CAPE WINELANDS DISTRICT
MUNICIPALITY • MUNISIPALITEIT • UMASIPALA

MAINTENANCE MANAGEMENT POLICY

FEBRUARY 2015

APPROVED BY COUNCIL:
DATE OF IMPLIMENTATION:

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1. OBJECTIVE

1.1 To ensure the proper maintenance of the assets of the Municipality as captured in the Asset Register.

1.2 To benchmark the maintenance management approach of the Municipality in the relevant Government guidelines.

1.3 The policy will only apply to the on-going maintenance of assets, and excludes any capital renewal expenditure.

1.4 The policy will be reviewed annually.

1.5 The policy will be implemented in a phased manner, with proposed implementation dates shown in Appendix A.

2. PURPOSE

This policy describes the maintenance responsibility for facilities, equipment and infrastructure when maintenance is required and how it is performed. It also defines the terms used, describes the decision making process governing the assignment of maintenance priorities, the selection of cost analysis processes, and quality assurance.

3. ABBREVIATIONS

Term	Description
CMMS	Computerised Maintenance Management System
DPLG	Department of Provincial & Local Government, now the Department of
	Cooperative Government and Traditional Affairs (COGTA)
IIMM	International Infrastructure Management Manual (2006)
KPI	Key Performance Indicator
MFMA	Municipal Finance Management Act
NIMS	National Infrastructure Maintenance Strategy
O&M	Operation and maintenance

4. DEFINITIONS

Term	Description
Asset Life-Cycle	The cycle of activities that an asset goes through – including planning, design, initial acquisition and/or construction, cycles of operation and maintenance and capital renewal, and finally disposal.
Availability	The proportion of total time that an asset is capable of performing its intended functions.
Benchmarking	The process of comparing the performance of with other municipalities, as well as leading practice in order to identify performance gaps.

Condition-Assessment survey	Maintenance performed as a result of the condition of an asset. Condition based maintenance is a type of planned maintenance activity. Periodic inspections used to determine their current condition and any estimated cost to correct deficiencies.
Corrective maintenance	Maintenance actions performed as a result of failure of an asset including the modification or re-design of the asset.
Deferred maintenance	1.) Any scheduled maintenance that is not performed on schedule, unless it is determined from the material condition of the equipment that the scheduled maintenance does not have to be performed until the next scheduled maintenance. 2.) Any non – scheduled maintenance that would render the property or equipment non – operational and is not scheduled and performed in a reasonable time. In either case, circumstances such as, but not limited to, non – availability of parts or funding would be considered reasons for reporting the maintenance as deferred maintenance activities that were not carried out.
Maintenance	Maintenance is the act of keeping assets in acceptable condition or at a prescribed level of performance. It includes preventive maintenance, other types of maintenance, and replacement of parts of components and other activities needed to preserve the asset so that it continues to provide acceptable services and achieves its expected life. Maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from or significantly greater than, those originally intended
Maintenance Plan	Information, policies and procedures for the optimal maintenance of an asset or group of assets.
Maintenance Standards	The standards set for the maintenance service, usually contained in preventative maintenance schedules, operation and maintenance manuals, estimating criteria, statutory regulations and mandatory requirements, in accordance with the maintenance outcomes.
Operation	The process of utilising an asset which will consume resources such as manpower, energy, chemicals and materials.
Planned maintenance	Planned maintenance falls into three categories: 1. Periodic – Activities necessary to ensure the reliability or to sustain the design life of an asset. This includes the regular services required for certain assets. 2. Predictive – Condition monitoring activities used to predict failure. 3. Preventative – Maintenance that can be initiated without routine or continuous checking and is not condition-based.

