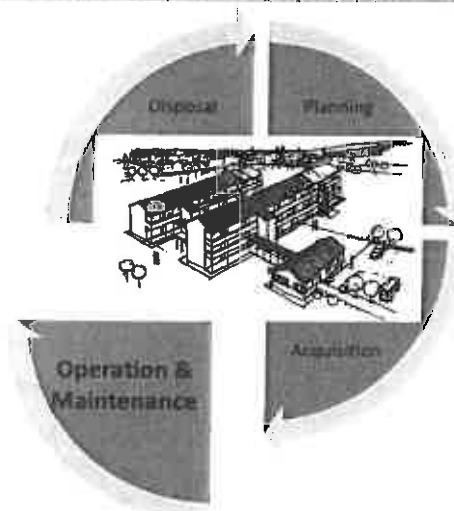




**Province: KwaZulu-Natal
Department: Education**

KANDEE MAINTENANCE STRATEGY



FEBRUARY 2016

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ABBREVIATIONS AND DEFINITIONS

<u>Acronym</u>	<u>Definition</u>
C-AMP	Custodian Asset Management Plan
CIDB	Construction Industry Development Board
CMMS	Computerised Maintenance Management System
CSIR	Council for Scientific and Industrial Research
DBE	Department of Basic Education (National)
DBSA	Development Bank of South Africa
DORA	Division of Revenue Act
DoPW	Department of Public Works
EFMS	Education Facilities Management System
EMIS	Education management information system
FET	Further Education Training
GIAMA	Government Immovable Assets Management Act
GM	General Manager
HOD	Head of Department
HR	Human Resource
IDIP	Infrastructure Delivery Improvement Programme
IDMS	Infrastructure Delivery Management System
KZN	KwaZulu-Natal
KZNDoe	KwaZulu-Natal Department of Education
LoS	Level of Service
MEC	Member of the Executive Council
MTEF	Medium Term Expenditure Framework
NIMS	National Infrastructure Maintenance Strategy
NEIMS	National Education Infrastructure Management System
OHS	Occupational Health and Safety
PED	Provincial Education Department
PFMA	Public Finance Management Act
SASA	South African Schools Act
SCM	Supply Chain Management
SGM	Senior General Manager
SGB	School Governing Body
TVET	Technical Vocational Education and Training
U-AMP	User Asset Management Plan

Executive Summary

This document seeks to develop a strategy for the maintenance and preservation of the existing infrastructure and enhance the capacity of the Department to respond in real time to the unplanned occurrences that threaten the integrity of schools and educational office buildings. It also attempts to put in place a mechanism that will ensure that the Departmental infrastructure is fit for purpose in a sustainable manner through a planned maintenance programme.

Problem Statement

The Departmental infrastructure is ageing and is under constant threat from vandalism and storm damage and hence requires constant maintenance. The maintenance strategy militates against numerous threats that make the buildings lose their usefulness and increases the cost of rehabilitation.

There is currently maintenance in place but there are key challenges that hamper the delivery and these include the following:

- Incorrect and inappropriate Norms and Standards allocations
- School Governing bodies not prioritising maintenance.
- Lack of close supervision of Implementing Agents and/or and lack of clear responsibility lines between user and custodian.
- Lack of custodian commitment to maintenance
- Limited capacity at both Head Office and District levels
- Undefined reporting lines and lines of accountability,
- Poor maintenance planning, budgeting and implementation
- Lack of resources relating to transport, tools and materials
- Lack of a maintenance unit at a Provincial level.

Primary Interventions and State of Readiness

Preliminary investigations and conditional assessments of all schools have been carried out by the DBE for the purpose of populating the NEIMS data base (major update in 2014) and further updated on a continuous basis. The following high level interventions have been proposed and some have already been put in place namely:

- The Human Resources capacitation programme where newly created and DORA funded posts are in the process of being filled at Head Office and at the Districts.
- The proposed creation and establishment of a maintenance Directorate at Head Office
- Development of an Education Facilities Management System (EFMS)
- Creation and establishment of district maintenance hubs.

