

**POLICY FOR THE ASSET MANAGEMENT OF**

**MOVABLE ASSETS**

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| **Compiled / Reviewed by:** | **Approved by:** |
| **WC Jonker**  **Senior Manager: Finance and Corporate Services**  **Hantam Municipality** | **Council**  **Mayor**  **Hantam Municipality**  **Signed by Mayor.** |
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# Introduction

The purpose of this guideline is to assist Hantam Municipality in their financial management improvement processes by implementing sound asset management practices as required by the MFMA and GRAP.

Section 63 of the MFMA stipulates that the asset management requirements include the following:

* Key Asset management functions such as
* Safeguarding assets
* Maintaining assets
* Establishing and maintaining a management, accounting and information system that accounts for the assets of the Municipality
* Asset valuation principles in accordance with GRAP
* Establishing and maintaining systems of internal control over assets
* Establishing and maintaining asset registers
* Clarifying responsibilities and accountabilities for the asset management process

Each Municipal Manager must ensure that the provisions of Section 63 of the MFMA are implemented.

# Asset Management Goals

The goal of asset management is to achieve the required level of service in the most cost effective manner, which is achieved through management of the asset’s life cycle. Effective asset management will:

* Maximize the service potential of existing assets by ensuring that they are appropriately used; maintained, safeguarded and that risks are mitigated;
* Optimize the life cycle costs of owning and using these assets by seeking cost-effective options throughout an assets useful life cycle;
* Reduce the demand for new assets through optimal use of existing assets and management of demand through the use of non-asset delivery options; and
* Establish clear lines of accountability and responsibility for performance.

# Scope of this Report

This document provides policy guidelines for the management of Immovable Infrastructure Assets under the custodianship of the Municipality. The Municipality’s asset register includes the following service sectors:

* Water Networks
* Sanitation Networks
* Solid Waste Disposal
* Roads & Road–side Furniture
* Public Amenities
* Land & servitudes for the above public amenities

# Applicable Legislation

The following legislative and policy documents may be used as reference documents:

* The Government Immovable Asset Management Act, No 19 of 2007 (GIAMA);
* The Municipal Finance Management Act (MFMA);
* GRAP 11 – Construction Contracts;
* GRAP 12 – Inventories;
* GRAP 13 – Leases;
* GRAP 16 - Investment Properties Issued March 2012;
* GRAP 17 - Property, Plant & Equipment (PPE) Issued March 2012;
* GRAP 21 - Impairment of non-cash generating assets;
* GRAP 26 - Impairment of cash generating assets;
* GRAP 100 – Noncurrent assets held for sale and Discontinued Operations;
* GRAP 101 – Agriculture, and
* GRAP 102 – Intangible Assets
* GRAP 103 – Heritage Assets

# Additional Reference Documentation

In addition to the above requirements and legislation, the following documentation has been referred to as reference for the generation of the Fixed Asset Register (FAR):

* IIMM: International Infrastructure Asset Management Manual;
* PAS55-1:2008: Specification for the optimised management of physical assets;
* New Zealand Infrastructure Asset Valuation and Depreciation Guidelines;
* DPLG Asset Management Guidelines; and
* Local Government Capital Asset Management Guideline

# Acronyms

In this document, unless the context indicates otherwise, acronyms defined shall have the following meanings:

|  |  |
| --- | --- |
| AM | Asset Management |
| AMIS | Asset Management Information System |
| AR | Asset Register |
| CIP | Comprehensive Infrastructure Planning |
| CMIP | Comprehensive Municipal Infrastructure Plan |
| CRC | Current Replacement Cost |
| DPLG | Department and Local Government |
| EUL | Expected Useful Life |
| GAMAP | Generally Accepted Municipal Accounting Practice |
| GIS | Geographical Information System |
| GRAP | Generally Recognised Accounting Practice |
| IAM | Infrastructure Asset Management – also referred to as Asset Management |
| IAMP | Infrastructure Asset Management Plan |
| IAMS | Infrastructure Asset Management System |
| IDP | Integrated Development Plan |
| IIMM | International Infrastructure Management Manual |
| IMESA | Institute of Municipal Engineers of South Africa |
| LM | The Local Municipality |
| LOS | Level of Service |
| MFMA | Municipal Finance Management Act |
| O&M | Operations and Maintenance |
| RUL | Remaining Useful Life |
| SANS | South African National Standards |

# Glossary of Terms

|  |  |
| --- | --- |
| Accounting Officer | The head of the administration of a municipality appointed in terms of Section 57 of the Municipal Systems Act, Act 32 of 2000, as amended, and is referred to as the Municipal Manager. |
| Acquisition Cost | When an entity initially recognises assets such as items of property, plant and equipment, investment properties, intangible assets and heritage assets using the Standards of GRAP, it measures those assets using either cost (if the asset is acquired in an exchange transaction) or at fair value (if the asset is acquired in a non-exchange transaction). This cost or fair value on initial acquisition of an asset is the acquisition cost. |
| Asset | An Asset is defined in GRAP 17 as a tangible item of property, plant or equipment held by a municipality for use in the production or supply of goods or services, for rental to others, or for administrative purposes, and which is expected to be used during more than one reporting period (financial year). |
| Asset Manager | The individual appointed by the municipality or each department within the municipality to manage and report on infrastructure assets. |
| Asset Register | Is a record of information on each asset that supports the effective financial and technical management of the assets, and meets statutory requirements. The asset register should also facilitate proper financial reporting and is ultimately the responsibility of the Chief Financial Officer (CFO). |
| Base Deemed Cost | Base Deemed Cost = Deemed Cost – Cost of Additions during the current Financial Year. |
| Business Risk | The result of failure of an asset. |
| Carrying Value | Amount at which an asset is included in the Statement of Financial Position of a Municipality after the deduction of any Accumulated Depreciation and Accumulated impairment losses thereon. |
| Chief Financial Officer | Head of department in the municipality designated by the accounting officer to be administratively in charge of the budget and treasury office in terms of Section 81 of the Municipal Finance Management Act |
| Community Assets | Any assets acquired or developed by the municipality that contributes to the wellbeing of the local community – Municipal parks, Libraries, Sports Facilities, Fire Stations etc. |
| Component | Components are elements of an asset which generally are different structural entities of an asset and/or which have a different expected life or renewal/maintenance requirements, e.g. in a bridge – bridge bearings and expansion joints; in a pump station – the pump and motor. |
| Condition Index | The numerical rating of an asset depending on its structural integrity or condition, measured as a percentage. |
| Consumer Price Index | As Hantam Municipality is using the Depreciated Replacement Cost method of valuation, CPI has been computed as the average of the 36 months CPI beginning in July 2009. CPI = 184.2 / 36 = 5.116667% = 5.12% Rounded |
| Cost of an asset | Is the amount of cash or cash equivalent paid or the fair value of any other consideration given to acquire an asset at the time of its acquisition or construction |
| Current Replacement Cost (CRC) | Is the cost of replacing an existing asset with a modern asset of equivalent capacity. (DPLG Guidelines)  CRC = Quantity \* all in rate (Cost Code Table) |
| Deemed Cost | Deemed cost is a surrogate value for the cost or fair value of an asset at its initial acquisition, and is determined by reference to the fair value of the asset at the date of adopting the Standards of GRAP  measurement date).  Deemed Cost = DRC – (DRC \* 3) \* 5.12%  As Hantam is considered to be a Small sized Municipality its’ measurement date is 1 July 2009 therefore we must de-escalate DRC back to 1 July 2009 by CPI when computing Deemed Cost. |
| Defects | The overall condition of an asset is dependent on the rating of defects in respect of degree, extent and relevance to the effective functioning of chosen inspection items of an asset. |
| Depreciable Amount | Depreciable Amount is the cost of an asset, or any other amount substituted for cost, less its residual value. (GRAP 17) |
| Depreciated Replacement Cost (DRC) | Is a measure of the current value of an asset based on its current replacement cost less an allowance for deterioration of condition to date (based on the fraction of remaining useful life/expected useful life). |
| Depreciation | Is the systematic allocation of the depreciable amount of an asset over its useful life. (GRAP 17). |
| Economic Life | Is either:  - The period over which an asset is expected to yield economic benefit  - The number of production of similar units expected to be obtained from the asset by one or more users (GRAP 13). |
| Expected Useful Life | The life of an asset from acquisition (completion of construction) to practical failure taking cognisance of the operating environment and maintenance regime. |
| Facility | An area in which a number of assets may be grouped together. |
| Fair Value | The amount for which an asset could be exchanged between knowledgeable, willing partners in an arm’s length transaction |
| Finance Lease | An asset held under a finance lease is recognised as a Fixed Asset as the municipality has control over such an asset even though it does not own the asset. |
| Fixed Asset | An asset, either moveable or immovable, under the control of the municipality and from which the municipality reasonably expects to derive economic benefits, or reasonably expects to use in service delivery over a period exceeding one financial year. |
| Heritage Asset | Culturally significant resources owned and maintained by the municipality. E.g. Works of art, historical buildings, statues etc. (GRAP 103) |
| Impairment | The difference between the predicted and actual condition of an asset measured as the difference in Condition Index |
| Infrastructure Assets | Assets that have characteristics of:  - being a part of a system or network of similar assets  - specialised in nature and don’t have alternative uses  - immovable  - subject to constraints on disposal (GRAP 17) |
| Inspection Item | Those items chosen for inspection for which defects are rated, and on which the condition index is calculated. |
| Investment Assets | Property (land or a building – or part of a building – or both) held (by the owner or by the lessee under a finance lease) to earn rentals or for capital appreciation or both. (GRAP 16).  Investment Assets are recorded in the Fixed Asset Register in the same manner as other Fixed Assets, but a separate section of the Fixed Asset register must be maintained for this purpose. |
| Remaining Useful Life | Calculated using a generic algorithm based on asset condition as determined by the asset condition index and a generic asset structural decay curve. The remaining Useful life is an estimation of the amount of years that the asset will be able to safely perform its intended function. |
| Residual Value | The net amount that the municipality expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal.  Residual Value = CRC \* Scrap Value |
| Sub-System | The part of each system in which it is convenient to group the assets. |
| System | Is a grouping of assets of a similar nature or function that are managed as separate systems and normally all having different functions and operational characteristics. |
| Useful Life | A period over which an asset is expected to be available for use. The useful life of an asset is entity specific. |

# Definition of a Fixed Asset

A fixed asset is defined in GRAP 17 as a tangible item of property, plant or equipment held by a municipality for use in the production or supply of goods or services, for rental to others, or for administrative purposes and which is expected to be used during more than one reporting period (financial year).

A fixed asset is thus an asset, either movable or immovable, owned by or under the control of the municipality and from which the municipality reasonably expects to derive economic benefits, or reasonably expects to use in service delivery, over a period extending beyond one financial year.

To be recognised as a fixed asset, an asset must also meet the criteria referred to in section 12 below.

An asset held under a finance lease, shall be recognised as a fixed asset, as the municipality has control over such an asset even though it does not own the asset.

# Role of the Municipal Manager

As accounting officer of the municipality, the municipal manager shall be the principal custodian of all the municipality’s fixed assets, and shall be responsible for ensuring that the fixed asset management policy is scrupulously applied and adhered to.

# Role of the Chief Financial Officer

The Chief Financial Officer shall be the fixed asset registrar of the municipality, and shall ensure that a complete, accurate and up-to-date computerised fixed asset register is maintained.

No amendments, deletions or additions to the fixed asset register shall be made other than by the Chief Financial Officer or by an official acting under the written instruction of the Chief Financial Officer.

# Fixed Asset Register

A Fixed Asset register is a complete and accurate database of the assets that is under the control of the Municipality and is regularly validated and updated. The asset register provides important information required for effective management of the assets as well as the detail supporting the figures disclosed in the annual financial statements.

A typical Fixed Asset register should include information on:

* Identification and Location – What and where is the asset, and who does it serve?
* Accountability – Who is accountable and how is the asset being safeguarded?
* Performance – What is its intended and actual level of service?
* Accounting – How is the asset accounted for? This should include
* Valuation basis
* Method of depreciation
* Acquisition, disposal and transfers – Transactional Audit trail
* Management & Risk – How is it managed?

# Identification and Location

## Identification of Fixed Assets

The Chief Financial Officer shall ensure that the municipality maintains a fixed asset identification system which shall be operated in conjunction with its computerised fixed asset register.

The identification system shall be determined by the Chief Financial Officer, acting in consultation with the municipal manager and other heads of departments, and shall comply with any legal prescriptions, as well as any recommendations of the Auditor-General as indicated in the municipality’s audit report(s), and shall be decided upon within the context of the municipality’s budgetary and human resources.

Every head of department shall ensure that the asset identification system approved for the municipality is scrupulously applied in respect of all fixed assets controlled or used by the department in question.

All heads of department under whose control any fixed asset falls shall promptly provide the Chief Financial Officer in writing with any information required to compile the fixed asset register, and shall promptly advise the Chief Financial Officer in writing of any material change which may occur in respect of such information.

A fixed asset shall be capitalised, that is, recorded in the fixed assets register, as soon as it is acquired or is determined to be at a stage or condition where it is practically complete and may deliver the required levels of service. If the asset is constructed over a period of time, it shall be recorded as work-in-progress (WIP) until it is available for use, where after it shall be appropriately capitalised as a fixed asset.

A fixed asset shall remain in the fixed assets register for as long as its physical existence can be verified and the asset is able to provide some level of service. If a fixed asset has been fully depreciated, this asset shall not be written off or impaired in totality unless the asset may no longer deliver a service and the asset cannot be refurbished to a state where it could provide or deliver a service(s). If an asset can deliver or provide a service then the asset must be revalued in terms of the fair value to replace an asset of similar condition and remaining economic life.

## Classification of Fixed Assets

In compliance with the requirements of the National Treasury, the Chief Financial Officer shall ensure that all fixed assets are classified under the following headings in the fixed assets register, and heads of departments shall in writing provide the Chief Financial Officer with such information or assistance as is required to compile a proper classification:

**Property, Plant and Equipment**

* Land (not held as investment assets);
* Infrastructure assets (assets which are part of a network of similar assets);
* Community assets (resources contributing to the general well-being of the community);
* Heritage assets (culturally significant resources); and
* Other assets (ordinary operational resources).

**Investment Property**

* investment assets (resources held for capital or operational gain)

The Chief Financial Officer shall adhere to the classifications indicated in the annexure on fixed asset lives (see Annexure 1 below), and in the case of a fixed asset not appearing in the annexure shall use the classification applicable to the asset most closely comparable to the asset in question.

## Investment Property

Investment assets shall be accounted for in terms of GRAP 16 and shall not be classified as property, plant and equipment for purposes of preparing the municipality’s statement of position.

Investment assets shall comprise land or buildings (or parts of buildings) or both held by the municipality, as owner or as lessee under a finance lease, to earn rental revenues or for capital appreciation or both.

Investment assets shall be recorded in the fixed assets register in the same manner as other fixed assets, but a separate section of the fixed assets register shall be maintained for this purpose. Investment assets adhere to the GRAP16 reporting requirements. However, information relating to the condition and remaining lives of the investment assets is determined in the same manner as assets subject to GRAP17 regulations.

Investment assets shall not be depreciated, but shall be annually valued on Statement of Financial Position date to determine their fair (market) value. Investment assets shall be recorded in the statement of position at such fair value. Adjustments to the previous year’s recorded fair value shall be accounted for as either gains (revenues) or losses (expenses) in the accounting records of the department or service controlling the assets concerned. An expert shall be engaged by the municipality to undertake such valuations.

If the council of the municipality resolves to construct or develop a property for future use as an investment property, such property shall in every respect be accounted for as an ordinary fixed asset until it is ready for its intended use – where after it shall be reclassified as an investment asset.

## Major Spare Parts and Stand-by Equipment

Spare parts and servicing equipment are usually carried as inventory in terms of the Standard of GRAP on *Inventories* and recognised in surplus or deficit as consumed. However, major spare parts and stand-by equipment qualify as property, plant and equipment when an entity expects to use them during more than one period. Similarly, if the spare parts and servicing equipment can be used only in connection with an item of property, plant and equipment, they are accounted for as property, plant and equipment.

Such major spare parts and stand-by equipment shall, however, be recorded in the fixed assets register in the same manner as other fixed assets, but a separate section of the fixed assets register shall be maintained for this purpose.

## Recognition of Heritage Assets in the Fixed Asset Register

GRAP 103 should be applied retrospectively. Previously, no prescriptive accounting requirements existed for heritage assets[2](https://www.saica.co.za/News/MediaKit/Publications/Communiqu%C3%A9issues/Communiqu%C3%A926January2012/Preparationfortheadoptionofsixneweffective/tabid/2560/language/en-ZA/Default.aspx#2). Although GRAP 103 should be applied retrospectively, entities are granted a period of three years in which to measure their heritage assets. These transitional provisions are similar to those granted to medium and low capacity municipalities for other asset-related Standards. Although entities are allowed three years within which to comply with the initial and subsequent measurement requirements of the standard, entities should undertake a physical verification of the heritage assets on hand at 31 March/30 June 2012 to assist in determining the opening balance for the 2012/13 reporting period. To do this, entities would need to develop a policy for distinguishing heritage and other assets such as property, plant and equipment, investment properties, inventories, intangible assets etc., and apply this policy in identifying heritage assets that are to be included in the asset register. As an opening balance is required for heritage assets (both for the 2012/13 reporting period and the comparative period), entities should undertake a significant amount of work in advance of the effective date of 1 April 2012 in order to comply with the Standard and to apply it retrospectively.

If no original costs or fair values are available in the case of one or more or all heritage assets, the Chief Financial Officer may, if it is believed that the determination of a fair value for the assets in question will be a laborious or expensive undertaking, record such asset or assets in the fixed asset register without an indication of the costs or fair value concerned.

For purposes of compiling the statement of position, the existence of such heritage assets shall be disclosed by means of an appropriate note.

## Recognition of Donated Assets

Where a fixed asset is donated to the municipality, or a fixed asset is acquired by means of an exchange of assets between the municipality and one or more other parties, the asset concerned shall be recorded in the fixed asset register at its fair value, as determined by the Chief Financial Officer. Fixed Assets donated by the Diamond Trust to the Hantam Municipality must be accounted for in this manner.

## Recognition of Biological Assets

Accounting for biological assets shall take place in accordance with the requirements of GRAP101

The Chief Financial Officer, in consultation with the head(s) of department concerned, shall ensure that all biological assets, such as livestock and crops, are valued at 30 June each year at fair value less estimated point-of-sales costs. Such valuation shall be undertaken by a recognised Valuator in the line of the biological assets concerned. Any losses on such valuation shall be debited to the department or vote concerned as an operating expense, and any increase in the valuation shall be credited to the department or vote concerned as operating revenue.

If any biological asset is lost, stolen or destroyed, the matter – if material – shall be reported in writing by the head of department concerned in exactly the same manner as though the asset were an ordinary fixed asset.

