Immediate Works" include any faults:

- which represent threats to health and safety;
- which severely affect the normal business operation of the facility; or
- which will result in the loss or damage to valuable research or educational materials, if the fault is not rectified.

Maximum Response Time	2 hours
Completion Time	4 hours

Urgent

Faults classified as "Urgent Works" include any faults, other than those defined for immediate works that affect the facility operating conditions, for example replacement of a damaged GPO.

Maximum Response Time	3 days
Completion Time	4 days

Routine

Faults classified as “Routine” include faults to minor equipment or component failure, where the equipment or component does not overly affect normal operation.

Maximum Response Time	2 weeks
Completion Time	3 weeks

17. RESPONSE TIME AND COMPLETION RATES FOR MINOR NEW WORKS

Job requests for Minor New Works or Quotes are submitted electronically to the Help Desk. The request should indicate the date when the works are to be completed by. The Help Desk will assign it a Priority “Planned”. The Maintenance Provider will contact the Requestor to discuss and clarify the Requestor's needs and agree on a program of works and a completion date. The Maintenance Provider will enter the agreed completion date into the Management Information System.

The Maintenance Provider will enter reasons of any changes to timelines in the ‘comments’ in the Management Information System and will advise the Requestor and report to AMS.

18. PRIORITY RATING

Planned

This priority includes all works that are planned and includes routine corrective maintenance, preventive maintenance, quotes and minor new works.

Maximum Response Time	1 week
Completion Time	As agreed with client.

19. MAINTENANCE MANAGEMENT INFORMATION SYSTEM

The effective management of the University's assets is dependent on the availability of relevant, reliable and timely information. The University's Maintenance Management Information System (Pinnacle) is used to schedule and monitor maintenance and minor new works. It is a key tool in planning

maintenance, minor new works, budgeting and in the day-to-day management of maintenance.

20. MAINTENANCE MANAGEMENT RESPONSIBILITY

AMS are responsible for overall maintenance policy and the management and planning of the maintenance of the University's buildings and associated infrastructure.

21. MAINTENANCE OPERATIONS

The University has engaged a Maintenance Provider to provide maintenance services for the general building fabric and fixed plant and equipment. The Maintenance Provider's scope of services include the management, administration and co-ordination of maintenance services; routine Preventive Maintenance, Corrective Maintenance, Minor New Works and the collection of asset data.

The Maintenance Provider reports to the University Facilities Manager who is supported by regional maintenance managers in Hobart and Launceston.

22. MAINTENANCE BUDGET

The University, on the advice of the University's P&RC, allocates an annual maintenance budget to AMS. AMS then breaks the budget down into its sub-components and manages the budget for each Project under its control, eg corrective, preventive, minor new works, audio visual, operations etc.

The Maintenance Provider is responsible for planning and managing the preventive and corrective maintenance services within a "Managed Budget". Payments are made to the Contractor on receipt of a monthly Invoice. The Maintenance Provider is responsible for 50% of cost in the event the annual Managed Budget is overrun.

23. PERFORMANCE INDICATORS

The following performance indicators are used to measure broad maintenance outcomes.

- Preventive and Corrective Maintenance expenditure as a % of Asset Replacement Value
- Preventive and Corrective Maintenance expenditure per square metre
- Preventive and Corrective Maintenance Expenditure per EFTSU

- Backlog expenditure as a % of Backlog Liability
- Backlog liability as a % of Asset Replacement Value
- Backlog expenditure per square metre
- Preventive and Corrective Maintenance Budget as % of Asset Replacement Value
- Corrective Expenditure as a % of Maintenance Budget
- % Failure Rate of Assets designated as Critical
- Achievement of Specified Response Times as a % of Job Requests
- Achievement of Completion Times as a % of Job Requests

24. FRAMEWORK MAINTENANCE GOALS AND STRATEGIES

The following framework maintenance goals and strategies outline the broad strategies that will be implemented to achieve the key objectives of the MFP. The strategies will form the basis of Maintenance Operational Plans. . FMG stands for Framework Maintenance Goal. FMGS stands for Framework Maintenance Goal Strategy.

FMG1: Assets are maintained to perform at optimum levels during their life cycle, reducing service disruptions and losses due to failure.

FMG1-S1: Assets will be defined in accordance with an established asset hierarchy.

FMG1-S2: The maintenance standard of assets will be determined to meet University business needs.

FMG1-S3 The actual utilisation of assets will be assessed on an annual and ongoing basis.

FMG1-S4 The condition of assets will be assessed on an annual and ongoing basis and compared with the required maintenance standard

FMG1-S5 Condition assessments will be used to project and to determine when an asset is at the end of its life cycle and maintenance expenditure is no longer a cost effective strategy.

FMG1-S6 Short and long term maintenance plans will be developed.

FMG1-S7 Response and completion times will be executed in accordance with the service delivery requirements of the University.

FMG 2: Critical areas and risks are identified and managed.

FMG2-S1 Assets will be reviewed and assigned a criticality grading reflecting the business needs of the University.

FMG2-S2 Assets will be assessed upon failure against criticality grading and for risks.

FMG2-S3 Performance monitoring will be undertaken of and the condition of critical assets with a grading of 1 or 2 will be regularly assessed and assessed for risks.

FMG2-S4 Preventive maintenance plans will develop a schedule of maintenance for each critical asset with a grading of 1 or 2 at a sufficiently high level to prevent failure from occurring.

FMG 3: Performance of assets is reviewed to suit service delivery and to ensure assets are fit for purpose.

FMG3-S1 Heads of School/Section are requested to confirm the criticality grading of assets that support their service delivery at the time of their initial assessment.

FMG3-S2 A desk-top audit of the criticality grading of assets is undertaken on a three year rolling basis.

FMG3-S3 Heads of Schools/Section are requested to confirm the criticality grading of assets on a three-year rolling basis.

FMG3-S4 Annual and ongoing condition assessments of assets will be compared with operational requirements.

FMG3-S5 Service Delivery Agreements will be entered into with each Faculty and Division.

FMG4: The cost of maintaining assets over their life cycle is quantified.

FMG4-S1 All maintenance costs are captured against each asset.

FMG4-S2 Maintenance costs will be measured against criticality of the asset.

FMG4-S3 Maintenance costs will be measured against utilisation of the asset.

FMG4-S4 Maintenance costs will be measured against revenue from the asset.

FMG4-S5 Operating costs will be measured against facilities.

FMG5: Information is gathered to assist future decision-making and budgeting

FMG5-S1 The Asset Management Information System will be used to systematically record information and to prepare reports.

FMG5-S2 Condition Assessments will be undertaken to identify current and future maintenance liabilities.

FMG5-S3 Information will be gathered to provide reports on key performance indicators.

FMG5-S4 Customised reports will be developed in conjunction with IT Services to meet the specific reporting need.

This document forms part of the University's Strategic Asset Management Plan. For further information, please contact the University Facilities Manager on 6226 **2688**.