A distinct Provincial Maintenance Directorate is being proposed. This directorate will focus exclusively on the maintenance functions and will be charged with implementing the

requirements of this strategy. Until this Directorate is in place, this strategy will be implemented by a sub-directorate under the Directorate: Infrastructure Delivery.

In the context of the proposed new Directorate, appropriate technical and administrative support services are accommodated within the two proposed sub-directorates as follows, viz:

- Maintenance Programme Management
- Technical Services embracing all built environment disciplines inter alia the Building and Electrical Inspectorate.

Works Inspector posts are being filled at District level. In addition a distinct Infrastructure Supply Chain Management unit is proposed.

Section 1. INTRODUCTION

The KZNDoE operates ±6000 public educational institutions which accommodate in excess of 2.8 million learners. Apart from the teaching and learning spaces and ancillary facilities dedicated to school based education service delivery, the department has non-school administrative offices which complement the aforementioned portfolio base. All these institutions are staffed by over 109 000 employees over 80% of which are educators.

The South African Schools Act (SASA) of 1996 states that a School Governing Body (SGB) should “administer and control the school’s property, and buildings and grounds occupied by the school, including school hostels, but the exercise of this power must not in any manner interfere with or otherwise hamper the implementation of a decision made by the Member of the Executive Council or Head of Department in terms of any law or policy”.

The Government Immovable Asset Management Act, No. 19 of 2007 (GIAMA) is a legislative framework for the management of immovable assets that are used by (or are reserved for) a national or a provincial department in support of service delivery objectives. The GIAMA processes have to be underpinned by the Department’s strategic planning with regards to infrastructure management, from acquisition through to disposal.

In the context of the above, the KwaZulu-Natal Department of Education has developed this maintenance strategy to address these statutory requirements.

In general, the purpose of this strategy is threefold:

1. Emphasise the need to implement planned maintenance on all immovable assets *viz.*, land and buildings and fixed assets i.e machinery plant and equipment.
2. Adopt a hands-on approach on the part of the Department, not only with respect to planning, but the entire asset life-cycle, from planning, acquisition, operation and maintenance and disposal.
3. Implement a practical approach to maintenance of Department immovable and fixed assets.

The aim of this document is to provide pointers to support the development of efficient infrastructure maintenance systems for the KZN education sector with regards to the maintenance of infrastructure facilities as part of the full asset management by the Department of Education.

The objectives are generally aligned to the National Maintenance Guidelines that stipulate the following:

- Each of the nine Provincial Departments of Education (PEDs) must provide clear objectives for the preservation/maintenance of its buildings/immovable assets;
- These objectives need to support the delivery of PED services and achieve synergy between the objectives of related sector departments;
- Each province will need to put in place or in the case of a User arrange for access to an up to date and GIAMA compliant asset register of its immovable assets (schools in this case);
- Each PED will need to contribute to the regular updating of the NEIMS data base as prescribed in the DoRA;

- Each PED needs to identify at a strategic and operational level those officials and or departmental units responsible for the planning, budgeting, preservation, management, recording, monitoring and evaluation of these assets;
- The maintenance/preservation policy of each PED will need to address the planning, budgeting and implementation of planned preventative and other relevant forms of maintenance on a continuous basis;
- Each PED will need to prepare asset management plans to implement the planning, budgeting, implementation and monitoring of its maintenance policy and strategy;
- Each PED will need to establish its maintenance reporting systems and templates that can be easily accessed by a Facility Management System of the National Department of Basic Education.

Statement of Format

This document is arranged in sections as follows:

- The introduction
- Legislative framework governing maintenance
- Current practice
- Roles and responsibilities
- Funding arrangements, budgeting and financial controls
- Period contracts and maintenance hubs
- Procurement and supply chain management
- Maintenance best practice and methodology
- Organisational structure
- Partnerships
- Monitoring, evaluation, performance measurement and review
- Conclusion

Upon approval and adoption of this strategy, an Implementation Plan shall be prepared that shall outline all deliverables, method statements and outline programmes together with risk assessments. In addition, procedure or operating manuals shall be produced.