Records of the details of biological assets shall be kept in a separate section of the fixed assets register or in a separate accounting record altogether and such details shall reflect the information which the Chief Financial Officer, in consultation with the head of department concerned and the internal auditor, deems necessary for accounting and control purposes.

The Chief Financial Officer shall annually insure the municipality’s biological assets, in consultation with the head(s) of department concerned, provided the council of the municipality considers such insurance desirable and affordable.

## Creation of the Fixed Asset Register

**Asset Classification**

The Fixed Asset Register, as defined within the scope of this document covers PPE (Property, Plant and Equipment) asset classes and Investment Properties.

**Asset Sub-Classes and Functional Groups**

Data is to be structured in accordance with the following standardised hierarchy and has been defined into five (5) distinct levels which are: system, sub-system, facility, asset and component. An example of a typical Water sector asset (i.e. a Concrete tank) is shown in the table below.

Table 1: Data Hierarchy Example

|  |  |
| --- | --- |
| **Hierarchy** | **Example** |
| System | Water |
| Sub-system | Storage |
| Facility | Sun City Reservoir 01 |
| Asset | Tank |
| Component | Roof |

For a more detailed definition of the terminology used, refer to [Glossary of Terms](#_Glossary_of_Terms) earlier in this document. Vela VKE makes use of data templates and definitions in addition to suggested asset structuring or hierarchy definitions.

As such, they define the following in broad terms:

* **System**: A grouping of similar nature or function
* **Sub-system**: Part of a system which can be grouped
* **Facility**: Complex of assets
* **Asset**: Tangible Property, Plant and Equipment (according to GRAP17)
* **Component**: ‘part’ of an asset which has a significantly different Useful Life or significant cost in relation to the main asset

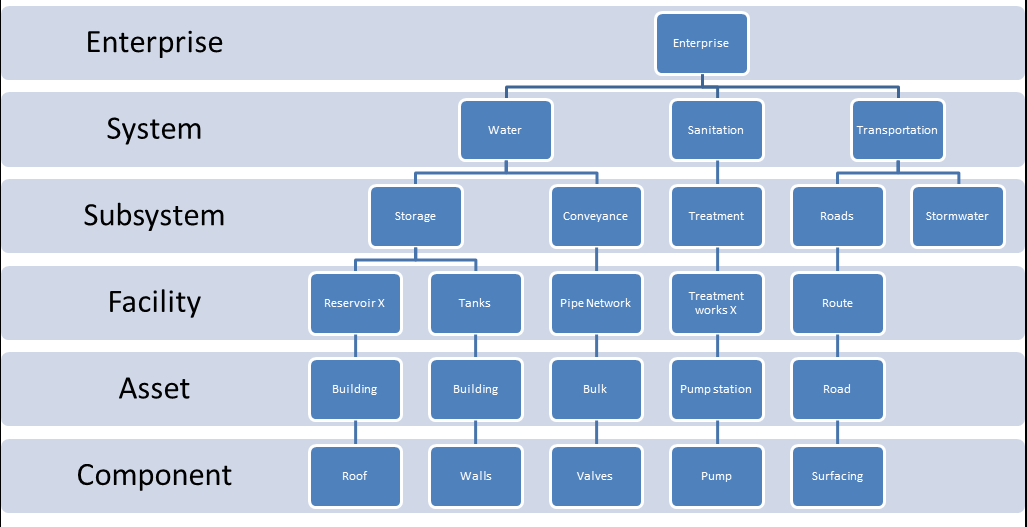


Figure 1: System Hierarchy and Data Template Definitions

A detailed classification of asset types, in accordance with the above hierarchy and data template definitions, has been provided in Annexure 3 of this document and should be used to classify and structure asset register data.

**Componentisation**

Componentisation is the process by which asset register details are ‘expanded’ to refer to part(s) of an asset which have a significantly different useful life or cost in relation to the parent asset.

The Municipality, in consultation with Vela VKE Engineers, have identified the level of detail for collection purposes and as such componentisation has been defined according to these levels. The hierarchy definitions as shown in Annexure 3 are to be used for inspection and asset reporting purposes and are to be reflected in the Fixed Asset Register (FAR) as well as in vSMART, Vela VKE’s Computerised Asset Management System.

The fixed asset register shall be maintained in the format determined by the Chief Financial Officer, which format shall comply with the requirements of generally recognised accounting practice (GRAP) and any other accounting requirements which may be prescribed.

The fixed asset register shall reflect the following information:

* Description of each asset;
* Asset Type;
* Facility Type;
* Cost Code;
* GIS ID;
* Remaining useful life;
* Condition Index;
* Photograph(s) of the asset;
* Location Of Asset (co-ordinates in terms of WSGS84);
* Manager responsible for the asset;
* Title Deed Number; (in the case of Land/Property assets)
* Stand (Erf) number; (in the case of Land/Property assets)
* Acquisition Date;
* Original Cost;
* Expected Useful Life;
* Current Replacement Cost;
* Source of Finance;
* Whether or not Asset used to secure Debt;
* Revaluation Date of Assets subject to revaluation;
* Who did valuation;
* Revalued Amount;
* Depreciation Method;
* Rate of Depreciation;
* Residual/Scrap Value;
* Accumulated Depreciation to Date;
* Condition assessment;
* Remaining Useful Life;
* Asset Impairment Losses;
* Depreciation charge for year;
* Carrying Value of Asset;
* Date Asset disposed of;
* Disposal Price;

**Asset Specific Identifiers and Descriptors**

The table below depicts a few of the fields recommended by the Local Government Capital Asset Management Guidelines compiled by National Treasury. In addition the table provides typical examples of the attribute as guidance when compiling the Fixed Assets Register;

Table 2: Asset Identification Attributes

| **Attribute** | **Description** | **Example** |
| --- | --- | --- |
| Asset hierarchy | As Per Asset Tree | > Community Assets > Market > Church Square Market > Landscaping > Paved Areas/Walkways |
| Asset Name | Name of Asset | Church Square Market |
| Category | Asset Type | Paved Area |
| Description | Description of Asset | Parking Lot |
| Status | Could be: Active, Decommissioned, Under Construction | Active |
| Physical Address/ Location of Asset | *Or From GIS/GPS* | 50 Business SQ, Westcliff, Chatsworth |
| Property ID/ Title Deed Number | From Valuation Role | N0FT00520000010600000 |
| Property Key/ Stand Number | From Valuation Role | 1531346 |
| X Location | From GIS/GPS | -3310255.302 |
| Y Location | From GIS/GPS | -100604756364.00 |
| Construction Date | Same as "Acquisition Date" | 1990/06/30 |
| Expected Useful Life | Same as “ Design Life” | 20 |
| Structural Condition Index | From Inspections | 73.6% |
| Method of Depreciation | Always Straight Line | Straight Line |
| Depreciation Rate | Inverse of “Expected Useful Life” | 5% |
| Remaining Useful Life | To be calculated | 18.5 |
| Scrap / Residual Value | Amount that could be redeemed on disposal of the asset | R20,000.00 |
| Current Replacement Cost (Rands) | Value in Rands | R7,109,400.00 |
| Cost Code | *To be generated based upon asset type and class* | ROAS |

**Notes on Asset Numbering**

The asset numbering system currently used by the municipality’s financial system should be provided for a seamless link between any technical and financial infrastructure registers. Where this is not available or not in place, the possibility of an alternative asset numbering system will need to be discussed.

All assets on the FAR, as well as unbundled assets/components should be allocated with a unique number. Such unique numbering and reference system can be generated by Vela VKE’s vSMART system using a combination of alphanumeric prefixes, as defined directly in the system, sub-system, facility, asset and component tables.

In addition, these generated asset numbers can be printed onto long-life bar code stickers and further improve validation of assets inspected for field verification and future re-inspections. Such a methodology is highly recommended for future sustainability of the asset register.

# Accountability

## Safekeeping of Assets

As accounting officer of the municipality, the municipal manager shall be the principal custodian of all the municipality’s fixed assets, and shall be responsible for ensuring that the fixed asset management policy is scrupulously applied and adhered to.

The Accounting Officer will delegate responsibility to the Chief Financial Officer who in turn will ensure that the Department Heads are directly responsible for the physical safekeeping of all fixed assets controlled by that Department.

In exercising this responsibility, every head of department shall adhere to any written directives issued by the Chief Financial Officer to the department in question, or generally to all departments, in regard to the control of or safekeeping of the municipality’s fixed assets.

## Maintenance Plans

Every head of department shall ensure that a maintenance plan in respect of every new infrastructure asset with a value of R100 000 (one hundred thousand rand) or more is promptly prepared and submitted to the council of the municipality for approval.

If so directed by the municipal manager, the maintenance plan shall be submitted to the council prior to any approval being granted for the acquisition or construction of the infrastructure asset concerned.

The head of department controlling or using the infrastructure asset in question, shall annually report to the council, not later than in July, of the extent to which the relevant maintenance plan has been complied with, and of the likely effect which any non-compliance may have on the useful operating life of the asset concerned.

## Deferred Maintenance

If there is material variation between the actual maintenance expenses incurred and the expenses reasonably envisaged in the approved maintenance plan for any infrastructure asset (see section 13.2 above), the Chief Financial Officer shall disclose the extent of and possible implications of such deferred maintenance in an appropriate note to the financial statements. Such note shall also indicate any plans which the council of the municipality has approved in order to redress such deferral of the maintenance requirements concerned.

If no such plans have been formulated or are likely to be implemented, the Chief Financial Officer shall review the remaining economic life of the fixed asset in question, if necessary in consultation with the head of department controlling or using such asset, and shall recalculate the annual depreciation expenses accordingly.

## General Maintenance of Fixed Assets

The Chief Financial Officer and the head of department shall be directly responsible for ensuring that all assets are properly maintained and in a manner which will ensure that such assets attain their useful operating lives

## Verification of Fixed Assets

Every head of department shall at least once during every financial year, and in compliance with the relevant written directives issued by the Chief Financial Officer, undertake a comprehensive verification of all fixed assets controlled or used by the department concerned.

The directives issued by the Chief Financial Officer shall stipulate the date(s) when such verification shall be undertaken and completed and such date(s) shall be as close as possible to the end of each financial year.

Every head of department shall promptly and fully report in writing to the Chief Financial Officer in the format determined by the Chief Financial Officer, all relevant results of such fixed asset verification, and the resultant report shall be submitted to the Chief Financial Officer not later than 30 June of the year in question.

## Insurance of Fixed Assets

The Chief Financial Officer shall ensure that all movable fixed assets are insured at least against fire and theft, and that all municipal buildings are insured at least against fire and allied perils.

If the municipality operates a self-insurance reserve, assuming such reserve to be allowed, the Chief Financial Officer shall annually determine the premiums payable by departments.

The Chief Financial Officer shall determine the basis of the insurance to be applied to each type of fixed asset: either the carrying value or the replacement value of the fixed assets concerned. Such recommendation shall take due cognisance of the budgetary resources of the municipality.

The Chief Financial Officer shall annually submit a report to the council of the municipality for approval on any reinsurance cover which it is deemed necessary to procure for the municipality’s self-insurance reserve.

# Performance

## Expected Useful Life

|  |  |
| --- | --- |
| **Purpose** | The purpose of ‘expected useful life’ is to provide a benchmark for the life cycle condition and performance monitoring of an asset. |
| **Application** | The Expected Useful Life of an asset is used to benchmark the asset condition and performance against the inspected or measured asset CI at the age of the asset. |

**Determination of the Expected Useful Life**

The Expected Useful Life (EUL) of an asset may be defined as ‘the anticipated life of an asset from acquisition or renewal until ‘practical’ failure taking cognizance of the operating environment and the maintenance regime’. For civil assets it is the ‘design’ or ‘design working’ life factored to take account of the time an asset is ‘fit for purpose’ and natural deterioration. Since many assets contain a combination of civil, electrical and mechanical components, the EUL of the asset is based on the asset component that has the longest expected lifespan, which is typically the civil component (structural asset components have design criteria that typically require longer expected lives).

In terms of the design codes of procedures for structural assets, the structural components are designed according to expected specified lives. e.g. TMH7 – Code of Procedure for the Design of Highway Bridges and Culverts in South Africa 1981 (revised 1988) which indicates that the ‘design life’ of a bridge designed to the Code must be at least 100 years.

Similarly, other civil or structural assets or asset components will have expected lives greater than the electrical and mechanical asset components.

This assumption does not necessarily mean that the structure will no longer be ‘fit for purpose’ at the end of the EUL, or that it will continue to be serviceable for the entire duration of the EUL without adequate and regular inspection and maintenance.

More recently the Eurocodes EN1990:2002 – Basis of Structural Design refers to a ‘Design Working Life’ which for bridges and civil structures is 100 years. This is the period of time for which a structure, or part of it, is to be used for its intended purpose with anticipated maintenance but without major repair being necessary.

Where the asset condition cannot be easily identified or determined, the MFMA ranges for the EUL’s are to be used. For such purposes, please refer to Annexure 1 – Fixed Asset Lives, below.

**Specification of EUL in a municipal Environment**

Environmental conditions will influence the lifecycle management, maintenance requirements and ultimately the EUL of an asset. This implies that the EUL adopted for the infrastructure assets owned by the municipality will be adjusted according to local environmental conditions. For example, experience has shown that some environmental factors reduce the life of structural assets within 1 km of the coastline, e.g. concrete and steel elements have reduced life expectancy. This should be factored into the revised EULs of such assets in an effort to address asset ‘durability’ requirements.

**Factors Influencing Asset EUL**

The EUL of an asset is influenced by other parameters, which will affect performance and serviceability of an asset, including:

* Capacity;
* Change of use; and/or
* Operational efficiency

Some municipal assets are not designed specifically to design codes of procedure but rather on functional requirements e.g. park benches, fencing, sidewalks etc. These assets will have expected EUL’s based on experience of what is ‘reasonable’ and will be set by the relevant municipal departments.

## Condition Assessment

|  |  |
| --- | --- |
| **Purpose** | The purpose of condition assessments of assets is to obtain information relating to the condition and the deterioration of assets using specific guidelines and a well-developed asset inspection/assessment methodology.  The methods of asset inspections and reporting of asset conditions are described in this policy. |
| **Application** | This policy may be applied to all asset classes.  Replacement costs of all assets should be updated at least every 5 years. |

**Objective of asset condition assessments**

The purpose of identifying the condition of assets is to determine the ability of the asset to fulfil its intended function taking into account its age. The asset condition assessments must provide at least the following information:

* Verify the existence of the asset and/or component;
* Identify the condition or state of the asset and determine whether the asset can fulfil its intended purpose;
* Provide information on the asset that can be used in the calculation of the following:
* Determine the likely remaining useful asset life;
* Quantify the asset maintenance requirements (and likely maintenance costs and maintenance timeframes);
* Determine asset impairment;
* Determine the probability of asset failure; and
* Determine the risk exposure of the municipality.

**Asset classifications for Condition Assessments**

The condition assessment for the assets must take into account:

* The type of asset;
* The intended purpose of the asset as well as;
* The service provided by the particular asset as well as the environment within which the asset/component is required to operate.
* The condition assessments for the different asset classes must be applicable to the specific type of asset or service provided by the asset. Infrastructure assets can be divided into three main categories, namely civil, electrical and mechanical.

**Methodology and approach to Condition Assessments**

All the asset condition assessments must identify the impairment triggers for each asset fault.

**Civil Infrastructure Assets:**

**Structural Condition Assessments**

The condition of structural infrastructure assets is based on a visual interpretation of the structural integrity of components of the asset. During a visual inspection, each of the component defects is to be identified and rated in terms of one of the following criteria:

* A simplistic condition (1 to 5); and
* A more detailed condition (0 to 100), measured in percentage;

The defect ratings for each asset component can be rated in terms of the relative importance of each component to the asset performance. The sum of the weighted component conditions is used to generate a ‘Condition Index’ (CI) for each asset. The same inspection elements and criteria apply to all assets within each asset category.

A further criterion, namely the Urgency of repair for each fault should also be recorded. The D-E-R visual inspection process must apply the established assessment guidelines set out in inspection manuals.

**Road Network Condition Assessments**

The condition of the various types of paved roads is determined visually according to recognised assessment manuals and guidelines. The output of the road condition assessments must include condition assessment ratings for:

* Surfacing;
* Pavement structure;
* Formation / earthworks;
* Road furniture assets;

The first 3 items listed above may be used to determine the Visual Condition Index (VCI). The VCI assessment data, as defined by South African Road Visual Inspection standards, is used to calculate a Reseal Need Index (RNI) to reflect the surface condition of the pavements, indicating whether a reseal of the road is required and a Pavement Condition Index (PCI) to indicate whether a more structural rehabilitation is required.

**Pipe Networks**

The condition of the pipe networks is ascertained using various non-destructive methods, such as:

CCTV (Close Circuit TV) cameras, which are inserted into the pipes and which travel along the length of the pipes relaying video footage of the internal pipe conditions. This method of inspection is used to determine the condition of the internal pipe surface, which is graded according to an international standard (WINCAN) or a local pipe assessment grading system (PICDATA). The pipe condition is ascertained by scoring the pipe faults identified within the pipe.

Other methods of pipe condition assessment include ultrasound propagation along the pipe length (used for steel and cast iron pipes) to determine anomalies such as excessive rust or scaling of the pipe material.

When pipe bursts are repaired, the portion of original pipe removed during the repair is often inspected, with pipe conditions reported if the condition of the pipe is deemed to have deteriorated to the extent that further action is required.

Due to the cost and difficulty of pipe inspections, as well as disruption to services, pipe networks are inspected on a sample basis, with the average condition of the pipes inspected assumed to be representative of the surrounding pipe network. The measured condition of the pipes (as determined by the above inspections) would then be applied to the surrounding pipes or network at the discretion of the asset manager or engineer.

**Electrical Infrastructure Assets:**

**Distribution Networks**

The condition of the electrical distribution networks can be estimated based on the following:

Amount of maintenance required to maintain the required levels of service; or condition of distribution network components such as poles.

**Major Electrical Infrastructure Components**

The condition of major electrical components or assets is not determined using the structural D-E-R (Degree-Extent-Relevance) rating, therefore these assets must be inspected visually; but may require additional testing. This testing includes, for example, analysis of oil samples or thermography to identify whether the asset or component is functioning within the expected operational ranges.

**Mechanical Assets:**

**Major Mechanical Components**

Major mechanical components must be inspected in a non-destructive and non-obtrusive manner (i.e. the inspection must be carried out without the asset being taken out of service). Visual inspections of mechanical assets and mechanical components must establish tell-tale signs of wear and tear, such as:

* undue vibration,
* leaking seals/joints,
* high operating temperatures,
* Frequent failures, etc.

Asset operating temperatures can be established using thermography or a thermal imagery camera, which should be taken when the asset is performing under full load conditions.