Maintenance/ Refurbishment	Actions that will restore or maintain the originally assessed future economic benefits or service potential that an entity can expect from an asset and is necessary for the planned life to be achieved.
Reliability Centred Maintenance	A structured process to determine the maintenance strategies required for an asset to ensure that it continues to fulfil its intended functions within the current operating context.
Routine maintenance	Day-to-day operational activities to keep the asset operating and which form part of the annual operating budget.
Run-to-Failure	A maintenance strategy where no routine maintenance is performed and the asset is used until it fails.
Service maintenance	Service undertaken seasonally or annually to enable the required level of service to be delivered. Service maintenance is a type of planned maintenance activity.
Unplanned maintenance	Corrective work required in the short-term to restore an asset to a working condition.

5. STATUTORY AND REGULATORY FRAMEWORK

5.1 The following documents are relevant, and were used as key inputs for this policy:

(a) MFMA Local Government Capital Asset Management Guideline published by the National Treasury Department (2008).

(b) DPLG "Guidelines for Infrastructure Asset Management in Local Government" (2007).

(c) NIMS, approved by the National Cabinet (2006).

(d) International Infrastructure Management Manual co-authored by Institute of Municipal Engineering of Southern Africa IMESA (2006).

5.2 The implications for infrastructure operation and maintenance, as articulated in the documents listed in 5.1 are documented in Appendix B.

6. COMPILATION OF MAINTENANCE MANAGEMENT PLANS

6.1 In terms of the Maintenance Management Policy, maintenance management will be compiled for all services included under the policy. The Maintenance Management Plans will address the following 5 aspects:

(a) Establishment of asset maintenance operational plans;

(b) Preparation of asset maintenance budgets;

(c) Establishment of an asset maintenance organisation;

(d) Establishment of asset maintenance systems; and

(e) Establishment of asset maintenance performance norms and standards and reporting mechanisms.

6.2 Sections 7 to 11 of this Policy provide details of the contents of the Maintenance Management Plans for each of the 5 aspects.

7. UNDERTAKE ASSET MAINTENANCE OPERATIONAL PLANNING

7.1 Asset maintenance operational planning will be undertaken for all assets covered by this Policy with due consideration of the following:

(a) Definition of maintenance outcomes;

(b) Conducting a maintenance analysis for all assets, including:

1. Identification of all assets;

2. Identification of critical assets based upon the risk of failure to the municipality;

3. Analysing the maintenance options and determining the preferred option in terms of the lowest life-cycle cost.

(c) Development and implementation of a maintenance operational plan;

(d) Analysis of asset performance.

7.2 Maintenance outcomes

(a) Maintenance outcomes must be agreed and documented for every service.

(b) The maintenance outcomes must be documented for each of the following categories:

1. Statutory compliance, e.g. adherence with outflow quality requirements;
2. Availability of the service, e.g. time taken to restore service after a disruption;
3. Reliability of the service, e.g. the number of times within a period that consumers do not have access to the service;
4. Cost of maintenance; and
5. Risk management.

7.3 Maintenance analysis

(a) Identification of assets

1. The existing asset register will be used as the basis for the identification of all assets, and care will be taken to update the register to reflect any new assets created, retired or changed in any way.

2. Assets will be grouped into categories for which the maintenance actions are similar.

(b) Identification of critical assets based upon the risk of failure to the municipality

1. Assets will be evaluated to determine the consequence of failure with regards to the following impacts:

i. Environmental impact;

ii. Public health & safety impact;

iii. Financial impact; and

iv. Service delivery impact.

2. The impact with regards to each of the criteria will be rated using a 5 point scale.

3. The individual ratings will be combined into a combined rating, which will be used to identify the relative criticality of maintaining specific assets.

(c) Analysing the maintenance options and determining the preferred option in terms of the lowest life-cycle cost.