Section 2. LEGISLATION GOVERNING EDUCATIONAL INSTITUTION MAINTENANCE

The following forms of legislation constitute the legislative framework that govern and influence the establishment and management of maintenance policies;

2.1 Constitution of the Republic of South Africa No. 108 of 1996

Section 29. Education.--(l) Everyone has the right- (a) to a basic education, including adult basic education.

2.2 South African Schools Act (SASA) 84 of 1996

Ingrained in the SASA is the need for SGBs to;

"administer and control the school's property, and buildings and grounds occupied by the school, including school hostels, but the exercise of this power must not in any manner interfere with or otherwise hamper the implementation of a decision made by the Member of the Executive Council or HoD in terms of any law or policy;

2.3 Public Finance Management Act (PFMA), No. 1 of 1999

2.3.1 The PFMA supports the proper management of assets and their maintenance.

According to Section 38(1)(d) of the PFMA, the accounting officer for a department, trading entity or constitutional institution is responsible for the management, including the safeguarding and the maintenance of the assets of the department, trading entity or constitutional institution. As a result, every department, trading entity or constitutional institution needs an asset management system which is a base for proper planning and budgeting for maintenance.

2.3.2 In addition, section 76(2)(d) of the PFMA also states that National Treasury (NT) may make regulations or issue instructions applicable to departments, concerning the improvement and maintenance of immovable assets. As part of this mandate NT can inform the conditions that influence the nature of conditional grants – such as the Infrastructure Grant to Provinces (IGP). This is done through the Division of Revenue Act (DoRA).

2.4 Government Immovable Asset Management Act (GIAMA), No.19 of 2007

2.4.1 GIAMA provides a framework for the management of immovable assets and will be binding on national and provincial government. The broad aim of the Act is to improve public sector infrastructure asset management.

2.4.2 One of the objectives of GIAMA, among others, is to ensure that there is coordination in the management and use of immovable assets in fulfilling the service delivery objectives of a national or provincial department. The Act promotes the efficient utilisation and maintenance of existing immovable assets. Section 5(1)(d) specifically states that immovable assets that are currently used must be kept operational to function in a manner that supports efficient service delivery.

2.5 Division of Revenue Act (DoRA)

The DoRA Framework sets out the necessary conditions and requirements to access the necessary budget allocations from the National Treasury.

2.6 Occupation Health and Safety Act (OHS) of 1993

Every department shall provide and maintain as far as is practically possible a

working environment that is safe and without risk to his/her employees. Each Department will need to establish the necessary

- i. Health and Safety committees at each school whose duty it is to address the necessary statutory and regulatory requirements, and
- ii. Designated officials to monitor and address the OHS concerns of each facility.

In addition the following Legislation shall apply.

- Public Service Act (No 103 of 1994)
- National Education Policy Act (No 27 of 1996)
- National Policy for an Equitable Provision of an Enabling School Physical Teaching and Learning Environment (Notice 515 of 2010)
- Regulations Relating to Minimum Norms and Standards for Public School Infrastructure (No. R920 of 2013)
- Education White Paper 6 on Inclusive Education (2001)
- The KwaZulu-Natal Planning and Development Act No. 6 of 2008
- Preferential Procurement Framework Act (No. 5 of 2000)
- KwaZulu-Natal Preferential Procurement Act (2001)
- Building Standards Act (No.103 of 1977)
- National Building Regulations
- Occupational Health and Safety Act
- CIDB Act (Act No 38 of 2000)

Section 3. CURRENT PRACTICE

The maintenance of education facilities is generally carried out utilising allocations at school level, district level and Provincial level.

The maintenance is typically classed under the following:

i. Day to Day Maintenance by the school

Day-to-day maintenance provides ongoing minor repairs to school buildings and infrastructure. It addresses among others electrical faults, broken windows door locks sewer unblocking and leaking pipes. The School principal initiates the repairs and uses Norms and Standards funding ring fenced for this purpose

ii. Routine Maintenance

These are done utilising Norms and Standards funding and through school infrastructure committees. In the case of section 21 schools service providers are directly engaged with the tender processes being done by tender committees constituted by the SGBs. The payments are made under sanction of the Principal.

iii. Emergency Repairs

These include acts of god and those that affect the structural integrity of the school buildings. Emergency repairs are reported to Head Office through the district and are undertaken by the Department of Public Works or designated implementing agents.

iv. Urgent Repairs and Renovations

These are those repairs that cannot be accommodated within the school's own budget and are done by the Department of Public Works or designated implementing agents.

v. Minor Repairs and Renovations

These are generally beyond the school and are handled through Public Works or designated implementing agents.

vi. Major Repairs, Renovations and/or Refurbishment

Done at Public Works or designated implementing agents.