**Frequency of asset condition assessments**

The frequency of asset condition inspections is as follows:

**Civil assets:**

At least every 5 years (unless otherwise indicated);

**Electrical assets:**

Distribution networks – every 5 years;

All other electrical assets and components – every 2 years

**Mechanical assets:**

Lifts and lifting equipment: as required by legislation;

Other mechanical assets – every 2 years;

Where the condition of assets is reported annually but inspections are required less frequently, the asset manager may report on the condition of the asset in one of the following ways:

* Use the asset condition determined as per the most recent asset inspection; or
* Predict the asset condition based on an expected or likely asset deterioration that would have occurred subsequent to the previous inspection.

## Remaining Useful Life

|  |  |
| --- | --- |
| **Purpose** | The purpose of ‘remaining useful life’ is to provide an estimate of the remaining life of an asset prior to reaching ‘practical’ failure in terms of assessment criteria. |
| **Application** | The application of remaining useful life is in the prioritization of the renewal of assets. It provides one of the parameters along with condition index and financial resources available in the decision-making process. |

**Remaining Useful Life (RUL) calculation**

The Remaining useful life of the asset is to be based on the condition of the asset where available, and where not available would be based on the relative age of the asset. The remaining useful life of assets can thus be calculated in two ways:

**Age based RUL calculation:**

The calculation of an age-based RUL is based on an inverse linear relationship between asset age and asset condition. This RUL calculation method can be used to calculate the remaining useful life of all passive assets and/or any asset components of active assets that do not have a condition rating or where no condition inspection is possible.

**RUL = EUL – Apparent AGE**

*where Apparent AGE = [Current Year] – Construction Date*

The minimum RUL for an asset has been set to 5 years. This is a practical assumption, i.e. if the asset condition is very poor but is still functioning it still has some Useful Life.

**Condition based RUL calculation:**

RUL = EUL x (1- CI\_Coeff x (1 – CI)^(1/n))

Where, CI = Condition Index (see 14.2 above), n is power coefficient, CI\_Coeff is condition index coefficient. Default for n = 2 and CI\_Coeff=1

The inspected condition of an asset and resulting CI is allocated to the asset and the remaining useful life is calculated according to the asset condition, therefore the RUL calculated for this method will be independent of the age of the asset. The remaining useful life of most assets will be determined using the condition rather than the age.

Only the Chief Financial Officer may amend the useful operating life assigned to any fixed asset, and when any material amendment occurs the Chief Financial Officer shall inform the council of the municipality of such amendment.

The Chief Financial Officer shall amend the useful operating life assigned to any fixed asset if it becomes known that such asset has been materially impaired or improperly maintained to such an extent that its useful operating life will not be attained, or any other event has occurred which materially affects the pattern in which the asset’s economic benefits or service potential will be consumed.

If the value of a fixed asset has been diminished to such an extent that it has no or a negligible further useful operating life or value such fixed asset shall be fully depreciated in the financial year in which such diminution in value occurs.

Similarly, if a fixed asset has been lost, stolen or damaged beyond repair, it shall be fully depreciated in the financial year in which such event occurs, and if the fixed asset has physically ceased to exist, it shall be written off the fixed asset register.

In the all the foregoing instances, the additional depreciation expenses shall be debited to the department or vote controlling or using the fixed asset in question.

If any of the foregoing events arises in the case of a normally non-depreciable fixed asset, and such fixed asset has been capitalised at a value other than a purely nominal value, such fixed asset shall be partially or fully depreciated, as the case may be, as though it were an ordinary depreciable asset, and the department or vote controlling or using the fixed asset in question shall bear the full depreciation expenses concerned.

# Accounting

## Capitalisation Criteria: Material Value

GRAP 17 states that it may be appropriate to aggregate individually insignificant items, such as library books, computer peripherals and small items of equipment, and to apply the criteria to the aggregate value.

The Accounting Officer of Hantam Municipality has agreed that no item with an initial cost or fair value of less than R5 000 (five thousand rand) – or such other amount as the council of the municipality may from time to time determine on the recommendation of the Municipal Manager – shall be recognised as a fixed asset. If the item has a cost or fair value lower than this capitalisation benchmark, it shall be treated as an ordinary operating expense.

## Capitalisation Criteria: Fixed Asset Additions

GRAP 17 does not prescribe the unit of measure for recognition, i.e. what constitutes an item of property, plant and equipment. Thus, judgement is required in applying the recognition criteria to an entity’s specific circumstances.

The cost of an item of property, plant and equipment shall be recognised as an asset if, and only if:

(a) It is probable that future economic benefits or service potential associated with the item will flow to the entity, and

(b) The cost or fair value of the item can be measured reliably.

|  |
| --- |
| An item of property, plant and equipment that qualifies for recognition as an asset shall be measured at its cost.  Where an asset is acquired through a non-exchange transaction, its cost shall be measured at its fair value as at the date of acquisition. |

## Capitalisation Criteria: Fixed Asset Deemed Cost

In terms of Directive 7 when an entity initially recognises an asset using the Standards of GRAP, it measures such assets using either cost or fair value at the date of acquisition (acquisition cost). Where the acquisition cost of an asset is not available on the adoption of the Standards of GRAP, acquisition cost is measured using a surrogate value (deemed cost) at the date an entity adopts the Standards of GRAP (measurement date). Deemed cost is determined as the fair value of an asset at the measurement date.

If fair value at the measurement date cannot be determined for an item of property, plant and equipment, an entity may estimate such fair value using depreciated replacement cost at the measurement date for an item of property, plant and equipment.

In terms of Paragraph 09(a) of Directive 7 Hantam Municipality has computed Deemed Cost as follows:

Deemed Cost = DRC – (DRC \* M (years) \* CPI)

Where, M = End Financial Year (2012) – End Measurement Year Small Municipality (2009)

CPI = 5.12%

DRC = RUL / EUL \* CRC (Per MFMA)

If an entity uses deemed cost for an item of property, plant and equipment, in its first statement of financial position prepared using Standards of GRAP, the entity’s financial statements shall disclose:

(a) For each line item:

(i) The aggregate of those items valued using deemed cost;

(ii) The aggregate adjustment to the carrying amounts previously reported;

And;

(b) A description of whether deemed cost was determined:

(i) Using fair value or depreciated replacement cost for items of property, plant and equipment and investment properties; and

(ii) Using fair value or replacement cost for heritage assets.

## Capitalisation Criteria: Fixed Asset Base Deemed Cost

If a fixed asset addition is regarded as an upgrade to an existing infrastructure asset and the enhanced asset is subsequently valued using the surrogate method (Deemed Cost) then the original (existing) assets costs will be determined as follows:

Base Deemed Cost = Deemed Cost – Addition Cost

Addition Cost will be supported by Invoices, Contracts etc. and reflected separately in the Fixed Asset Register.

## Capitalisation Criteria: Intangible Assets

No intangible item shall be recognised as a fixed asset, except that the Chief Financial Officer, acting in strict compliance with the criteria set out in GRAP102 (dealing with research and development expenses) may recommend to the council that specific development costs be recognised as fixed assets.

## Capitalisation Criteria: Reinstatement, Maintenance and Other Expenses

Only expenses incurred in the enhancement of a fixed asset (in the form of improved or increased services or benefits flowing from the use of such asset) or in the material extension of the useful operating life of a fixed asset shall be capitalised.

Expenses incurred in the daily operations, maintenance or service reinstatement of a fixed asset shall be considered as operating expenses incurred in ensuring that the useful operating life of the asset concerned is attained, and shall not be capitalised, irrespective of the quantum of the expenses concerned.

Expenses which are reasonably ancillary to the bringing into operation of a fixed asset should be capitalised as part of such fixed asset. Such expenses may include but need not be limited to import duties, forward cover costs, transportation costs, surveying, design, installation, assembly and commissioning/ decommissioning as well as demolition and disposal costs.

## Work In Progress

An item of property, plant and equipment that qualifies for recognition as an asset shall be measured at its cost. At the end of each Financial Year the Chief Financial Officer must prepare a schedule of Work In Progress for all Infrastructure Assets under his control. The schedule must be prepared by Vote number and should include the following information:

* Vote / Project No
* Vote / Project Name
* Vote / Project Description
* Funding
* Budget / MIG Approval Value
* Actual Start Date
* Expected Completion Date
* Contractor Name
* Consultants Name
* Last Certificate / Invoice Value – Contractor
* Last Certificate / Invoice Value – Consultant
* Retention

The Chief Financial Officer must ensure that a File is available for inspection which includes a copy of the following:

* Tender Document
* Purchase Order
* MIG Application & Approval
* All Contractors Payment Certificates
* All Consultants Payment Certificates

## Depreciation of Fixed Assets

All fixed assets, except land and heritage assets, shall be depreciated.

Depreciation may be defined as the monetary quantification of the extent to which a fixed asset is used or consumed in the provision of economic benefits or the delivery of services.

Depreciation shall generally take the form of an expense both calculated and debited on a monthly basis against the appropriate line item in the department or vote in which the asset is used or consumed.

However, depreciation shall initially be calculated from the day following the day in which a fixed asset is acquired or – in the case of construction works and plant and machinery – the day following the day in which the fixed asset is brought into use, until the end of the calendar month concerned. Thereafter, deprecation charges shall be calculated monthly.

As Hantam Municipality has used the surrogate (Deemed Cost) method of valuation when adopting GRAP 17 the current year depreciation will be calculated as follows:

Current Years Depreciation = ((Opening Carrying Value – Residual Value) / RUL) + Depreciation on Additions

Opening Carrying Value = Opening Capital Cost – Opening Accumulated Depreciation

Opening Capital Cost = Deemed Cost

Opening Accumulated Depreciation = (Deemed Cost \* 2 / EUL)

Depreciation on Additions = x (days) / 365 \* (Addition Cost / EUL)

Where x = Financial year end – Construction Completion Date

The accounting officer acting in consultation with the Chief Financial Officer, shall ensure that reasonable budgetary provision is made annually for the depreciation of all applicable fixed assets controlled or used by the department in question or expected to be so controlled or used during the ensuing financial year.

The procedures to be followed in accounting and budgeting for the amortisation of intangible assets shall be identical to those applying to the depreciation of other fixed assets.

## Rate of Depreciation

The Chief Financial Officer shall assign a useful operating life to each depreciable asset recorded on the municipality’s fixed asset register. In determining such a useful life the Chief Financial Officer shall adhere to the useful lives set out in the annexure to this policy (see Annexure 1 below). In the case where the asset is deemed to have a remaining life different to that calculated by the Design Life – Asset Age, the Depreciation Rate shall be deemed to be 1/ (Remaining Asset Life).

In the case of a fixed asset which is not listed in this annexure, the Chief Financial Officer shall determine a useful operating life, if necessary in consultation with the head of department who shall control or use the fixed asset in question, and shall be guided in determining such useful life by the likely pattern in which the asset’s economic benefits or service potential will be consumed.

## Method of Depreciation

Except in those cases specifically identified in section 15.11 below, the Chief Financial Officer shall depreciate all depreciable assets on the straight-line method of depreciation over the assigned useful operating life of the asset in question. The useful operating life will be reviewed on an annual basis.

## Alternative Methods of Depreciation in specific instances

The Chief Financial Officer may employ the sum-of-units method of depreciation in the case of fixed assets which are physically wasted in providing economic benefits or delivering services.

The Chief Financial Officer shall only employ this method of depreciation if the head of department controlling or using the fixed asset in question gives a written undertaking to the municipal manager to provide:

* Estimates of statistical information required by the Chief Financial Officer to prepare estimates of depreciation expenses for each financial year; and
* Actual statistical information, for each financial year.

The head of department concerned shall moreover undertake to provide such statistical information at the specific times stipulated by the Chief Financial Officer.

Where the Chief Financial Officer decides to employ the sum-of-units method of depreciation, and the requirements set out in the preceding paragraph have been adhered to, the Chief Financial Officer shall inform the council of the municipality of the decision in question.

## Amortisation of Intangible Assets

All fixed assets, except land and heritage assets, shall be depreciated – or amortised in the case of intangible assets. Servitudes though regarded as intangible assets are treated as land and are not amortised.

## Creation of Non-Distributable Reserves for future Depreciation

The Chief Financial Officer shall ensure that in respect of all fixed assets financed from the municipality’s asset financing reserve, or from grants or subsidies or contributions received from other spheres of government or from the public at large, as well as in respect of fixed assets donated to the municipality, a non-distributable reserve for future depreciation is created equal in value to the capitalised value of each fixed asset in question.

The Chief Financial Officer shall thereafter ensure that in the case of depreciable fixed assets an amount equal to the monthly depreciation expenses of the fixed asset concerned is transferred each month from such non-distributable reserve to the municipality’s appropriation account. Where there is a difference between the budgeted monthly depreciation expenses and the actual total depreciation expenses for each financial year, the Chief Financial Officer shall appropriately adjust the aggregate transfer from the non-distributable reserve for the year concerned.

## Revaluation of Land & Buildings

All land and buildings recorded in the municipality’s fixed asset register shall be revalued with the adoption by the municipality of each new valuation roll (or, if the land and buildings concerned fall within the boundary of another municipality, with the adoption by such municipality of each new valuation roll).

The Chief Financial Officer shall adjust the carrying value of the land and buildings concerned to reflect in each instance the value of the fixed asset as recorded in the valuation roll, provided the Chief Financial Officer is satisfied that such value reflects the fair value of the fixed asset concerned.

Revalued land and buildings shall be carried in the fixed asset register, and recorded in the annual financial statements, at their revalued amount, less accumulated depreciation (in the case of buildings).

## Impairment

**Asset Impairment Losses**

|  |  |
| --- | --- |
| **Purpose** | The purpose of determining the asset impairment or deterioration is to establish whether the asset is performing according to the design and operational expectations for a similar asset of the same age. |
| **Application** | If the asset CI or performance is at a level less than what would be expected for a similar aged asset, the asset has deteriorated at a rate faster than would have been expected. The asset impairment is the difference between the expected and the measured CI. |

**Deterioration Curve**

An asset deterioration curve is a graphical representation of the variation of the asset’s condition over the effective life of an asset. The deterioration curve provides an indication of the impairment of an asset in terms of the difference between the predicted and actual condition index either after a specific inspection or as a prediction at a future date.

The relationship between the condition of an asset and the age of the asset is shown graphically in the figure below. The asset ‘deterioration’ curve is shown in its simplest form as a straight line from date of acquisition or construction to its ‘end of design life.’

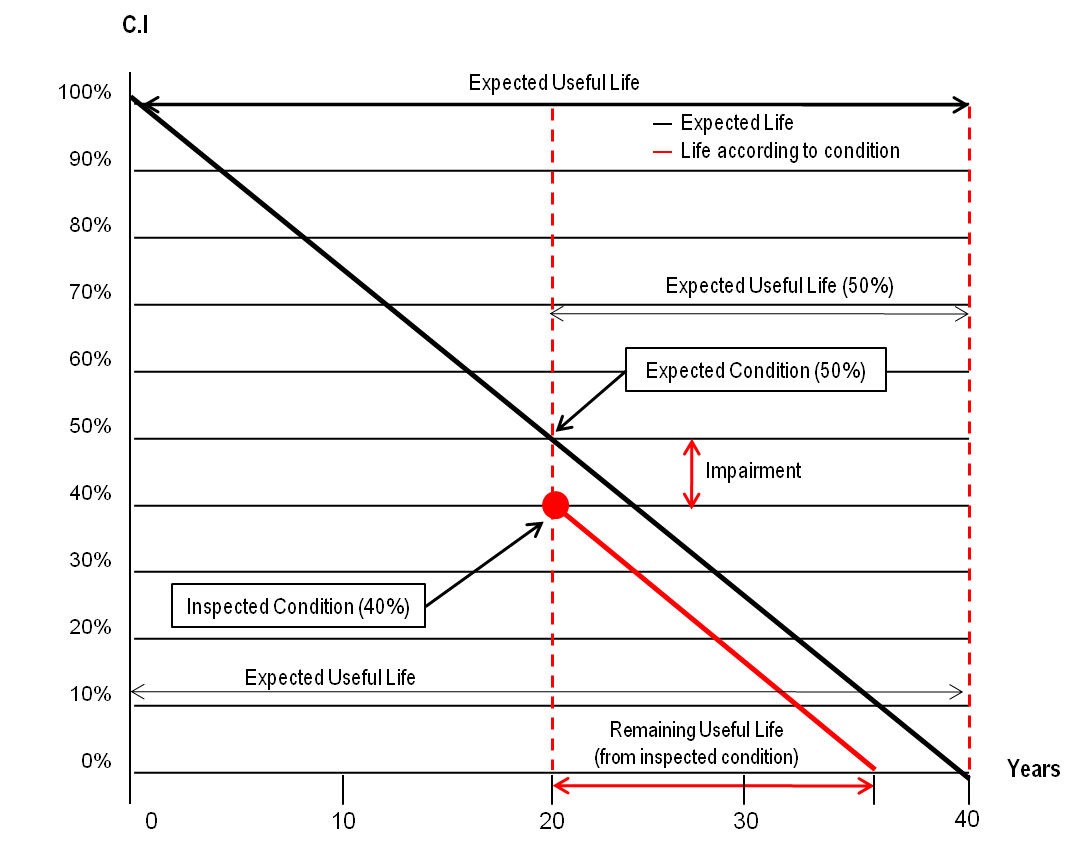


Figure 2: Deterioration Curve for a Linear Ageing Profile

Figure 2 indicates the implications if an asset’s actual inspected condition is lower than its predicted condition - both the condition index and the remaining useful life are reduced. The difference between the expected condition and the inspected condition is deemed to be the asset impairment.

For most assets a linear deterioration is too simplistic and unrealistic. An exponential or parabolic asset deterioration curve is more applicable. Figure 3 shows the asset performance and parameters associated with a realistic parabolic ageing profile.