1. A maintenance strategy will be selected for each of the asset groups defined in 7.3 (a) 2.

7.4 Maintenance operational plan development

(a) The maintenance activities for each asset group defined will be combined in an activity maintenance plan that will list the following:

1. Description of the asset in sufficient detail for the accurate identification of the asse;t

2. Description of the type of activity to be performed, e.g. testing, inspection, oil change etc.;

3. The criticality of the activity; and

4. The base period of the activity, e.g. monthly, annually etc.

(b) Maintenance activities recorded in existing documents will be incorporated into the activity list. These include:

1. Activities recorded in current checklists and operating manuals; and

2. Others as identified.

7.5 Analysis of asset performance.

(a) Tools will be used to monitor the performance of assets, where it is appropriate for such tools to be employed. These could include:

1. Root Cause Analysis tools to assess the underlying reasons for asset failure;

2. Undertaking Reliability Centred Maintenance assessments; and

3. Others as identified.

8. PREPARATION OF ASSET MAINTENANCE BUDGETS

8.1 The costs associated with the maintenance activities in the Maintenance Activity Plan must be calculated.

8.2 The individual maintenance activity costs must be summarised per department and used to inform the required maintenance budgets.

8.3 Where available maintenance budgets are inadequate, the criticality of the individual activities will be used to prioritise the maintenance actions to be performed.

8.4 Maintenance activities that cannot be funded will be classified as deferred maintenance and recorded as such.

8.5 Expenditure on maintenance will be recorded against the assets, facilities and cost centres where the cost is incurred.

9. GENERAL

9.1 The maintenance activity schedule will be used to inform the maintenance organisational structure required to perform the critical work to be executed.

9.2 The maintenance activity schedule will also be used as the basis to determine the tools and other equipment required to perform the required maintenance.

9.3 The outsourcing or use of alternative delivery mechanisms to perform tasks, or groups of maintenance tasks, must be considered as an alternative.

9.4 New Equipment

If equipment is new to the inventory, manufacturer's recommendations in respect of maintenance should be used. However, if similar equipment exist, an option between experience based on historical maintenance information and manufacturers suggestions could be used, if it not impact or influence on the manufacturers product warranty conditions.

9.5 Spare Parts

At the time of procurement of a new piece of equipment requiring maintenance, consumable and manufacturer recommended spares in sufficient quantities to initially support the equipment will be ordered. Unless the equipment already exists in the inventory, a one – year supply of spares will be procured by the purchasing work centre. If the equipment does exist in inventory, then the equipment spare parts inventory should be reviewed and spares ordered as deemed necessary.

9.6 Condition assessment surveys and life cycle costing

When an asset, having an anticipated replacement cost of more than R25 000 approaches the end of its life – cycle, or is at a state that major maintenance or renovation is required, or required maintenance may be delayed, a condition assessment survey or a life cycle analyses shall be performed. The result of the survey of analyses should be compared to the replacement costs and expected future maintenance costs. If the result of the survey or analysis reflects a net saving of one alternative (maintenance or replacement) over another, then the lower cost alternative should be recommended.

9.7 Deferred maintenance

Deferred maintenance results in higher long – term costs. This higher cost is due to the repair cost being higher than if regular maintenance had been performed at appropriate points in the life cycle of equipment. In addition, when maintenance is deferred, the life cycle of the equipment is decreased and complete reconstruction may be necessary at an earlier date resulting in additional costs. As such, performing maintenance shall avoid deferred maintenance.

10. ESTABLISHMENT OF ASSET MAINTENANCE SYSTEMS

10.1 The maintenance activities will be scheduled and controlled using an appropriate system(s), such as a CMMS.

10.2 The maintenance system(s) must include the following functionality:

(a) Recording of progress against activities and activities closed or re-programmed;

(b) Recording of maintenance costs, time and other resources consumed against assets and facilities;

(c) Include links to the financial management system so that reconciliation of maintenance budgets can be done;

(d) Built-in maintenance analysis tools or ability to export information to other applications, to enable maintenance analyses to be undertaken; and

(e) Analysis of asset performance to be used as an input to maintenance planning.

10.3 A link will be established between the Maintenance Management System and the Customer Complaints System (EMIS), which is one of the main originating points for unplanned maintenance activities.