Section 4. ROLES AND RESPONSIBILITIES

The following roles and responsibilities are assumed:

4.1 National Department of Basic Education

The role and responsibility of the National Department of Basic Education must be seen in terms of current legislation such as the Constitution, SASA, PFMA and DoRA. This would entail being responsible for policy formulation, oversight and reporting on compliance, progress and support.

4.2 School Governing Bodies:

In terms of the South African Schools Act, School Governing Bodies need to take responsibility for planned and unplanned maintenance and repairs using the school's fund allocation provided.

The capacitation of school governing bodies to better utilise the school's norms and standards allocation efficiently and effectively for schools based maintenance needs to be in place. Guideline documents which have been generated by DBE need to be shared with all SGB's.

Standard forms of contract for routine maintenance and building assessments to assist schools with procurement of services need to be generated.

A monitoring and management tool to track maintenance done at each facility also needs development.

4.3 Maintenance Directorate at Head Office

It is proposed that a Maintenance Directorate be established, however, until such time as this is realised, the Directorate: Infrastructure Delivery shall:

1. Assume full responsibility for the planning, budgeting, procurement, implementation, monitoring and evaluation of its maintenance policy and plan;
2. Provide clear objectives in its Policy and Implementation Plan for the preservation/maintenance of its buildings/immovable assets and these should be directed towards:
 - minimising the maintenance cost throughout the life-cycle of immovable assets;
 - establishing priorities based on the impact of condition on service delivery and risk;
 - standards to which immovable assets are to be maintained and these must align with the service delivery of the users;
 - ensuring the most effective use of maintenance resources;
 - monitoring the performance of the assets to ensure that the maintenance strategies are working;
 - ensuring that historic maintenance information exists for the assets;
 - clearly articulating how these objectives will support the delivery of services;
 - putting in place or, if able, accessing an up to date, GIAMA compliant, baseline asset register of its immovable assets (Updated version of the NEIMS, for example);
 - identifying at a strategic and operational level those officials and/or departmental units responsible for the planning, budgeting, preservation,

management, recording, monitoring and evaluation of these assets.

3. Address the planning, budgeting, implementation, monitoring and reporting of its planned preventative and other relevant forms of maintenance on a continuous basis;
4. Develop and implement a programme to train new artisans (through internships) to “create” new artisans specifically for district hubs. The potential to do this in partnership with the TVET Colleges shall be investigated.
5. Follow a more systematic and rigorous approach to maintenance planning based on detailed asset knowledge. This should include the building fabric as well as the Engineering services relating to the building.
6. Control the maintenance budget at Directorate level.
 - The maintenance budget shall be ring-fenced and used only for maintenance purposes.
 - Maintenance budget requirements should be calculated in accordance with needs and condition with the objective of keeping the infrastructure in an optimal state for service delivery and the minimisation of life cycle costs.
7. Implement a Computerised Maintenance Management System (CMMS) in line with the IDMS toolkit. e.g. e-Maintenance.

These are the most important issues that have been identified as critical to improving the levels of maintenance management and the suitability of the building infrastructure for the service delivery objectives of the KwaZulu-Natal Department of Education.

Section 5. FUNDING ARRANGEMENTS AND IMPLEMENTATION

1. Funding Sources

The Province shall manage the funding and the following sources shall be utilised;

Infrastructure Grant - A specific amount will need to be ring-fenced for maintenance purposes.

Equitable Share – Most of the maintenance shall be funded from the Equitable Share

EPWP Grant – The EPWP Grant may be used for the employment of personnel to undertake menial maintenance tasks and/or cleaning.