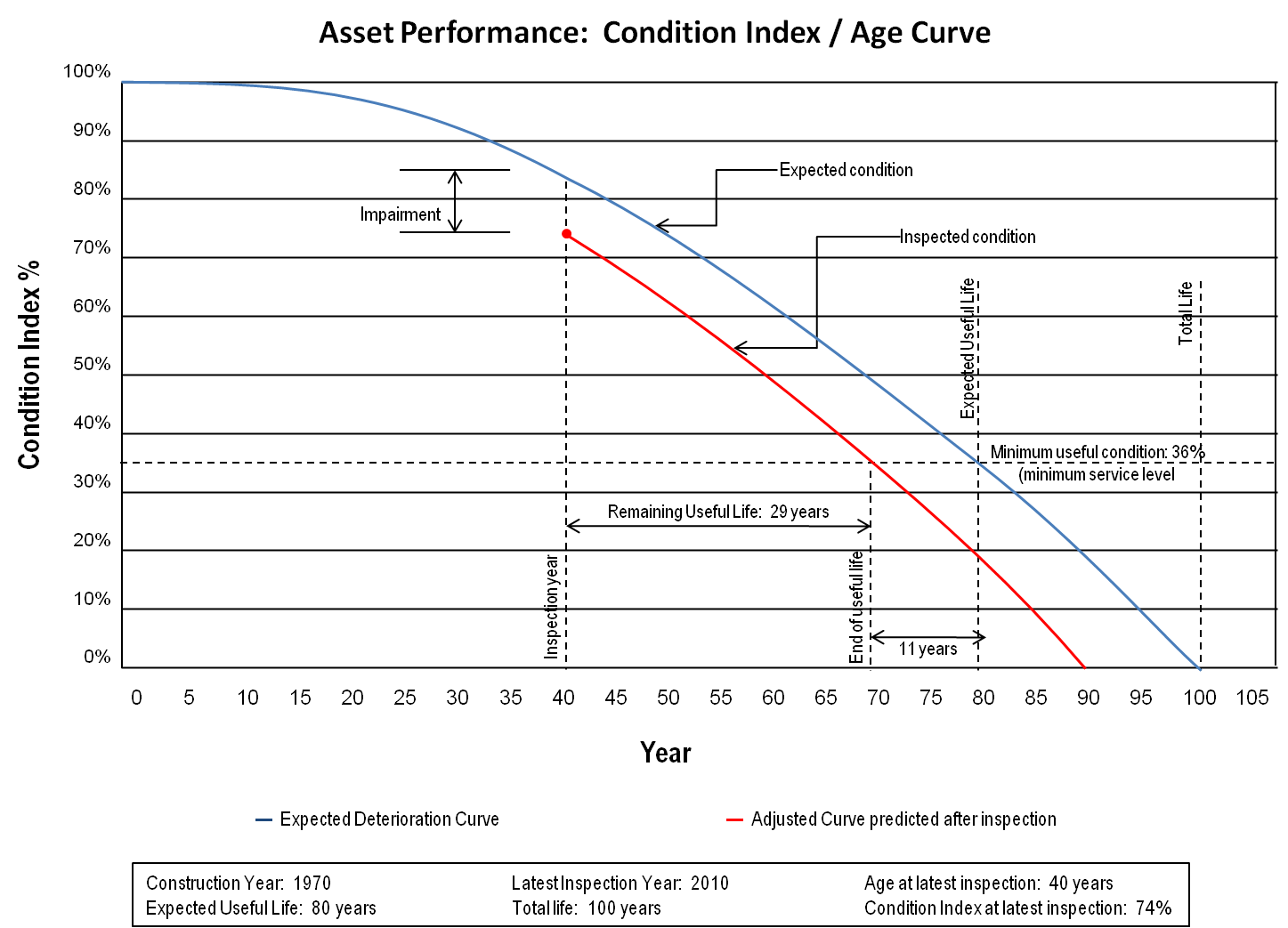


Figure 3: Deterioration Curve for a Parabolic Ageing Profile

Some established principles relating to asset deterioration, which has been accounted for in the asset CI calculation, include: [[1]](#endnote-1)

* Assets generally deteriorate more quickly the older they are (i.e. non-linear).
* The condition of assets is rarely better than the deterioration curve predicts.
* The remaining useful life of an asset can be extended (increased) if the condition of the asset is better than anticipated for a similarly aged asset, by carrying out renewal, rehabilitation or replacement.

The combination of condition assessment surveys with life-cycle costing and asset values provides a valuable tool that can be used in determining a suitable asset renewal, rehabilitation and replacement strategy.

**Impairment Triggers**

Asset impairment is triggered by a variety of causes. Possible ‘impairment triggers’ are given in the table below:

Table 3: Asset Impairment Triggers

|  |  |  |
| --- | --- | --- |
| **No.** | **Cause Of Defect / Impairment Triggers** | **Description** |
| 1 | Accident damage/3rd party interference | Damage due to unforeseen / uncontrollable circumstances (i.e. damage by vehicle). |
| 2 | Bad workmanship | Inadequate design / Honeycomb concrete / inadequate cover / design error / incorrect installation / poor quality repair / construction |
| 3 | Chemical damage / decay | ASR / AAR / chemical attack / carbonation / corrosion / chloride attack |
| 4 | Mechanical damage | Expansion joint nosing / restrained bearings / bearing failure |
| 5 | Natural event | Flooding / fire / wind / earthquake / erosion / wave action / general weathering |
| 6 | Poor maintenance | Failure of corrosion protection / blocked drainage / debris / vegetation / water damage |
| 7 | Service/Usage deterioration | Corrosion / Rutting / settlement / subsidence / deflection / loss of structural integrity / UV deterioration / Natural degradation at a rate faster than anticipated |
| 8 | Capacity failure | Condition loss due to overloading or overuse / Condition loss or failure due to lack of capacity of the asset to handle required demands |
| 9 | Vandalism / theft | Graffiti / broken with malicious intent / missing member(s) or components |

**Accounting Treatment**

Impairment is the loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss through depreciation or amortisation. These losses may arise from physical damage or from internal or external factors such as not regularly performing maintenance or a decline in the asset’s market value.

Municipalities are required to annually assess whether there is an indication that a cash generating asset may be impaired. If any such indications exist, the entity must estimate the recoverable amount of the relevant asset. Entities must, however, annually compare the carrying amounts of intangible assets with indefinite useful lives or intangible assets not yet available for use with their recoverable amounts.

This impairment test may be performed at any time during the reporting period, but the entity must then perform this test at the same time every year.

A cash-generating asset will be impaired when its carrying amount exceeds its recoverable amount. The recoverable amount is the higher of the cash-generating asset’s fair value less costs to sell and its value in use. The recoverable amount is determined for individual assets, unless the asset generates cash inflows that are largely dependent on other assets or groups of assets. In this case the recoverable amount for the cash-generating unit should be determined.

Fair value less costs to sell is the amount obtainable from the sale of the cash generating asset in an arm’s length transaction between knowledgeable and willing parties. This amount is adjusted for incremental costs that are directly attributable to the disposal of the asset, such as legal expenses and transaction taxes.

The best evidence of an asset’s fair value less costs to sell is the price in a binding sale agreement, adjusted for the costs to sell. If there is no binding sale agreement fair value less costs to sell can be determined as the asset’s market price less costs of disposal. If there is no binding sale agreement or active market, fair value less costs to sell should be based on the best available information at the reporting date.

Value in use is the present value of the asset’s remaining future cash flows that the entity expects to derive from the continuing use of the asset and from its disposal at the end of its useful life. The estimate of these cash flows is based on the asset’s current condition, and by applying an appropriate discount rate.

If there is an indication that an individual asset may be impaired, an impairment loss is recognised immediately in surplus and deficit when the asset’s recoverable amount is less than the carrying amount. The impairment loss is recognised by reducing the asset’s carrying amount to its recoverable amount. If the asset is carried at a revalued amount, the impairment loss should be treated as a revaluation decrease.

If the cash-generating asset belongs to a cash-generating unit, an impairment loss should be recognised for the cash-generating unit if the recoverable amount of the unit is less than its carrying amount. A cash-generating unit is the smallest identifiable group of assets held with the primary objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets. The impairment loss should be allocated on a pro-rata basis to the individual assets in the unit based on their carrying amounts. The impairment losses on the individual assets are then recognised in surplus or deficit, or are treated as a revaluation decrease if carried at revalued amounts.

Entities are also required to assess at each reporting date whether there is any indication that an impairment loss recognised in prior periods may no longer exist or may have decreased. If there has been a change in the estimates used to determine the asset’s recoverable amount since the last impairment loss was recognised, the asset’s carrying amount should be increased to its recoverable amount. This reversal is limited to the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised in prior periods. Reversals of impairment losses for cash-generating units are allocated on a pro-rata basis to the individual assets in the unit based on their carrying amounts.

The reversal of an impairment loss is recognised in surplus or deficit, unless the asset is carried at a revalued amount, in which case the reversal is treated as a revaluation increase.

After the recognition of an impairment loss, or the reversal of previously recognised impairment losses, the depreciation or amortisation charge for the asset should be adjusted by allocating its revised carrying amount for the remaining useful life.

# Acquisitions, Disposals and Transfers

## Acquisition of Fixed Assets

The process of purchasing fixed assets is dealt with extensively in the supply chain management policy of the municipality. However, a number of issues relating to the acquisition of a fixed asset are outlined hereunder.

The acquisition of all fixed assets is undertaken in terms of an approved capital / operating budget of the municipality. The acquisition process must conform in all respects with the supply chain management policy of the municipality.

The issue of funding is an important aspect in the process of acquiring fixed assets. There are three primary categories of funding that may be applicable to the purchase of an asset – internal sources, grant funding or external sources. The internal sources of funding can be in terms of a provision on the operating budget or from a fund built up by the municipality for this purpose such as an asset replacement reserve fund. Grant funding relates to external funding where there is no repayment obligation placed on the municipality; an example is funding from the Municipal Infrastructure Grant (MIG). Other external sources of funding relate in the main to loan funding from institutions such as the Development Bank of South Africa; in these cases there is a repayment obligation on the municipality and considerations such as rates of interest and repayment periods are important.

Only once the municipality has taken physical delivery of the fixed asset will the process commence of recording the purchase of the asset in the fixed asset register.

The municipality must have a policy regarding the insurance of fixed assets; in this regard the timing of such insurance cover is important in the acquisition process to ensure that the municipality is not exposed to unnecessary risk. The adequacy of the insurance cover on the fixed asset portfolio of the municipality is reviewed on an annual basis.

## Carrying values of Fixed Assets

All fixed assets shall be recorded in the fixed asset register, and appropriately recorded in the annual financial statements, at their original cost or fair value less any accumulated depreciation and accumulated impairment.

**Current Replacement Cost**

Where no historical costs are recorded the Depreciated Replacement Cost (DRC) of the asset is calculated using the Current Replacement Cost as a Base. Based on the CRC and the asset age the Deemed Cost is calculated as per 15.3 above.

|  |  |
| --- | --- |
| **Purpose** | The overall purpose of asset valuations is to determine the Current Replacement Cost (CRCs) of the infrastructure Assets. |
| **Application** | This policy may be applied to all asset classes.  Replacement costs of all assets should be updated at least every 5 years. |

Infrastructure Assets are valued in terms of their Current Replacement Cost (CRC).

If fair value at the measurement date cannot be determined for an item of property, plant and equipment, an entity may estimate such fair value using depreciated replacement cost at the measurement date for an item of property, plant and equipment.

In terms of Paragraph 09(a) of Directive 7 Hantam Municipality has computed Deemed Cost as follows:

Deemed Cost = DRC – (DRC \* M (years) \* CPI)

Where, M = End Financial Year (2012) – End Measurement Year Small Municipality (2009)

CPI = 5.12%

DRC = RUL / EUL \* CRC (Per MFMA)

The calculation is based on the replacement of the asset with an equivalent asset using normal construction requirements within the municipality. The asset CRCs will not determine the cost of replacing each individual structure, but rather determine an average cost (or rate) for the replacement of the asset with an equivalent infrastructure asset.

The CRC of an asset will be determined using calculations based on engineering design principles and market rates for asset components or materials as determined by the Bureau for Economic Research (BER)[[2]](#footnote-1) based on first principle engineering calculations that consider:

* Key asset components as well as current market costs where the BER indices cannot be used for the CRC calculation;
* The market rates upon which the CRC calculations will be based are those contained in the BER “Report for Building Costs”;
* The CRC rates for each asset class will be determined in accordance with the units of measurement listed in Appendix A, Material Costs.

Criteria used for determining the CRC of an asset:

* Bureau for Economic Research (BER) for key asset components;
* Current market costs (where the BER indices cannot be used);
* BER Report for Building Costs (this gives the market rates upon which the CRC calculations are based);
* The units of measurement listed in Appendix A – this gives CRC rates for each asset class;
* The calculation of the CRC rates for each asset class will be determined based on first principles of engineering design requirements for an equivalent similar or typical structure. The cost build up for assets is done according to the factors applied to the raw CRC as shown in the following table:

Table 4: CRC Factors

|  |  |
| --- | --- |
| CRC – capital expenditure | 1,0 |
| Access | 0.05 |
| Accommodation for Traffic | 0.05 |
| Demolition | 0.20 |
| Consulting/design Fee | 0,10 |
| Supervision | 0,10 |
| Escalation | 0.05 |
| Administration Cost | 0.05 |
| Management Cost | 0.05 |
| Contingencies | 0.10 |
| Brown Fields/Reinstatement | 0.20 |
| Sundries | 0.05 |
| **Total** | **2.05** |

In the case of Construction contract the highlighted cells (35%) should be added onto the contract values

The CRC will then be used to calculate the initial purchase price based on the Acquisition year and the average Consumer Price Index (CPI) since installed. The formula to be used is as follows:

|  |
| --- |
| Purchase price = CRC – (% Ave CPI rate) \* (age years) \* (CRC) |

*Where Age years = Current Year – acquisition date*

*For % Ave CPI rate* ***–*** *refer to Appendix 4*

The only exceptions to this rule shall be revalued assets (see section 15.13 above) and heritage assets in respect of which no value is recorded in the fixed asset register (see section 12.5 above).

## Replacement norms

The municipal manager, in consultation with the Chief Financial Officer and other heads of departments, shall formulate norms and standards for the replacement of all normal operational fixed assets. Such norms and standards shall be incorporated in a formal policy, which shall be submitted to the council of the municipality for approval. This policy shall cover the replacement of motor vehicles, furniture and fittings, computer equipment, and any other appropriate operational items. Such policy shall also provide for the replacement of fixed assets which are required for service delivery but which have become uneconomical to maintain.

## Procedure in the case of Loss, Theft, Destruction

Every head of department shall ensure that any incident of loss, theft, destruction, or material impairment of any fixed asset controlled or used by the department in question is promptly reported in writing to the Chief Financial Officer, to the internal auditor, and – in cases of suspected theft or malicious damage – also to the South African Police Service.

## Alienation of Fixed Assets

In compliance with the principles and prescriptions of the Municipal Finance Management Act, the transfer of ownership of any fixed asset shall be fair, equitable, transparent, competitive and consistent with the municipality’s supply chain management policy.

In accordance with Section 40 of the municipality’s supply chain management policy

Assets may be disposed of by –

(i) Transferring the asset to another organ of state in terms of a provision of the Act enabling the transfer of assets;

(ii) Transferring the asset to another organ of state at market related value or, when appropriate, free of charge;

(iii) Selling the asset; or

(iv) Destroying the asset.

Every head of department shall report in writing to the Chief Financial Officer at the end of each financial year on all fixed assets controlled or used by the department concerned which such head of department wishes to alienate. The Chief Financial Officer shall thereafter consolidate the requests received from the various departments, and shall promptly report such consolidated information to the municipal manager, indicating the process of alienation to be adopted.

The Chief Financial Officer shall ensure that the alienation of any fixed asset with a carrying value equal to or in excess of R50 000 (fifty thousand rand) takes place in compliance with Section 14 of the Municipal Finance Management Act, 2004 (see Annexure 2 below).

Once the fixed assets are alienated, the Chief Financial Officer shall delete the relevant records from the fixed asset register.

If the proceeds of the alienation are less than the carrying value recorded in the fixed asset register, such difference shall be recognised as a loss in the statement of performance of the department or vote concerned. If the proceeds of the alienation, on the other hand, are more than the carrying value of the fixed asset concerned, the difference shall be recognised as a gain in the statement of performance of the department or vote concerned.

All gains realised on the alienation of fixed assets shall be appropriated annually to the municipality’s asset financing reserve (except in the cases outlined below), and all losses on the alienation of fixed assets shall remain as expenses on the income statement of the department or vote concerned. If, however, both gains and losses arise in any one financial year in respect of the alienation of the fixed assets of any department or vote, only the net gain (if any) on the alienation of such fixed assets shall be appropriated.

Transfer of fixed assets to other municipalities, municipal entities (whether or not under the municipality’s sole or partial control) or other organs of state shall take place in accordance with the above procedures, except that the process of alienation shall be by private treaty in accordance with Section 40 of the municipality’s supply chain management policy.

The Chief Financial Officer shall in July of every year report to the council of the municipality details of all fixed assets disposed of during the immediately preceding financial year.

## Disposals

Where an asset has been disposed of during the current financial year, the following information must be captured and the Asset Status updated accordingly:

1. Date on which the disposal took place;
2. Amount received on disposal, if any (i.e. proceeds);
3. Reason for disposal;
4. Performance of the asset, including: Capacity, RUL and Condition (CI); and
5. Residual value of the disposed asset.

A fixed asset other than when disposed of in the manner above, and even though fully depreciated, shall be written off by the Chief Financial Officer only on the recommendation of the head of department controlling or using the asset concerned, and with the approval of the municipal manager.

Every head of department shall report to the Chief Financial Officer on 31 October and 30 April of each financial year on any fixed assets which such head of department wishes to have written off, stating in full the reason for such recommendation. The Chief Financial Officer shall consolidate all such reports, and shall promptly submit a recommendation to the council of the municipality on the fixed assets to be written off.

The only reasons for writing off fixed assets, other than the alienation of such fixed assets, shall be the loss, theft, and destruction or material impairment of the fixed asset in question.

In every instance where a not fully depreciated fixed asset is written off, the Chief Financial Officer shall immediately debit to such department or vote, as additional depreciation expenses, the full carrying value of the asset concerned.

## Transfer of Fixed Assets

One of the important aspects of any fixed asset management policy is the ability of the municipality to determine the location of each and every fixed asset on its asset register at any point in time.

When a fixed asset is acquired, one of the important pieces of information recorded is the location of that asset. This determines the department within the municipality that is responsible for the use and / or control of the fixed asset and its maintenance.

Relocation of an asset can take place in one of two ways – on either a permanent or a temporary basis. The relocation of a fixed asset, whether temporary or permanent, must be duly authorised.

Where the relocation of the fixed asset is on a temporary basis, a fixed asset transfer register will be completed. The register reflects the details of the movement of the fixed asset concerned. Responsibility for the control and maintenance of the fixed asset continues to vest in the head of department who initially requested its acquisition.

Where the relocation of a fixed asset is permanent, a fixed asset transfer notification is completed. Once the information recorded on the notification is captured on the financial system of the municipality, responsibility for the control and maintenance of the asset will be vested in the head of department to which the fixed asset has been transferred.

# Management and Risk Information

|  |  |
| --- | --- |
| **Purpose** | The purpose of calculating asset risks is to inform the municipality of their risk exposure, in respect of the likelihood of asset failure and resulting consequences of failure of the asset. |
| **Application** | The calculation of risk across a group, or groups, of infrastructure assets is fundamental to providing a prioritised risk register. |

Section 41 of the MFMA states that Risk management must include –

(a) The identification of risks on a case-by-case basis;

(b) The allocation of risks to the party best suited to manage such risks;

(c) Acceptance of the cost of the risk where the cost of transferring the risk is greater than that of retaining it;

(d) The management of risks in a pro-active manner and the provision of adequate cover for residual risks; and

(e) The assignment of relative risks to the contracting parties through clear and unambiguous contract documentation.

Treatment strategies are identified with different levels of risk and renewal costs can be applied across the group of assets to compare with the renewal budget.

## Business Risk Exposure Calculation Methodology

Business risk exposure is the combination of the consequence of the risk and probability of the occurrence of the risk. Where there is a matrix of probabilities and consequences – as with infrastructure assets – a weighting factor is included so that the quantitative value of risk exposure based on the type of service considered.

The weighting applied to the risk exposure relates to the importance of the asset. The following weightings are proposed for the municipality:

Table 5: Service Risk Factor (Weighting)

|  |  |
| --- | --- |
| Water | 19 |
| Electricity | 17 |
| Sanitation | 14 |
| Roads | 12 |
| Bridges & retaining walls | 12 |
| Stormwater | 7 |
| Buildings | 7 |
| Parks | 4 |

Asset risk must be estimated not only to assess business risk but also in order to prioritise maintenance and renewal decision-making especially when there is a limited budget.

|  |
| --- |
| Risk Exposure = (Probability of Failure) x (Consequence of Failure) x Weighting |

**Note:** the asset risk calculation does not distinguish between critical and non-critical components of an asset. The relevance of each component must be determined for the asset category/class, which would influence the structural integrity of the asset.

## Probability of Failure (PoF)

The calculation of infrastructure asset risk is based on the probability of failure as well as the consequence of failure. The probability of asset failure is calculated according to the methodology outlined below:

|  |
| --- |
| PoF = 0.01 x 100 (EUL – RUL)/EUL |

*Where PoF – Probability of Failure (in %), EUL – Expected Useful Life (determined by asset class/type), RUL – Remaining Useful Life (an estimate from the generic asset deterioration curve and using asset condition)*

Figure 4: Asset Probability of Failure based on Effective Life Consumed

## Consequence of Failure (CoF)

The consequence of a risk event is defined as the severity or impact that a risk event poses. This can be measured in many ways depending on the risk event itself. It can be measured qualitatively ranging from insignificant to catastrophic. A more sophisticated approach is to measure the risk quantitatively in terms of e.g. the number of people affected by the event.

The Consequence of Failure is determined in terms of the number of people affected in a particular day multiplied by the number of days that they are affected.

## Adjusted Business Risk Exposure

The adjusted Business Risk Exposure is calculated by multiplying a factor relating to the asset redundancy to the Business Risk calculated above.

The factor to be used must be applied as follows:

|  |  |
| --- | --- |
| Full redundancy (no loss of service) | 0.25 |
| Partial redundancy (service can resume but at lower level of service) | 0.50 |
| Minimal redundancy (service can resume with severe impacts in levels of service) | 0.75 |
| No redundancy (i.e. full loss of service) | 1.00 |

**ANNEXURE 1:**

**Fixed Asset Lives**

# NATIONAL TREASURY GUIDELINE FIXED ASSET LIVES

The following is the list of infrastructure assets, with the estimated useful life in years as documented by National Treasury guidelines document. The lives stated below are design lives and economic lifespans that should be achieved by different classes of assets.

In the event of no substantiating or supporting engineering advice or evidence to support infrastructure asset lives, the lives stated below may be used as a guideline to such.

## Infrastructure Assets

|  |  |
| --- | --- |
| **Electricity** | |
| Power Stations | 30 years |
| Cooling towers | 30 years |
| Transformer kiosks | 30 years |
| Meters | 20 years |
| Load control equipment | 20 years |
| Switchgear | 20 years |
| Supply and reticulation networks | 20 years |
| Mains | 20 years |

|  |  |
| --- | --- |
| **Roads** | |
| Motorways | 15 years |
| Other Roads | 10 years |
| Traffic Islands | 10 years |
| Traffic Lights | 20 years |
| Street Lights | 25 years |
| Overhead Bridges | 30 years |
| Stormwater Drains | 20 years |
| Bridges, subways & culverts | 30 years |
| Car Parks | 20 years |
| Bus Terminals | 20 years |

|  |  |
| --- | --- |
| **Water** | |
| Mains | 20 years |
| Supply and Reticulation networks | 20 years |
| Reservoirs and storage tanks | 20 years |
| Meters | 15 years |
| Rights (that is, the right to draw water from a particular source belonging to a third party) | 20 years |

|  |  |
| --- | --- |
| **Gas** | |
| Supply and reticulation networks | 20 years |
| Storage tanks | 20 years |
| Mains | 20 years |
| Meters | 20 years |

|  |  |
| --- | --- |
| **Sewerage** | |
| Sewer mains | 20 years |
| Outfall sewers | 20 years |
| Sewerage purification works | 20 years |
| Sewerage pumps | 15 years |
| Sludge machines | 15 years |

|  |  |
| --- | --- |
| **Pedestrian Malls** | |
| Footways | 20 years |
| Kerbing | 20 years |
| Paving | 20 years |

|  |  |
| --- | --- |
| **Airports** | |
| Runways | 20 years |
| Aprons | 20 years |
| Taxiways | 20 years |
| Airport and radio beacons | 20 years |

|  |  |
| --- | --- |
| **Security measures** | |
| Access control systems | 5 years |
| Security systems | 5 years |
| Security fencing | 3 years |

## Community Assets

The following is a list of community assets, showing again the assigned or estimated useful lives in years:

|  |  |
| --- | --- |
| **Buildings and other assets** | |
| Ambulance stations | 30 years |
| Aquariums | 30 years |
| Beach developments | 30 years |
| Care Centres | 30 years |
| Cemeteries # | 30 years |
| Civic Theatres | 30 years |
| Clinics and Hospitals | 30 years |
| Community centres | 30 years |
| Fire Stations | 30 years |
| Game reserves and rest camps | 30 years |
| Indoor sports | 30 years |
| Libraries | 30 years |
| Museums and art galleries | 30 years |
| Parks | 30 years |
| Public conveniences and bath houses | 30 years |
| Recreation centres | 30 years |
| Sports and related stadiums | 30 years |
| Zoos | 30 years |

|  |  |
| --- | --- |
| **Recreation facilities** | |
| Bowling greens | 20 years |
| Tennis courts | 20 years |
| Swimming pools | 20 years |
| Golf courses | 20 years |
| Jukskei pitches | 20 years |
| Outdoor sports facilities | 20 years |
| Organs (pipe organs that are fixtures in a municipal hall or other centre) | 20 years |
| Lakes and dams | 20 years |
| Fountains | 20 years |
| Flood lighting | 20 years |

# Sum-of-units method of depreciation may be preferred.

## Heritage Assets

The following is a list of at least some typical heritage assets encountered in the municipal environment (no asset lives are given, of course, as no ordinary depreciation will be charged against such assets):

* - Museum exhibits
* - Works of art (which will include paintings and sculptures)
* - Public statues
* - Historical buildings or other historical structures (such as war memorials)
* - Historical sites (for example, an Iron Age kiln, historical battle site or site of a historical settlement)

## Investment Assets

It is not possible to provide an exhaustive list of investment assets, as the actual list will depend very much on the local circumstances of each municipality. However, the following will be among the most frequently encountered:

* Office parks (which have been developed by the Municipality itself or jointly between the Municipality and one or more other parties)
* Shopping centres (again developed along similar lines)

## Other Assets

The following is a list of other assets, again showing the estimated useful life in years:

|  |  |
| --- | --- |
| Buildings | 30 years |
| Abattoirs | 30 years |
| Asphalt plant | 30 years |
| Cable stations | 30 years |
| Caravan parks | 30 years |
| Compacting stations | 30 years |
| Hostels – used to accommodate the public or tourists | 30 years |
| Hostels for municipal employees | 30 years |
| Housing schemes | 30 years |
| Kilns | 30 years |
| Laboratories | 30 years |
| Fresh produce and other markets | 30 years |
| Nurseries | 30 years |
| Office Buildings | 30 years |
| Old age homes | 30 years |
| Quarries # | 30 years |
| Tip sites # | 30 years |
| Training centres | 30 years |
| Transport facilities | 30 years |
| Workshops and depots | 30 years |

## Movable Assets

The following is a list of movable assets, again showing the estimated useful life in years:

|  |  |
| --- | --- |
| **Office Equipment** | |
| Computer hardware | 5 years |
| Computer software | 3-5 years |
| Office machines | 3-5 years |
| Air conditioners | 5-7 years |

|  |  |
| --- | --- |
| **Furniture & Fittings** | |
| Chairs | 7-10 years |
| Tables and desks | 7-10 years |
| Cabinets and cupboards | 7-10 years |

|  |  |
| --- | --- |
| **Bins and containers** | |
| Household refuse bins | 5 years |
| Bulk refuse containers | 10 years |

|  |  |
| --- | --- |
| **Emergency equipment** | |
| Fire hoses | 5 years |
| Other fire-fighting equipment | 15 years |
| Emergency lights | 5 years |

|  |  |
| --- | --- |
| **Motor vehicles** | |
| Ambulances | 5-10 years |
| Fire engines | 20 years |
| Buses | 15 years |
| Trucks and light delivery vehicles | 5-7 years |
| Ordinary motor vehicles | 5-7 years |
| Motor cycles | 3 years |

|  |  |
| --- | --- |
| **Plant and equipment** | |
| Graders | 10-15 years |
| Tractors | 10-15 years |
| Mechanical Horses | 10-15 years |
| Farm equipment | 5 years |
| Lawn mowers | 2 years |
| Compressors | 5 years |
| Laboratory equipment | 5 years |
| Radio equipment | 5 years |
| Firearms | 5 years |
| Telecommunication equipment | 5 years |
| Cable Cars | 15 years |
| Irrigation systems | 15 years |
| Cremators | 15 years |
| Lathes | 15 years |
| Filling equipment | 15 years |
| Conveyors | 15 years |
| Feeders | 15 years |
| Tippers | 15 years |
| Pulverising mills | 15 years |

|  |  |
| --- | --- |
| **Other assets** | |
| Aircraft | 15 years |
| Watercraft | 15 years |