Norms and Standards Allocations to Schools – Schools are required to utilise 5% of the annual Norms and Standards funding allocation for infrastructure maintenance related activities.

The control of the **Infrastructure Grant**, **EPWP Grant** and **Equitable Share** maintenance budgets will vest with the Provincial Maintenance Unit and not the institutions, whilst the **Norms and Standards Allocations** budgets will be allocated at institution level for implementation with support from the Directorate, depending on Section 21 or Non-Section 21 status.

2. School Facilities Maintenance Contracts

It is proposed that schools maintenance should be delivered through two types of services contracts, namely:

- a) School Facilities Maintenance Period Contracts for the maintenance of the fabric of school buildings, and
- b) School Building Services and Equipment Contracts, for the maintenance of specialist equipment such as science laboratory equipment, fire equipment, etc..

Database of term contractors will be put in place to allow for timeous response to emergencies.

3. Standardisation of Contracts

Contracts should be standardised around the following basic models

- a) Streamlined maintenance contracts.
- b) Emergency contracts for storm repair/accidents are required.

4. Development of Operational Practices.

- a) Development of Budget Allocation Strategy

This requires alignment of budget and policy, together with criteria for allocation of maintenance budgets, for example, based on condition assessment to address 'strategic maintenance' first, size of school infrastructure, number of learners, and/or the academic performance of schools, etc..

5. Delegations at Head Office, Districts and School Level

With regard to delegations to District Offices and School Principals, this needs to be clarified together with delegation levels at Head Office.

6. Monitoring of Maintenance Funding

The Maintenance unit should monitor how schools and districts are using maintenance funding to ensure that value for money is achieved;

7. Budgeting and Funding Options

- Option 1: **Direct Norms and Standards Allocation funding to Schools.** School principal will direct maintenance in line with allocation for each school. (Section 21 Schools – Minor Maintenance)
- Option 2: **Indirect Norms and Standards Allocation funding to Schools.** District offices support Schools through procurement of service providers and lumping of contracts, School Principal directs maintenance. (Non-Section 21 Schools – Minor Maintenance)
- Option 3: **Condition Based Maintenance** using the National Education Infrastructure Maintenance Strategy. District/Circuit Offices and School Principals to determine priorities and managed at Head Office and/or Districts, dependent upon value of projects.
- Option 4: **Unplanned Maintenance** resulting from breakdowns and managed at Head Office and/or Districts, dependent upon value of projects.

Section 6. ORGANISATIONAL STRUCTURE

The organisational structure shall be based on a matrix arrangement, with primary reporting lines at the institutional (school) level being to the district, elevated to provincial level should the extent of the maintenance be beyond the capabilities and/or delegations of the district.

At the district level, the Works Inspectorate reports to the Head Office and to the district manager.

The basic principle here is that delivery reporting is to the immediate 'client' (educational institution or district), with the secondary responsibility (Head Office) being for technical and budget management.

The proposed organisational structure is attached as Annexure A.

Section 7. PROCUREMENT AND SUPPLY CHAIN MANAGEMENT

The Public Finance Management Act (PFMA) of 1999 requires accounting officers and accounting authorities to ensure that their institutions have and maintain systems for financial management, procurement, risk management, internal control and internal audit. Section 38 of the PFMA requires public sector institutions to have a system for evaluating major capital projects. National Treasury Regulations, issued in terms of the PFMA, prescribe SCM regulations that institutions must implement.

It is recognised that the public sector does not have the requisite capacity it needs to manage infrastructure procurement. There is also a high degree of turn-over among public officials. These problems slow down the process of managing tenders and closing deals. This lack of expertise affects not only government but also the private sector's ability to complete contracts, and poses a risk to growth.

In general the following adversely affects Procurement and Supply Chain Management:

- Poor alignment between strategy, demand management and SCM planning.
- Poor decision-making about sourcing strategies.
- Lack of aggregation of procurement transactions.
- Poor bid specifications.
- Improper bid evaluation and adjudication.
- Poor contract management.
- Insufficient supplier performance management.

An infrastructure Supply Chain Management unit shall be established at Head Office to evaluate bids for period/term contracts and shall comprise personnel conversant in Building and Engineering procurement.