# Sum-of-units may be preferred.

# Municipality Asset EXPECT USEFUL Lives and Cost Code Rates

| **Unique Code** | **Type** | **Definition** | **Unit Of Measure** | **All In Rate (Rands)** | **Source Of Cost** | **EUL** | **Source of EUL And Assumptions Made** | **Min RUL** | **Scrap Value (%)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BH-BH5 | Boreholes | Bore hole Shaft & casing only | No | 48 336.75 | Based upon BH-BH6, assumed shaft and casing accounts for 55% of infrastructure and establishment costs, P&G's | 55 | No guideline specification provided by MFMA. Similar to underground steel pipe | 5 | 0% |
| BH-BH3 | Boreholes | Borehole - Hand Operated | No | 24 389.00 | See 2012-08-13 Boreholes\_Costs.xlsx/ CLIMAX\_WINDMILLS.pdf/ BoreholeQuote1.pdf/ BoreholeQuote2.pdf | 20 | Based upon pumpstation specifications (30-55 years) but less protection and therefore lower life (lower end) | 4 | 0% |
| BH-BH7 | Boreholes | Borehole shaft & Diesel mono and pump | No | 71 906.00 | See 2012-08-13 Boreholes\_Costs.xlsx/BoreholeQuote1.pdf/BoreholeQuote2.pdf | 30 | No guideline specification provided by MFMA. Some indication provided by pumpstation specifications but less protection and therefore lower end | 5 | 0% |
| BH-BH6 | Boreholes | Borehole shaft & Electric motor and pump | No | 87 885.00 | See 2012-08-13 Boreholes\_Costs.xlsx/BoreholeQuote1.pdf/BoreholeQuote2.pdf | 30 | No guideline specification provided by MFMA. Some indication provided by pumpstation specifications but less protection and therefore lower end | 5 | 0% |
| BH-BH4 | Boreholes | Boreholes - Windmill | No | 64 925.00 | See 2012-08-13 Boreholes\_Costs.xlsx/ CLIMAX\_WINDMILLS.pdf/ BoreholeQuote1.pdf/ BoreholeQuote2.pdf | 30 | Based upon pumpstation specifications but less protection and therefore lower life (lower end) | 5 | 0% |
| BR-ABUT.RC | Bridges | Abutment, Reinforced Concrete | m2 | 6 303.60 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Reinforced Conc. Incl formwork | 60 | Based upon lower end of Vehicular, Pedestrian bridge life per MFMA | 5 | 0% |
| BR-BAL.RC | Bridges | Bridge - Balustrade, Reinforced Concrete | m | 1 511.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Rough formwork & cavity wall | 60 | Based upon lower end of Vehicular, Pedestrian bridge and crash barrier life, per MFMA. However, due to exposure to damage; reduced expected life | 5 | 0% |
| BR-JNT.SL | Bridges | Bridge - Compression Seal Joint | m | 3 465.00 | See 2012-08-07 Bridge Costing .rev2.xlsx. Includes P&Gs and contingencies | 20 | Based upon lower end specification per MFMA | 3 | 0% |
| BR-DEC.RC | Bridges | Bridge - Deck, Reinforced Concrete | m2 | 8 752.86 | See 2012-08-07 Bridge Costing .rev2.xlsx. Includes P&Gs and contingencies | 80 | Based upon lower end of Vehicular, Pedestrian bridge life per MFMA | 5 | 0% |
| BG-BUAS | Buildings | Ancillary services related to the type of building | No | 6 158.00 | See 2012-08-05-Building Cost Rate.xlsx, Medium Specification assumed to determine generally applicable ancillary fees/service costs | 15 | Based upon engineering experience and indications from MFMA guidelines for non-residential dwellings and high frequency/usage facilities such as taxi ranks (10-15 years, otherwise 25-30 years) | 3 | 0% |
| BG-BUFL1 | Buildings | Bare floor | m2 | 171.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. | 25 | Based upon upper end of Concrete reinforced retaining walls, per MFMA | 5 | 0% |
| BG-BUFN2 | Buildings | Building Strong foundations | m2 | 1 230.00 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed | 50 | Based upon upper end of Concrete reinforced retaining walls, per MFMA and engineering knowledge and experience from building engineers | 5 | 0% |
| BG-BUEX5 | Buildings | Corrugated Iron Fabric | m2 | 190.58 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Roof sheeting, gal roof, including P&G's and Contingencies | 20 | Based upon MFMA guidelines for Metalwork and in combination with perimeter guideline values | 4 | 0% |
| BG-BURF1 | Buildings | Corrugated Iron Roof | m2 | 490.58 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Roof sheeting, gal roof, including P&G's and Contingencies and roof truss - sawn soft wood @ 10x10m | 20 | Based upon MFMA guidelines for Metalwork and in combination with perimeter guideline values | 4 | 0% |
| BG-BUOP | Buildings | Electrical substation/Pumpstation/Crematoria | m2 | 4 150.00 | See 2012-08-05-Building Cost Rate.xlsx, SUBSTN Pumpstation assumed | 30 | Based upon MFMA guidelines for Electricity substations | 5 | 0% |
| BG-BUIF2 | Buildings | Extensive and high class interior fabric - Class A building | m2 | 3 156.00 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed with extensive/luxury fittings | 20 | Values adopted based upon MFMA guidelines for residences (25-30 years). Specific component experiences exposure to human factors, therefore reduced life | 4 | 0% |
| BG-BUEL2 | Buildings | Extensive electrical provision | m2 | 1 749.95 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed with extensive/luxury fittings | 25 | Based upon MFMA guidelines for Electricity supply and reticulation. Upper end chosen to account for additional cost and therefore quality for an extensive electrical installation | 5 | 0% |
| BG-BURF2 | Buildings | Flat concrete roof | m2 | 3 420.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Reinforced Conc. Incl formwork, assumed 10m x 10m roof | 35 | Based upon upper end of Concrete reinforced retaining walls, per MFMA. Less exposure to water run-off and harmful actions, therefore an extended expected life | 5 | 0% |
| BG-BURF3 | Buildings | Grass Roof | m2 | 607.92 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. gal roofing with 4 roof saw tooth roof trusses per 10m2 assumed with one man-day labour and 4% contingencies | 15 | No guidelines specified by MFMA. Value adopted based upon Public Parking, covered and open (25-30 years) with reduced life based upon the nature of the material and exposure to the environment. | 3 | 0% |
| BG-BUDR2 | Buildings | High class gutters and surface drainage | m2 | 1 224.00 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed with P&Gs and one man-day labour | 20 | Values adopted based upon MFMA guidelines for residences (25-30 years). Specific component experiences exposure to natural factors, therefore reduced life | 4 | 0% |
| BG-BUWS2 | Buildings | High class toilets and related wet services | No | 4 960.00 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed with extensive/luxury fittings | 20 | Values adopted based upon MFMA guidelines for residences. Specific component experiences exposure to human and natural/biological factors, therefore reduced life | 4 | 0% |
| BG-BULS | Buildings | Low spec buildings - Taxi Shelter/Bus shelter/Canopy/Shed/Minor Lifeguard tower/Parcel Counter/Paybooth/Garage | m2 | 5 422.00 | See 2012-08-05-Building Cost Rate.xlsx, Medium Specification assumed | 15 | Based upon upper-end of MFMA guidelines for Taxi rank and Bus shelter (10-15 years) | 3 | 0% |
| BG-HOLS | Buildings | Low specification buildings - Residential Low Rise RDP Houses | m2 | 2 003.00 | See 2012-08-05-Building Cost Rate.xlsx | 25 | Based upon Dwelling, Hostels (25-30 years) per MFMA. | 5 | 0% |
| MS-MSAL | Buildings | Low specification buildings generally used as a shelter from elements | m2 | 3 082.05 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - bus shelter for street incl P&Gs and CPI Aug 2010-2012 | 15 | Based upon upper-end of MFMA guidelines for Taxi rank and Bus shelter. Similar in construction/nature but less exposure to damage and vandalism | 3 | 0% |
| MS-MSES | Buildings | Low walls and other external structures (generally masonry) | m2 | 343.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. One brick wall | 25 | Based upon perimeter protection guidelines per MFMA. Upper end chosen to account for masonry construction practices | 5 | 0% |
| BG-BUFN1 | Buildings | Marginal foundations for Buildings | m2 | 693.00 | See 2012-08-05-Building Cost Rate.xlsx, Low Specification assumed to determine generally applicable ancillary fees/service costs | 30 | Based upon upper end of Concrete reinforced retaining walls, per MFMA | 5 | 0% |
| BG-BUMS | Buildings | Medium spec - Changeroom/Ablution/Store room/Sport Equipment room | m2 | 5 422.00 | See 2012-08-05-Building Cost Rate.xlsx, Medium Specification assumed | 25 | Based upon MFMA guidelines for non residential dwellings (25-30 years) | 5 | 0% |
| BG-BUEL1 | Buildings | Minimal electrical provision | m2 | 807.00 | See 2012-08-05-Building Cost Rate.xlsx, Medium Specification assumed | 15 | Based upon MFMA guidelines for Electricity supply and reticulation. lower end chosen to account for lower specification and quality for an minimal electrical installation | 3 | 0% |
| BG-BUDR1 | Buildings | Minimal gutters and no structured surface drainage | m2 | 800.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. | 15 | Values adopted based upon MFMA guidelines for residences (25-30 years). Specific component experiences exposure to natural factors and additional minimal nature requires additional operational conditions, therefore reduced life | 3 | 0% |
| BG-BUIF1 | Buildings | Minimal interior fabric - Class C building | m2 | 1 934.00 | See 2012-08-05-Building Cost Rate.xlsx, Medium Specification assumed | 20 | Values adopted based upon MFMA guidelines for residences (25-30 years) and bus shelters (10-15 years). Specific component experiences exposure to human factors, therefore reduced life | 4 | 0% |
| BG-BUWS1 | Buildings | Minimal toilets and basic wet services | No | 5 655.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. | 15 | Values adopted based upon MFMA guidelines for residences. Specific component experiences exposure to human and natural/biological factors, therefore reduced life | 3 | 0% |
| BG-BUEL3 | Buildings | More electrical provision than typical Building | Amps | 1 129.00 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed | 25 | Based upon MFMA guidelines for Electricity supply and reticulation. Upper end chosen to account for additional cost and therefore quality for an extensive electrical installation | 5 | 0% |
| BG-BUEX2 | Buildings | Plastered exterior (double brick layer) | m2 | 930.63 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. One brick wall and cement plastered screen | 15 | No guideline specified in MFMA or DPLG. Adopted value based upon expected engineering performance | 3 | 0% |
| BG-BUEX3 | Buildings | Single brick face brick exterior | m2 | 696.17 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. One brick wall and cement and face brickwork | 25 | Based upon Dwelling, Residences per MFMA. | 5 | 0% |
| BG-BUEX4 | Buildings | Single Brick Plastered exterior | m2 | 782.79 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. One brick wall and cement and plastered screed | 25 | Based upon Dwelling, Residences per MFMA. | 5 | 0% |
| MS-MSFS | Buildings | Structures with heritage or other purpose such as Statue/Memorial/Monument | m2 | 11 666.00 | See 2012-08-05-Building Cost Rate.xlsx, High Specification assumed | 25 | Based upon MFMA guideline specifications, buildings - museums and art galleries | 5 | 0% |
| BG-BUTM | Buildings | Temporary shelter or building | m2 | 1 121.00 | See 2012-08-05-Building Cost Rate.xlsx | 15 | Based upon upper-end of MFMA guidelines for Taxi rank and Bus shelter (10-15 years) | 3 | 0% |
| BG-BUFL2 | Buildings | Tiled/Carpeted floor | m2 | 500.24 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Vinyl tiles assumed with one man-day labour and 4% contingencies | 30 | Based upon upper end of Concrete reinforced retaining walls, per MFMA. Protection provided by tiling/carpeting therefore increased life of 5 years over bare/concrete floor | 5 | 0% |
| BG-BUDST | Buildings | Toilet, low specification | No | 5 075.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. | 20 | Values adopted based upon MFMA guidelines for residences (25-30 years). Specific component experiences and exposure to human and natural/biological factors, therefore reduced life | 4 | 0% |
| MS-MSTT | Buildings | TV Tower | m | 8 897.11 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates incl P&Gs and CPI Aug 2010-2012 | 25 | Values adopted based upon outdoor substation equipment guideline values | 5 | 0% |
| BG-BUDSF | Buildings | UDS Toilet Fabric | No | 7 955.12 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - UDS toilet for street incl P&Gs and CPI Aug 2010-2012 | 25 | No guidelines specified by MFMA. Value adopted based upon lower end of residence dwellings (25-30 yrs) with reduced life based upon the nature of the material and exposure to the environment, construction techniques and frequency of usage. | 5 | 0% |
| BG-BUDSS | Buildings | UDS Toilet Foundation | No | 5 075.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. | 30 | Based upon upper end of Concrete reinforced retaining walls, per MFMA and working knowledge of mass concrete foundations. | 5 | 0% |
| BG-BUEX1 | Buildings | Well constructed face brick exterior (double brick layer) | m2 | 889.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. One brick wall including face brickwork | 30 | Based upon perimeter protection guidelines per MFMA and indicative lives of building asset types. Upper end chosen, plus additional life of 5 years to account for masonry and higher quality construction | 5 | 0% |
| EL-ELCAB | Electrical | Electrical Cables | m | 571.00 | See 2012-08-14 Electric\_Cables.xlsx | 45 | Based upon MFMA specification guidelines | 5 | 0% |
| EL-ELDB | Electrical | Electrical equipment- DB Panel | No | 2 121.00 | Reference provided by VVKE Electrical Technical Director | 5 | Based upon MFMA specification guidelines | 2 | 0% |
| EL-ELPOL | Electrical | Electrical Pole | No | 2 000.00 | Reference provided by VVKE Electrical Technical Director | 20 | Based upon MFMA specification guidelines for overhead cables | 4 | 0% |
| TR-ELTF | Electrical | Electrical Transformers | KVA | 5 125.00 | See Asset Material Cost\_31012012.xlsx | 50 | Based upon MFMA specification guidelines | 5 | 0% |
| EL-ELPU | Electrical | Small Pump telemetry & controls | No | 1 537.50 | See Asset Material Cost\_31012012.xlsx | 15 | Based upon MFMA specification guidelines | 2 | 0% |
| SP-PNL1 | Electrical | Solar Panel, 120W (R 25/ W) | No | 4 000.00 | Reference provided by VVKE Electrical Technical Director | 30 | Based upon MFMA specification guidelines. Value adopted based upon outdoor equipment and nature of the component | 4 | 0% |
| EL-DISH | Electronics | Satellite dish used for DSTV | No | 486.00 | See 2012-08-13 Satellite Dish.xlsx | 15 | Based upon MFMA specification guidelines. Value adopted based upon radio and telecommunication equipment | 2 | 0% |
| FC-FERF | Fencing and Gates | Brick Wall - Block Wall (2.5m) | m | 1 275.00 | See 2012-08-07-Fencing Cost Rates.xlsx | 25 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and concrete nature of the component | 5 | 0% |
| FG-FEDU | Fencing and Gates | Concrete Palisade - Steel Palisade, High Spec | m | 1 870.00 | See 2012-08-07-Fencing Cost Rates.xlsx | 20 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and concrete nature of the component | 4 | 0% |
| FC-FEDU | Fencing and Gates | Concrete Palisade - Steel Palisade, Med Spec | m | 1 855.00 | See 2012-08-07-Fencing Cost Rates.xlsx | 20 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and concrete nature of the component | 4 | 0% |
| FG-FEFL | Fencing and Gates | Fencing - Woven Wire Mesh & Timber | m | 331.80 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 0% |
| FG-FERW | Fencing and Gates | Fencing with Razor Wire | m | 348.30 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 0% |
| FG-FEBO | Fencing and Gates | Flexible Fencing for Nature Reserves- Bonnux/Veldspar | m | 348.30 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 0% |
| FC-FEFL2 | Fencing and Gates | Higher fence including razor wire (2.4m) | m | 106.00 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 5% |
| FC-FEGAN | Fencing and Gates | Turnstiles & gates per Number | No | 6 887.00 | See 2012-08-07-Fencing Cost Rates.xlsx | 15 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works | 3 | 0% |
| FC-FEFL | Fencing and Gates | Typical woven Wire Mesh - Timber | m | 49.50 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 0% |
| FG-FEWM | Fencing and Gates | Weldmesh, high quality | m | 414.30 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 0% |
| FC-FEWM | Fencing and Gates | Weldmesh, medium quality | m | 105.60 | See 2012-08-07-Fencing Cost Rates.xlsx | 10 | Based upon MFMA specification guidelines. Value adopted based upon perimeter protection, waste purification works and nature of the component | 2 | 0% |
| GF-GAGA | Gardens | Feature gardens: display, herb, rose, rock, cactus, zen | m2 | 3 075.00 | See 2011-08-09 Asset Code Table.xlsx - Definitions sheet No. 13 | 5 | Based upon MFMA specification guidelines. Value adopted based upon garden and irrigation equipment specifications | 2 | 0% |
| GF-GAFU | Gardens | Garden features- Gazebo/Irrigation/Benches/Picnic Table/Pergola | No | 4 100.00 | See 2011-08-09 Asset Code Table.xlsx - Definitions sheet No. 16 | 10 | Based upon MFMA specification guidelines. Value adopted based upon garden and irrigation equipment specifications | 2 | 0% |
| GF-GAOA | Gardens | Grassed area maintained for public use/ Verge | m2 | 35.10 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - Parks and Open Spaces incl P&Gs and CPI JUL 2010-2012 | 20 | Based upon MFMA specification guidelines. Value adopted based upon pedestrian footpaths. Median value assumed based upon pedestrian traffic | 4 | 0% |
| GF-GAPE | Gardens | Playground Equipment- Playground Equipment-Swings-Seesaw- Slides-Jungle Gym | No | 40 000.00 | See 2011-08-09 Asset Code Table.xlsx - Definitions sheet No. 17 | 5 | Based upon MFMA specification guidelines. | 2 | 0% |
| LD-ELRU | Lands | Rural Land | m2 | 1.00 |  | 1000 | Nominal value applied. Not included in depreciation calculations i.e. NA | 1000 | 0% |
| LG-LISTR | Lighting | 12m Streetlight with overhang | No | 10 863.04 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates | 25 | Based upon MFMA specification guideline value | 5 | 0% |
| LG-LILF | Lighting | Large Lighting Mast Foundation | No | 40 000.00 | Sectional Poles (PTY) LTD. | 30 | Based upon upper end of Concrete reinforced retaining walls, per MFMA | 5 | 0% |
| LG-LIPO | Lighting | Lighting Mast Pole | m | 4 000.00 | Sectional Poles (PTY) LTD. | 30 | Based upon MFMA specification guidelines. Value adopted based upon Street Lighting | 5 | 0% |
| LG-LISM | Lighting | Lighting Medium Mast Spot Light | No | 102 500.00 | See Asset Material Cost\_31012012.xlsx | 30 | Based upon MFMA specification guidelines. Value adopted based upon Street Lighting | 5 | 0% |
| LG-LU10 | Lighting | Mast Luminaires - 1000W | No | 3 000.00 | Reference provided by VVKE Electrical Technical Director | 7 | Based upon upper end of electric wire and power distribution equipment specification per MFMA | 2 | 0% |
| LG-LU02 | Lighting | Mast Luminaires - 250W | No | 2 000.00 | Reference provided by VVKE Electrical Technical Director | 7 | Based upon upper end of electric wire and power distribution equipment specification per MFMA | 2 | 0% |
| LG-LU04 | Lighting | Mast Luminaires - 400W | No | 2 500.00 | Reference provided by VVKE Electrical Technical Director | 7 | Based upon upper end of electric wire and power distribution equipment specification per MFMA | 2 | 0% |
| LG-LISF | Lighting | Medium Lighting Mast Foundation | No | 30 000.00 | Sectional Poles (PTY) LTD. | 30 | Based upon upper end of Concrete reinforced retaining walls, per MFMA | 5 | 0% |
| ME-MEHV | Mechanical | Air-conditioning - Fans, Cooling Unit, Water Towers, Ducting | m2 | 202.35 | See Aircon.xlsx - Assume 1 aircon per 20 m2 | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| MEV-ACV110 | Mechanical | Altitude Control Valve 110mm | No | 31 000.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-ACV50 | Mechanical | Altitude Control Valve 50mm | No | 14 261.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-ACV75 | Mechanical | Altitude Control Valve 75mm | No | 24 078.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-ACV90 | Mechanical | Altitude Control Valve 90mm | No | 31 000.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-ASV50 | Mechanical | Anti-shock Valve 50 mm | No | 15 320.00 | See Costing\Asset Material Cost\_31012012-ValveCost.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 5% |
| ME-MEPU3 | Mechanical | Centrifugal Pump | No | 8 322.75 | See Pump\_Costs.xlsx - s550 400V SM Single impeller centrifugal | 7 | Based upon MFMA specification guideline values. Value chosen based upon lack of any supporting maintenance history/log information | 2 | 0% |
| ME-MEPU2 | Mechanical | Electric Submersible pump | No | 4 127.84 | See 2012-08-14 Pump\_Costs.xlsx - Deep 1200 A easy pump submersible 230 V | 7 | Based upon MFMA specification guideline values. Value chosen based upon lack of any supporting maintenance history/log information | 2 | 0% |
| MEV-GV110 | Mechanical | Gate Valve 110 mm | No | 1 895.00 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV150 | Mechanical | Gate Valve 150 mm | No | 4 389.05 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV160 | Mechanical | Gate Valve 160 mm | No | 6 740.00 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV250 | Mechanical | Gate Valve 250mm | No | 9 250.00 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV350 | Mechanical | Gate Valve 350 mm | No | 11 760.29 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV50 | Mechanical | Gate Valve 50 mm | No | 497.00 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV65 | Mechanical | Gate Valve 65 mm | No | 968.80 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV75 | Mechanical | Gate Valve 75 mm | No | 1 404.00 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-GV90 | Mechanical | Gate Valve 90 mm | No | 1 776.12 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-IV110 | Mechanical | Isolation Valve 110 mm | No | 1 895.00 | See Costing\2012-08-06-GateValve Rate.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| ME-BM5 | Mechanical | Meter wpd 100 | No | 20 458.86 | See Pump\_Costs.xlsx - 100mm Kent Comb meter MD CJ253 | 10 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 2 | 0% |
| ME-BM12 | Mechanical | Meter wpd 20 | No | 617.93 | See Pump\_Costs.xlsx - 20mm Kent KSM meter+plas box DW407 | 10 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 2 | 0% |
| ME-BM1 | Mechanical | Meter wpd 40 | No | 2 438.78 | See Pump\_Costs.xlsx - 40mm Kent OPT meter N/CONN AV005 | 10 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 2 | 0% |
| MEV-NRV110 | Mechanical | Non-Return Valve 110 mm | No | 9 256.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-NRV90 | Mechanical | Non-Return Valve 90 mm | No | 6 576.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| ME-WP1 | Mechanical | Pipework Miscellaneous (exposed/visible) | No | 3 260.00 | See Costing\UNIT COST FOR WATER (2010).xlsx - Assume 10m length of 110 uPVC pipe | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| MEV-PRV110 | Mechanical | Pressure Reducing Valve 110 mm | No | 14 050.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| MEV-PRV75 | Mechanical | Pressure Reducing Valve 75 mm | No | 12 922.00 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 4 | 0% |
| ME-MEPU1 | Mechanical | Pump with diesel mono | No | 10 000.00 | See Pump\_Costs.xlsx - Lister Diesel TSI, 6KW | 7 | Based upon MFMA specification guideline values. Value chosen based upon lack of any supporting maintenance history/log information | 2 | 0% |
| ME-MEPU | Mechanical | Pumps (1KW) | No | 5 398.47 | See Pump\_Costs.xlsx - Ebara CDA150 1,1kw 220V two stage pump | 5 | Based upon MFMA specification guideline values. Value chosen based upon lack of any supporting maintenance history/log information and lower capacity of the component | 2 | 0% |
| PA-PACB | Paving | Concrete grass blocks used for parking lots and walkways | m2 | 411.00 | See 2012-08-07-Block\_paving\_roads\_costing.xlsx | 15 | Based upon MFMA specification guideline value | 3 | 50% |
| PA-PACP | Paving | Concrete Paving | m2 | 411.00 | See 2012-08-07-Block\_paving\_roads\_costing.xlsx | 20 | Based upon MFMA specification guideline value. Value adopted based upon Municipal Concrete surfaces roads | 4 | 50% |
| PA-PALT | Paving | Internal Road/Parking lot | m2 | 931.00 | See 2012-08-07-Block\_paving\_roads\_costing.xlsx | 10 | Based upon MFMA specification guideline value. Value adopted based upon Municipal asphalt surfaced roads | 2 | 50% |
| PA-PAPE | Paving | Pathway/Paved walkway | m2 | 275.80 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - paved sidewalk incls P&Gs and CPI Aug 2010-2012 | 15 | Based upon MFMA specification guideline value | 3 | 0% |
| PG-GPA01 | Pipes - Gravity | AC110 Dia Pipe | m | 326.00 | See Costing\UNIT COST FOR WATER (2010).xlsx, AC pipes are not used anymore | 20 | Based upon MFMA specification guideline value | 4 | 0% |
| PG-GPA02 | Pipes - Gravity | AC160 Dia Pipe | m | 418.00 | See Costing\UNIT COST FOR WATER (2010).xlsx, AC pipes are not used anymore | 20 | Based upon MFMA specification guideline value | 4 | 0% |
| PG-GPA03 | Pipes - Gravity | AC200 Dia Pipe | m | 785.00 | See Costing\UNIT COST FOR WATER (2010).xlsx, AC pipes are not used anymore | 20 | Based upon MFMA specification guideline value | 4 | 0% |
| PG-MSL1 | Pipes - Gravity | Main Sewerline uPVC 110 mm | m | 326.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PG-MSL2 | Pipes - Gravity | Main Sewerline uPVC 160 mm | m | 418.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PG-GPMH | Pipes - Gravity | Manholes - Catch Pit (Without Cover) | No | 17 541.00 | See 2012-08-06 SW\_Manhole Rate.xlsx - Manhole1800mm sheet, excludes Precast Concrete Slab, Lockable Cover & Frame and Reinstatement Asphalt | 15 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 3 | 0% |
| PG-MHCF | Pipes - Gravity | Manholes - Cover & Frame incl concrete cover slab (600x600mm) | No | 3 580.00 | See 2012-08-06 SW\_Manhole Rate.xlsx - Manhole1800mm sheet | 15 | Based upon MFMA specification guideline values. Value chosen based upon underground chambers and lack of any supporting maintenance history/log information | 3 | 0% |
| PP-BPL6 | Pipes - Pressure | Bulk pipelines HDPE 300 mm | m | 1 100.00 | See Costing\Asset Material Cost\_31012012.xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL7 | Pipes - Pressure | Bulk pipelines HDPE 450 mm | m | 2 588.00 | See Costing\Asset Material Cost\_31012012.xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL16 | Pipes - Pressure | Bulk pipelines Steel 200 mm | m | 1 423.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 5% |
| PP-BPL11 | Pipes - Pressure | Bulk pipelines Steel 300 mm | m | 2 243.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL17 | Pipes - Pressure | Bulk pipelines Steel 450 mm | m | 2 887.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL2 | Pipes - Pressure | Bulk pipelines uPVC 110 mm | m | 326.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 5% |
| PP-BPL3 | Pipes - Pressure | Bulk pipelines uPVC 160 mm | m | 418.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL4 | Pipes - Pressure | Bulk pipelines uPVC 200 mm | m | 785.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL5 | Pipes - Pressure | Bulk pipelines uPVC 250 mm | m | 1 173.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL1 | Pipes - Pressure | Bulk pipelines uPVC 80 mm | m | 296.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-STP | Pipes - Pressure | Communal water standpipe | No | 2 560.00 | Municipal Infrastructure: An Industry Guide To Infrastructure Services Delivery Levels And Unit Costs, p161 (Communal Standpipes) | 10 | Based upon MFMA specification guideline value. Value adopted based upon maintenance history and engineering knowledge. Value still within MFMA bounds | 2 | 0% |
| PP-BPA2 | Pipes - Pressure | Fibre Cement Pipe AC160 | m | 418.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPB11 | Pipes - Pressure | Main Water Lines HDPE 75mm | m | 532.00 | See Costing\Asset Material Cost\_31012012.xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL19 | Pipes - Pressure | Pipe 40mm HDPE | m | 500.00 | See Costing\Asset Material Cost\_31012012.xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL20 | Pipes - Pressure | Pipe Steel 25mm | m | 425.00 | See Costing\Asset Material Cost\_31012012.xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPL18 | Pipes - Pressure | Pipe Steel 75 mm | m | 687.00 | See Costing\Asset Material Cost\_31012012.xlsx | 50 | Based upon MFMA specification guideline value | 5 | 5% |
| PP-BPL0 | Pipes - Pressure | Pipelines uPVC 50 mm | m | 296.00 | See Costing\UNIT COST FOR WATER (2010).xlsx | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| PP-BPB12 | Pipes - Pressure | Pipelines uPVC 90 mm | m | 110.00 | See Asset Material Cost\_31012012, completion report: Moses Kotane Local Municipality 018MKLM2010/2011: Ngweding Water Supply | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| RS-RES1 | Reservoirs | < 1 ML Reservoir, Small | ML | 1 845 930.00 | See UNIT COST FOR WATER (2010).xlsx - 1ML Reservoir | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| RD-P-LOW | Roads | Low Std Paved | m | 8 029.67 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates | 15 | Based upon MFMA specification guideline value. Upper bound chosen due to engineering experience and maintenance regime of the Municipality/Province | 3 | 20% |
| RDD-SD | Roads - Drainage | Concrete lined Side Drain along the side of the Road | m | 1 126.00 | See 2012-08-06-Roads\_Blacktop Rate.xlsx, Medium Traffic Black Top drainage | 40 | Based upon MFMA specification guideline value | 5 | 20% |
| RD-FM3 | Roads - Formation | Formation Low standard | m2 | 726.25 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 30 | Based upon MFMA specification guideline value | 5 | 20% |
| RD-ETH | Roads - Formation | Road Surfacing's where the in situ material has been grade to from a surface for vehicle travel | m | 90.78 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 5 | Based upon MFMA specification guideline value | 2 | 20% |
| RDF-GR | Roads - Furniture | Armco or galvanized guard rail | m | 250.00 | Calculation based on information provided in MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| RDF-KB1 | Roads - Furniture | Concrete mountable kerbs | m | 250.00 | Calculation based on information provided in MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates | 40 | Based upon MFMA specification guideline value |  | 0% |
| RD-GL | Roads - Pavement | Light Granular Pavement - base and sub base thickness < = 300mm - ES1 | m2 | 789.25 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 30 | Based upon MFMA specification guideline value | 5 | 20% |
| RDS-ACM | Roads - Surfacing | Asphalt with Highly Modified Binder (SBS etc.) | m2 | 270.60 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| RDS-ST2 | Roads - Surfacing | Double seal (aggregate size unknown) | m2 | 123.00 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 15 | Based upon MFMA specification guideline value. Value adopted based upon the engineering nature and wearing of material | 3 | 0% |
| RDS-ST1 | Roads - Surfacing | Singe Seal (aggregate size unknown) | m2 | 102.50 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 20 | Based upon MFMA specification guideline value. Value adopted based upon the engineering nature and wearing of material | 4 | 0% |
| RD-GRV | Roads - Wearing Course | Unpaved Road Wearing course of selected materials that has been imported & compacted | m2 | 131.20 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates and 2012-08-06-Roads\_Blacktop Rate.xlsx | 5 | Based upon MFMA specification guideline value. Upper bound chosen due to engineering experience and maintenance regime of the Municipality/Province | 2 | 20% |
| SG-G42B | Signs - Guidance | Guidance Sign - Danger Plate (Left) | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-G42A | Signs - Guidance | Guidance Sign - Danger Plate (Right) | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-PAFU | Signs - Guidance | Information Sign/Notice Board/Traffic Sign | No | 2 999.15 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 10 | Based upon MFMA specification guideline value. Value adopted based upon Municipal asphalt surfaced roads | 2 | 0% |
| SG-R18A | Signs - Regulatory | Regulatory Sign - Proceed Left Only | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-R14 | Signs - Regulatory | Regulatory Sign - Speed Limit | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-R14.3 | Signs - Regulatory | Regulatory Sign - Speed Limit 60 | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-R14.2 | Signs - Regulatory | Regulatory Sign - Speed Limit 80 | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-R1 | Signs - Regulatory | Regulatory Sign - Stop | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-GL2 | Signs - Regulatory | Regulatory Sign - Street Name | No. | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-R19A | Signs - Regulatory | Regulatory Sign - Turn Right | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-R2 | Signs - Regulatory | Regulatory Sign - Yield | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W18 | Signs - Warning | Warning Sign - Children | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W1 | Signs - Warning | Warning Sign - Cross Roads | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W24 | Signs - Warning | Warning Sign - Drift | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W9A | Signs - Warning | Warning Sign - Gentle Curve To Right | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W41 | Signs - Warning | Warning Sign - Hazard Warning | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W17B | Signs - Warning | Warning Sign - Pedestrian Crossing | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W17A | Signs - Warning | Warning Sign - Pedestrians | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W2 | Signs - Warning | Warning Sign - T-Junction | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SG-W332 | Signs - Warning | Warning Sign - Traffic Calming | No | 1 770.48 | See 2012-08-07-Sign Costs.xlsx - all 60kph signs | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SW-MC | Solid Waste | Material Cover for Landfill sites | m2 | 60.00 | See External\_Works1of3.pdf - Item 4, assume layer is 1m thick | 55 | Based upon MFMA specification guideline value. Upper bound value adopted due to the underground nature of the material | 5 | 0% |
| SF-SFFU | Sports Fields | Sports equipment maintained for sporting use- Practice Net/Goal Post | No | 462.00 | See Playground equipment.pdf - Optional Extras - OE3 | 5 | Based upon MFMA specification guideline value | 2 | 0% |
| SF-SFSF | Sports Fields | Sports fields and areas maintained for sporting use- Rugby/Soccer/Cricket/Hockey | m2 | 405.48 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - Sport Facilities | 25 | Based upon MFMA specification guideline value. Value adopted based upon EUL for stadiums - no appropriate other value specified | 5 | 0% |
| SW-PDCL | Stormwater - Drain | Concrete Lined Drain 1m perimeter | m | 1 513.75 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates | 40 | Based upon MFMA specification guideline value |  | 0% |
| TK-ST | Tanks | Pressed Steel tank | KL | 4 653.00 | See Costing\Jojoba tanks&stands.xlsx | 30 | Based upon MFMA specification guideline value. Adopted value based upon the lower end of the Water Reservoir typical value | 5 | 0% |
| TK-RC30 | Tanks | Reinforced concrete foundation 30MPa | m2 | 1 394.09 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. One brick wall and cement and plastered screed | 50 | Based upon MFMA specification guideline value. Adopted value based upon the upper end of the Water Reservoir typical value | 5 | 0% |
| TK-T6 | Tanks | Tank 10000L | No | 13 255.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-T1 | Tanks | Tank 1000L | No | 2 216.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-T2 | Tanks | Tank 1500L | No | 2 351.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-T3 | Tanks | Tank 2500L | No | 3 682.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-T4 | Tanks | Tank 5000L | No | 5 519.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-T5 | Tanks | Tank 5500L | No | 7 114.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-TS1 | Tanks | Tank Stand (square tube) 1,5m high for 5000L plastic tank | No | 8 899.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS4 | Tanks | Tank Stand (square tube) 3m high for 10000L plastic tank | No | 20 492.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS3 | Tanks | Tank Stand (square tube) 3m high for 5000L plastic tank | No | 12 081.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS6 | Tanks | Tank Stand (square tube) 4.5m high for 10000L plastic tank | No | 22 290.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS5 | Tanks | Tank Stand (square tube) 4.5m high for 5000L plastic tank | No | 14 524.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS8 | Tanks | Tank Stand (square tube) 6m high for 10000L plastic tank | No | 25 164.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS7 | Tanks | Tank Stand (square tube) 6m high for 5000L plastic tank | No | 18 102.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS10 | Tanks | Tank Stand (square tube) 9m high for 10000L plastic tank | No | 32 788.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-TS9 | Tanks | Tank Stand (square tube) 9m high for 5000L plastic tank | No | 25 164.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| TK-WFJ1 | Tanks | Tank, Jojo 10 000L | No | 13 255.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the lower end of the Water Reservoir typical value and adjusted based upon engineering nature of the item | 4 | 0% |
| TK-SP50 | Tanks - Pipework | Pipework associated with elevated tank - 50mm Steel | m | 564.50 | See Costing\Asset Material Cost\_31012012.xlsx | 20 | Based upon MFMA specification guideline value. Value adopted based upon Water supply/reticulation specifications | 4 | 0% |
| WA-FH | Water | Fire Hydrant | No | 194.06 | See FireHydrant.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 5% |
| WA-LIN2 | Water | Pond/Dam Lining Clay | m2 | 60.00 | See External\_Works 1of3.pdf | 50 | Based upon MFMA specification guideline value | 5 | 5% |
| WA-LIN1 | Water | Pond/Dam Lining Concrete | m2 | 1 094.23 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - Storm Water | 80 | Based upon MFMA specification guideline value | 5 | 5% |
| WA-TRG1 | Water | Trough Corrugated Iron, half circle | m3 | 1 714.55 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2. Roof sheeting, galv roof. Avg size of 9x0.3m. Foreman labour of 1 man-day, incl P&G's | 10 | Based upon MFMA specification guideline value. Adopted value based upon Water Metalwork typical value specification | 2 | 5% |
| WF-WFPO1 | Water Features | Low spec Pond | m2 | 2 050.00 | See 2011-08-09 Asset Code Table.xlsx - Definitions sheet No. 18 | 10 | Based upon MFMA specification guidelines. Value adopted based upon garden and irrigation equipment specifications | 2 | 0% |
| WF-SFSP | Water Features | Swimming pool/Tidal pool | m2 | 13 066.92 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - Sport Facilities, 25 x 12 m Swimming pool | 30 | Based upon MFMA specification guideline value. Value adopted based upon the lower end of typical concrete reservoir structure | 5 | 0% |
| WA-MOT15 | WTW | Motor 15kW | No | 21 785.30 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 0% |
| WA-MOT45 | WTW | Motor 45kW | No | 54 285.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 0% |
| WA-MOT5.5 | WTW | Motor 5.5kW | No | 11 023.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 0% |
| WA-PUM5.5 | WTW | Water Pump (5.5Kw) | No | 22 315.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WA-CDP | WTW | WTW-Chemical dosing pump | No | 22 315.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WA-STR | WTW | WTW-Chemical stirrer | No | 6 390.60 | See Costing\2012-08-14 Pump\_Costs.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| WA-CST | WTW | WTW-Chemical storage tank, fibreglass | No | 1 750.86 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| WA-DPIP | WTW | WTW-Dosing pipework | No | 296.00 | See Costing\UNIT COST FOR WATER (2010).xlsx, 50m average used per dosing unit | 20 | Based upon MFMA specification guideline value. Value adopted based upon Water supply/reticulation specifications | 4 | 0% |
| WA-FTANK | WTW | WTW-Filtration tank | No | 3 436.00 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| WA-CONPIP | WTW | WTW-Interconnecting pipework | No | 68 376.00 | See Costing\UNIT COST FOR WATER (2010).xlsx, 200m 80mm Upvc pipes used | 20 | Based upon MFMA specification guideline value. Value adopted based upon Water supply/reticulation specifications | 4 | 0% |
| WA-ELECT | WTW | WTW-Motor Control Centre | No | 16 000.00 | Reference provided by VVKE Electrical Technical Director | 15 | Based upon MFMA specification guideline value. Value adopted based upon reservoir and pump station electrical supply specifications | 3 | 0% |
| WA-MCD | WTW | WTW-Motor, Chemical dosing | No | 21 785.30 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 0% |
| WA-SEDTF | WTW | WTW-Sedimentation tank, plastic | No | 38 020.00 | See Costing\Jojoba tanks&stands.xlsx, plus pre-fabricated steel support structure | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| WA-SMXER | WTW | WTW-Static mixer | No | 6 048.00 | VKE Consultant Call: 012 481 3873 - Owen Chikomba | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 0% |
| WA-SURGT | WTW | WTW-Surge tank | No | 3 708.04 | See Costing\Jojoba tanks&stands.xlsx | 20 | No guideline specification provided for in the MFMA. Adopted value based upon the mid range of the Water Metalwork typical value and adjusted based upon engineering nature and typical design of the item | 4 | 0% |
| WA-PLE | WTW/WWTW | Pond Lined, Earth | m2 | 60.00 | See External\_Works 1of3.pdf | 50 | Based upon MFMA specification guideline value | 5 | 0% |
| WW-PLC | WTW/WWTW | Pond lining, concrete | m2 | 1 094.23 | See MIG Industry Guide to Infrastructure Service Delivery Levels and Unit Service Rates - Storm Water | 80 | Based upon MFMA specification guideline value | 5 | 0% |
| WW-PLG | WTW/WWTW | Pond lining, geosynthetic | m2 | 50.00 | See Asset Material Cost\_31012012.xlsx - AssetMaterialCost sheet, ID 81 | 80 | Based upon MFMA specification guideline value. Upper bound used due to the expected life and nature of the material/item | 5 | 0% |
| WW-POND | WTW/WWTW | Pond unlined/natural | m2 | 307.50 | See Asset Material Cost\_31012012.xlsx - AssetMaterialCost sheet, ID 18a - Assume 1m deep pond | 30 | Based upon MFMA specification guideline value | 5 | 0% |
| WW-CLACV | WWTW | Clarifier | No | 220 000.00 | VKE Consultant Call: 012 481 3873 - Owen Chikomba | 30 | Based upon MFMA specification guideline value. Value adopted based upon Water Purification works, structural element | 5 | 5% |
| WW-DAMW | WWTW | Earthworks Dam Wall | m3 | 80.00 | Bureau for Economic Research (BER): Building Cost Analysis, 2012 Term 2 | 50 | Based upon MFMA specification guideline value. Upper bound used due to the expected life and nature of the material/item | 5 | 0% |
| WW-MET | WWTW | Flowmeter | No | 10 106.25 | See Water\_Meter\_Cost.pdf - 200mm WST Water Meter | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WW-INLCV | WWTW | Inlet Works Civil Structure | m | 4 270.00 | See Costing\2012-08-05-Building Cost Rate.xlsx | 30 | No guideline specification provided for in the MFMA. Adopted value based lower bound of sewerage pump station | 5 | 0% |
| WW-SCRNS | WWTW | Inlet works Screens | No | 25 000.00 | telephonic quotation from Shosalowe Investments(Pty)Ltd. Units are in 1m3 | 30 | Based upon MFMA specification guideline value, Metalwork | 5 | 0% |
| WW-MOT1.5 | WWTW | Motor | No | 6 390.60 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 0% |
| WW-MOT2.2 | WWTW | Motor 2.2kW | No | 6 390.60 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | No guideline specification provided for in the MFMA. Adopted value based upon the upper range of other machinery and equipment; pumps, plumbing and sanitation equipment | 2 | 5% |
| WW-MOT7.5 | WWTW | Motor 7.5kW sewerage | No | 15 101.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WW-PUM2.2 | WWTW | Pump 2.2kW sewerage | No | 10 596.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WW-CDP | WWTW | Pump Chlorine dosing | No | 22 315.00 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WW-RECP | WWTW | Pump Recycle | No | 21 785.30 | See Costing\2012-08-14 Pump\_Costs.xlsx | 10 | Based upon MFMA specification guideline value | 2 | 0% |
| WW-PUMST | WWTW | WWTW Pumphouse structure | No | 348 202.93 | See Costing\2012-08-05-Building Cost Rate.xlsx | 40 | Based upon MFMA specification guideline value | 5 | 0% |
| **Notes:** |  |  |  |  |  |  |  |  |  |
| In general MFMA guidelines have been adopted. Lower bounds have been used based upon the spatial location and therefore environmental exposures. Added to this the maintenance and construction practices are generally of a lower nature and/or specification. | | | | | | | | | |
| Bureau for Economic Research (BER): Building Cost Analysis Report 2012, Term 2. P&G's @ 11.5%. Labour rate (blended for 1 days labour) @ R300/man day. Labour tradesman @ R1200/man day. Contingencies @ 4%. If otherwise not specified, labour at 5 man-days and foreman at 1 man day for building/construction works. | | | | | | | | | |

**ANNEXURE 2:**

**Paraphrase of Section 14 of the Municipal Finance Management Act 2003**

A municipality may not alienate any capital asset required to provide a minimum level of basic municipal services.

A municipality may alienate any other capital asset, but provided

* the council, in a meeting open to the public, has first determined that the asset is not required to provide a minimum level of basic municipal services, and
* The council has considered the fair market value of the asset and the economic and community value to be received in exchange for the asset.

**ANNEXURE 3:**

**Asset Componentisation and Hierarchy Definitions**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Hierarchy Definition Report** | | | | | | |
|  |  |  |  |  |  |  |
| **System** | | **Sub System** | **Facility Type** | **Asset Type** | **Component Type** | |
| Community Assets | | Community and Admin | Ablution | Fence | Fence/wall - Fabric | |
|  | |  |  | Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Admin Office | Ablution | Building - External Fabric | |
|  |  | Building - Floors | |
| Building - Internal Fabric | |
| Buildings | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Kitchen | |
| Building - Roof | |
| Building - Wet Services | |
| Electrical - Switchgear | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Store Room | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Caravan Park | Ablution | Building - Electrical | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Buildings | Building - Drainage | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Fence | Fence/wall - Fabric | |
| Reservoir | Electrical - Distribution Board | |
|  | Water - Gate Valve | |
| Water - Pipe | |
| Water - Submersible Pump | |
| Septic Tank | Sewer - Manholes | |
|  | Water - Tank square | |
| Cemetery | Buildings | Building - Drainage | |
|  |  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Cemetery | Building - Wet Services | |
|  | Fence/wall - Fabric | |
| Toilet - Foundation | |
| Fence | Fence/wall - Fabric | |
| Ground Mounted Tanks | Water - Tank Foundation | |
|  | Water - Tank round | |
| Land | Land - Estate | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Store Room | Building - External Fabric | |
|  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Clinic | Buildings | Building - Drainage | |
|  |  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Kitchen | |
| Building - Roof | |
| Building - Wet Services | |
| Vehicle Shelter - Corrigated Roof | |
| Fence | Fence/wall - Fabric | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Community Hall/Centre | Ablution | Building - Electrical | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Buildings | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Kitchen | |
| Building - Roof | |
| Building - Wet Services | |
| Garden - Bedding | |
| Elevated Tanks | Water - Tank Foundation | |
|  | Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Fence | Fence/wall - Fabric | |
| Ground Mounted Tanks | Water - Tank Foundation | |
|  | Water - Tank round | |
| Water - Tank Supporting Structure | |
| Miscellaneous structures | Concrete Foundation | |
|  | Dish - TV | |
| Electrical - General | |
| Structures - Minor | |
| Paved Area | Building - Paved Areas | |
| Septic Tank | Sewer - Manholes | |
|  | Water - Tank square | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Store Room | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Land | Ablution | Building - External Fabric | |
|  |  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Buildings | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Kitchen | |
| Building - Roof | |
| Building - Wet Services | |
| Fence | Fence/wall - Fabric | |
| Miscellaneous structures | Fence/wall - Fabric | |
|  | Structures - Other | |
| Reservoir - Cattle Drinking | Water - Tank square | |
|  | Water - Tanks - Pipework | |
| Store Room | Building - External Fabric | |
|  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Swimming pool | Structures - Other | |
| Livestock Feeding Lot | Fence | Fence/wall - Fabric | |
| Monument | Miscellaneous structures | Structures - Other | |
| Nursery | Buildings | Building - External Fabric | |
|  |  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Fence | Fence/wall - Fabric | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Residential Accommodation | Ablution | Building - External Fabric | |
|  |  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Buildings | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Kitchen | |
| Building - Roof | |
| Building - Wet Services | |
| Elevated Tanks | Water - Tank Foundation | |
|  | Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Valve | |
| Fence | Fence/wall - Fabric | |
| Miscellaneous structures | Structures - Other | |
|  | Vehicle Shelter - Corrigated Roof | |
| Septic Tank | Water - Tank square | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Store Room | Building - Drainage | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Storage | Buildings | Building - Electrical | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Miscellaneous structures | Vehicle Shelter - Corrigated Roof | |
| Reservoir | Water - Pipe | |
|  | Water - Tank round | |
| Store Room | Building - External Fabric | |
|  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Stores | Buildings | Building - Electrical | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Fence | Fence/wall - Fabric | |
| Miscellaneous structures | Vehicle Shelter - Corrigated Roof | |
| Store Room | Building - Electrical | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Zonal Office | Buildings | Building - Drainage | |
|  |  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Kitchen | |
| Building - Roof | |
| Building - Wet Services | |
| Fence | Fence/wall - Fabric | |
| Ground Mounted Tanks | Water - Tank Foundation | |
|  | Water - Tank round | |
| Store Room | Building - Electrical | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Sport and Recreation | Park | Fence | Fence/wall - Fabric | |
|  | Sportsground | Ablution | Building - External Fabric | |
|  |  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Buildings | Building - Drainage | |
|  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Building - Wet Services | |
| Elevated Tanks | Water - Tank round | |
|  | Water - Tanks - Pipework | |
| Fence | Fence/wall - Fabric | |
| Grass Field | Sports - Goal Post | |
|  | Sportsfield - Grass | |
| Ground Mounted Tanks | Water - Tank Foundation | |
|  | Water - Tank round | |
| Water - Tanks - Pipework | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Electricity | | Lighting | Street Lighting | Electrical Network | Electrical - Distribution Pole | |
|  | |  |  |  | Electrical - Overhead cable | |
| Electrical Transformer | Electrical - Transformer | |
| Fence | Fence/wall - Fabric | |
| Miscellaneous structures | Concrete Foundation | |
|  | Dish - TV | |
| Electrical - General | |
| Structures - Minor | |
| Substation | Buildings | Building - Drainage | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Electrical - Switchgear | |
| Electrical Transformer | Electrical - Transformer | |
| Sanitation | | Sewage Treatment | Open Space | WWTW - Bed | WWTW - Pond excavation | |
|  | |  | Sewage Pumpstations | Sewer Pump | Fence/wall - Fabric | |
|  |  | Sewage - Pump | |
| Water - Telemetry | |
| WWTW - Interconnecting Pipes | |
| Wastewater Treatment Works | Buildings | Building - Electrical | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Fence | Fence/wall - Fabric | |
| Inlet Works | WWTW - Inlet Works Civil Structure | |
|  | WWTW - Inlet works screens | |
| Maturation Pond | WWTW - Holding Pond | |
|  | WWTW - Pond geosynthetic Lining | |
| Pond/Dam | WWTW - Pond excavation | |
|  | WWTW - Pond geosynthetic Lining | |
| Sedimentation tank | Water - Gate Valve | |
|  | Water - Tanks - Pipework | |
| WWTW - Clarifier Civil Structure | |
| WWTW - Electrical Works | |
| Sewer Pump | Fence/wall - Fabric | |
|  | Sewage - Pump | |
| Water - Telemetry | |
| WWTW - Interconnecting Pipes | |
| WWTW - Screen | |
| WWTW - Bed | WWTW - Pond excavation | |
| Sewer Reticulation | Sewer Reticulation | Sewer Pipeline | Sewer - Manholes | |
|  |  |  | Sewer - Pipe | |
| Solid Waste | | Solid Waste Disposal | Solid Waste Dump | Fence | Fence/wall - Fabric | |
|  | |  |  | Waste Containment cell | Waste Cell - Cover Material | |
| Transport | | Road Transport | Road Network | Bridge | Bridge - Abutment | |
|  | |  |  |  | Bridge - Balustrade | |
| Bridge - Deck | |
| Bridge - Joint | |
| Road - Block Paving | Road - Formation | |
|  | Road - Kerb | |
| Road - Lined Drain | |
| Road - Pavement | |
| Road - Signs | |
| Road - Surfacing | |
| Road - Earth-Track | Road - Bladed Track | |
|  | Road - Signs | |
| Road - Wearing Course | |
| Road - Gravel | Road - Bladed Track | |
|  | Road - Signs | |
| Road - Wearing Course | |
| Road - Paved/Surfaced | Road - Formation | |
|  | Road - Kerb | |
| Road - Pavement | |
| Road - Signs | |
| Road - Surfacing | |
| Water | | Water Bulk | Water Storage | Borehole | Borehole - Civil | |
|  | |  |  | Buildings | Building - Electrical | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Elevated Tanks | Fence/wall - Fabric | |
|  | Water - Tank Foundation | |
| Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Water - Telemetry | |
| Water - Valve | |
| Fence | Fence/wall - Fabric | |
| Ground Mounted Tanks | Fence/wall - Fabric | |
|  | Water - Gate Valve | |
| Water - Level Control | |
| Water - Tank Foundation | |
| Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Water - Telemetry | |
| Water - Valve | |
| Miscellaneous structures | Concrete Foundation | |
|  | Dish - TV | |
| Electrical - General | |
| Structures - Minor | |
| Paved Area | Building - Paved Areas | |
| Reservoir | Electrical - Distribution Board | |
|  | Fence/wall - Fabric | |
| Water - Centrifugal Pump | |
| Water - Level Control | |
| Water - Pipe | |
| Water - PRV | |
| Water - Pump Motor | |
| Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Telemetry | |
| Water - Valve | |
| Treated water pumpstation | Electrical - Distribution Board | |
|  | Water - Anti-Shock Air Valve | |
| Water - Centrifugal Pump | |
| Water - Gate Valve | |
| Water - Pipe | |
| Water - Pump Motor | |
| Water - Submersible Pump | |
| Water - Tank round | |
| Water Reticulation | Water Pipe Network Reticulation | Water Pipeline | Water - Fire Hydrant | |
|  |  |  | Water - Gate Valve | |
| Water - Pipe | |
| Water Supply | Booster Pumpstation | Borehole | Borehole - Pump | |
|  |  |  | Electrical - Distribution Board | |
| Fence/wall - Fabric | |
| Buildings | Building - External Fabric | |
|  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Ground Mounted Tanks | Water - Tank round | |
|  | Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Water - Valve | |
| Treated water pumpstation | Building - External Fabric | |
|  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Electrical - General | |
| Water - Centrifugal Pump | |
| Water - Gate Valve | |
| Water - Pipe | |
| Water - Pump Motor | |
| Water Pump | Building - Electrical | |
| Catchpits | Fence | Fence/wall - Fabric | |
|  | Stormwater Harvesting | Fence/wall - Fabric | |
|  | Water - Earth Works | |
| Community Boreholes | Borehole | Borehole - Civil | |
|  |  | Borehole - Electrical | |
| Borehole - Mechanical | |
| Borehole - Protective Enclosure | |
| Borehole - Pump | |
| Electrical - Distribution Board | |
| Fence/wall - Fabric | |
| Buildings | Building - Electrical | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Fence | Fence/wall - Fabric | |
| Livestock Watering | Borehole | Borehole - Civil | |
|  |  | Borehole - Mechanical | |
| Ground Mounted Tanks | Water - Tank round | |
|  | Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Miscellaneous structures | Structures - Minor | |
| Paved Area | Building - Paved Areas | |
| Pond/Dam | Water - Earth Works | |
|  | Water - Tank round | |
| Reservoir | Water - Pipe | |
|  | Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Valve | |
| Reservoir - Cattle Drinking | Water - Tank square | |
|  | Water - Tanks - Pipework | |
| Water Pumpstation | Buildings | Building - Electrical | |
|  |  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Dam Wall | Structures - Retaining Walls | |
| Water Storage | Dam Wall | Water - Centrifugal Pump | |
|  |  | Water - Pumphouse Structure | |
| Fence | Fence/wall - Fabric | |
| Ground Mounted Tanks | Water - Tank round | |
|  | Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Water - Valve | |
| Miscellaneous structures | Concrete Foundation | |
|  | Dish - TV | |
| Electrical - General | |
| Structures - Minor | |
| Pond/Dam | Water - Earth Works | |
| Water Treatment Works | Buildings | Building - Drainage | |
|  |  | Building - Electrical | |
| Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Chlorine dosing building | Water - Centrifugal Pump | |
|  | Water - Gate Valve | |
| Water - Pump Motor | |
| Water - Tank round | |
| Elevated Tanks | Water - Centrifugal Pump | |
|  | Water - Level Control | |
| Water - Pump Motor | |
| Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Water - Telemetry | |
| Water - Valve | |
| Fence | Fence/wall - Fabric | |
| Filtration Equipment | Water - Gate Valve | |
|  | Water - Mono Pump | |
| Water - Pump Motor | |
| Water - Telemetry | |
| WTW - Dosing pipework | |
| WTW - Filtration tank | |
| Ground Mounted Tanks | Water - Centrifugal Pump | |
|  | Water - Pump Motor | |
| Water - Tank round | |
| Water - Tank Supporting Structure | |
| Water - Tanks - Pipework | |
| Water - Telemetry | |
| Water - Valve | |
| Miscellaneous structures | Concrete Foundation | |
|  | Dish - TV | |
| Electrical - General | |
| Structures - Minor | |
| Pond/Dam | WWTW - Pond excavation | |
|  | WWTW - Pond geosynthetic Lining | |
| Standalone Toilet | Building - Wet Services | |
|  | Standalone Toilet | |
| Toilet - Foundation | |
| Store Room | Building - Drainage | |
|  | Building - External Fabric | |
| Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Garden - Bedding | |
| Surge Tank | Dosing pipework | |
|  | Sewage - Pump | |
| Water - Centrifugal Pump | |
| Water - Gate Valve | |
| WTW - Surge tank | |
| Treated water pumpstation | Building - External Fabric | |
|  | Building - Floors | |
| Building - Internal Fabric | |
| Building - Roof | |
| Electrical - Distribution Board | |
| Electrical - General | |
| Water - Centrifugal Pump | |
| Water - Gate Valve | |
| Water - Pipe | |
| Water - Pump Motor | |
| WTW Chemical Dosing Equipment | Water - Gate Valve | |
|  | Water - Mono Pump | |
| Water - Pump Motor | |
| WTW - Chemical dosing pump | |
| WTW - Chemical storage tank | |
| WTW - Dosing pipework | |
| WTW - Motor, Chemical dosing | |
| Well | Borehole | Borehole - Civil | |
|  | Fence | Fence/wall - Fabric | |

**ANNEXURE 4:**

**Historical CPI %**

1. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
   | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
   | **CPI %'s since 1980** | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
   | Year | Index | Jan. | Feb. | Mar. | Apr. | May | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Ave. | Cum |
   | 1981 | % | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |  |
   | 1982 | % | 13.7 | 13.5 | 16.2 | 17.3 | 15.8 | 17.1 | 14.1 | 15.2 | 13.6 | 13.4 | 13.3 | 13.3 | 14.1 | 9.7 |
   | 1983 | % | 14.5 | 15.5 | 14 | 12.5 | 12.5 | 11.2 | 13.5 | 12.1 | 12 | 10.8 | 10.6 | 10.6 | 12.4 | 9.5 |
   | 1984 | % | 10.5 | 9.3 | 10.2 | 10.1 | 12.1 | 12.1 | 11.9 | 11.8 | 10.7 | 12.6 | 13.5 | 13.5 | 12 | 9.4 |
   | 1985 | % | 13.3 | 17 | 14.8 | 16.5 | 15.3 | 17.1 | 15.9 | 15.8 | 17.5 | 17.2 | 16.9 | 18.6 | 16.1 | 9.3 |
   | 1986 | % | 21 | 17.7 | 19.4 | 18.1 | 17.2 | 16.9 | 18.3 | 18.9 | 19.4 | 19.1 | 18.8 | 18.6 | 19.2 | 9.1 |
   | 1987 | % | 16.7 | 16.4 | 16.9 | 16.7 | 17.3 | 17.1 | 15.5 | 16.6 | 15.6 | 15.4 | 15.2 | 14.5 | 15.5 | 8.7 |
   | 1988 | % | 13.7 | 13.5 | 13.3 | 13.1 | 13.1 | 12.4 | 13.4 | 12 | 12.4 | 12.3 | 12.2 | 12.6 | 12.8 | 8.4 |
   | 1989 | % | 13.6 | 13.5 | 13.8 | 14.1 | 15.1 | 15.5 | 15.3 | 15.6 | 14.9 | 14.8 | 15.1 | 15.4 | 14.9 | 8.2 |
   | 1990 | % | 15.2 | 15.1 | 14.8 | 14.2 | 14 | 13.9 | 12.8 | 13.5 | 14.2 | 14.1 | 15.2 | 14.6 | 14.2 | 7.8 |
   | 1991 | % | 14.4 | 14.7 | 14.1 | 14.7 | 15.3 | 15.2 | 15.9 | 15.6 | 15.4 | 16.7 | 15.3 | 16.3 | 15.5 | 7.5 |
   | 1992 | % | 16.1 | 15.9 | 15.8 | 15.5 | 14.3 | 14.9 | 14.7 | 14.1 | 13.7 | 11.5 | 11.1 | 9.4 | 13.7 | 7.1 |
   | 1993 | % | 9.6 | 9 | 9.5 | 11.1 | 10.8 | 10.1 | 10 | 9.3 | 8.7 | 9.8 | 9.2 | 9.4 | 9.8 | 6.7 |
   | 1994 | % | 9.9 | 9.9 | 9.2 | 6.8 | 7.3 | 7.3 | 8.3 | 9.3 | 10.3 | 9.7 | 9.9 | 9.9 | 9.2 | 6.5 |
   | 1995 | % | 9.8 | 10 | 10.4 | 11.1 | 10.8 | 10.2 | 8.9 | 7.5 | 6.5 | 6.3 | 6.3 | 6.9 | 8.6 | 6.4 |
   | 1996 | % | 6.8 | 6.3 | 6.1 | 5.5 | 5.7 | 6.8 | 7.3 | 7.5 | 8.3 | 9 | 9.2 | 9.3 | 7.3 | 6.2 |
   | 1997 | % | 9.4 | 10 | 9.7 | 9.9 | 9.6 | 8.7 | 9 | 8.8 | 8.1 | 7.8 | 7 | 6.3 | 8.6 | 6.2 |
   | 1998 | % | 5.7 | 5.2 | 5.4 | 5 | 5.1 | 5.3 | 6.6 | 7.5 | 9 | 8.9 | 9.3 | 8.9 | 6.8 | 6.0 |
   | 1999 | % | 8.9 | 8.7 | 7.9 | 7.7 | 7.1 | 7.2 | 4.8 | 3.3 | 1.9 | 1.7 | 1.9 | 2.2 | 5.1 | 5.9 |
   | 2000 | % | 2.7 | 2.4 | 3.4 | 4.6 | 5.1 | 5.1 | 6.1 | 6.9 | 7.1 | 7 | 7 | 7 | 5.4 | 6.0 |
   | 2001 | % | 7.1 | 7.8 | 7.4 | 6.5 | 6.4 | 6.4 | 5.2 | 4.6 | 4.4 | 3.9 | 4.2 | 4.5 | 5.8 | 6.0 |
   | 2002 | % | 4.9 | 5.8 | 6.3 | 7.4 | 7.7 | 8 | 9.7 | 10.4 | 11.1 | 13 | 12.9 | 12.4 | 9.1 | 6.0 |
   | 2003 | % | 11.6 | 10.2 | 10.2 | 8.8 | 7.9 | 6.7 | 5.2 | 5.1 | 3.8 | 1.6 | 0.4 | 0.4 | 5.8 | 5.7 |
   | 2004 | % | 0.1 | 0.8 | 0.4 | 0.3 | 0.5 | 1.2 | 1.6 | 1 | 1.3 | 2.4 | 3.7 | 3.3 | 1.4 | 5.6 |
   | 2005 | % | 3 | 2.6 | 3 | 3.5 | 3.4 | 2.8 | 3.3 | 3.9 | 4.3 | 4 | 3.3 | 3.6 | 3.4 | 6.4 |
   | 2006 | % | 4 | 3.9 | 3.4 | 3.3 | 3.9 | 4.9 | 5 | 5.5 | 5.3 | 5.4 | 5.4 | 5.8 | 4.6 | 6.9 |
   | **2007** | **%** | **6** | **5.8** | **6.1** | **6.9** | **6.9** | **7.1** | **7.1** | **6.7** | **7.2** | **7.8** | **8.4** | **9** | **7.2** | **7.5** |
   | **2008** | **%** | **9.3** | **9.8** | **10.6** | **11.1** | **11.7** | **12.2** | **13.4** | **13.7** | **13.1** | **12.1** | **11.8** | **9.5** | **11.5** | **7.6** |
   | **2009** | **%** | **8.1** | **8.6** | **8.5** | **8.4** | **8.0** | **6.9** | **6.7** | **6.4** | **6.1** | **5.9** | **5.8** | **6.3** | **7.1** | **5.7** |
   | **2010** | **%** | **6.2** | **5.7** | **5.1** | **4.8** | **4.6** | **4.2** | **3.7** | **3.5** | **3.2** | **3.4** | **3.6** | **3.5** | **4.3** | **4.3** |
   | **2011** | **%** | **3.7** | **3.7** | **4.1** | **4.2** | **4.6** | **5.0** | **5.3** | **5.3** | **5.7** | **6.0** | **6.1** | **6.1** | **5.0** |  |
   | **2012** | **%** | **6.3** | **6.1** | **6.0** | **6.1** | **5.7** | **5.5** |  |  |  |  |  |  |  |  |

   *Source: Statistics South Africa, StatsOnline (*[*www.statssa.gov.za/keyindicators/****cpi****.asp*](http://www.statssa.gov.za/keyindicators/cpi.asp)*)* [↑](#endnote-ref-1)
2. *Bureau for Economic Research based at Stellenbosch University, South Africa.* [↑](#footnote-ref-1)