Both at Head Office and District level, the term/period contracts which will be used for the awarding of maintenance contracts and therefore Bid Adjudication Committees will have to be in place at these levels.

Section 8. PERIOD CONTRACTS, DELEGATIONS AND MAINTENANCE HUBS

The KwaZulu-Natal Department of Education has over the years been providing infrastructure spaces to schools in response to historical backlogs.

The maintenance of completed structures has lagged behind and the Department has deemed it important that the maintenance strategy be developed and approved.

The maintenance strategy is anchored on four pillars:

The development of human resources capacitation. The Department has appointed Chief Work Inspectors and Works Inspector in the districts that will assist in the implementation of the strategy. At Head office the Department is finalising the appointment technical personnel which will assist with the technical management of the maintenance programme. The development of a Maintenance Directorate to complement the current Directorates of Planning and Delivery has been presented to the Organisation Structure Task Team. When the capacitation is complete, the district will form circuit maintenance hubs that will be serviced by the district and head office technical personnel through the electronic maintenance system.

Maintenance framework contracts. The employment of framework contracts is at the centre of an effective maintenance strategy. The infrastructure unit has released a memo that requests for the advertisements of the framework contracts. The advert are projected to be placed on the relevant media in January 2016 for award in April 2016.

Material supply. In order to ensure lower maintenance cost and on time response to school maintenance, the issue of material supply is critical. The strategy aims to partner with reputable hardware supplier/s who will deliver material in real time. The advertisement for the Expression of Interest will be placed in placed in the media in January 2015.

The electronic reporting of maintenance faults. The Department has been exposed to the electronic reporting of maintenance faults that the Gauteng Department of Education has developed. The GDE has indicated its willingness to share the system at no cost to the Department. The Infrastructure unit has planned to form an e-Maintenance task team to visit Gauteng for deeper understanding of the functioning of the system. The task Team will involve SCM, IT, Infrastructure, HR and Strategic Management directorates.

Period contracts are being established for the following interventions:

- i. Storm damage
- ii. Desludging of pit toilets
- iii. Mobile classrooms, mobile toilets, fencing, plumbing, general building and electrical.

A central call centre where SGBs and school principals make maintenance requests for minor and major repairs shall be established and manned by the Maintenance Directorate. This shall be web based.

Maintenance hubs shall be established in each district.

Section 9. MAINTENANCE PRACTICE

The following items are important concepts/principles that shall be followed in the development of norms and standards for infrastructure maintenance. The concepts listed here shall be used in the development of any maintenance system at provincial level:

- i. **Asset knowledge:** In order to develop optimised infrastructure asset management procedures, adequate asset knowledge will be required. In the medium to long term, this will require that standardised asset inventories (with condition data) be compiled for all infrastructure assets, including the building fabric itself. Access to the NEIMS database will form the basis for this information.
- ii. **Work Items:** Sources of maintenance work need to be identified as early possible.
- iii. **Zero-based budgeting:** These budgets are based on knowing what one has, in what condition it is and what the budgetary requirements are for all aspects of its ongoing operational maintenance. This is contrary to budgets that are based on what was spent in the last year or according to some other arbitrary 'rules'.
- iv. **>80% planned maintenance and <20% unplanned maintenance:** This principle implies a highly managed approach to maintenance and arises out of the first two aspects above. If one knows what one has and in what condition it is, and one is budgeting from this perspective, one will be able to move from a reactive to a proactive maintenance regime. This principle must be moderated by an analysis of the failure modes of the components to be maintained. If the analysis indicates that the failure hazard rate does not increase over time, it is usually inadvisable to adopt a preventive maintenance methodology.

Sources of Planned Work	% of Total
Results of Periodic Maintenance inspections	35%
Scheduled component replacements	28%
Rebuilds	15%
Internal Customer Input (Operators and Supervisors)	10%
Analysis of Repair history	9%
Service Requests	2%
Accident Damage	1%
Total Planned Work	100%

- v. **Prioritisation:** With respect to addressing backlog or deferred maintenance as part of a risk-based approach, the need for maintenance at institutions will have to be assessed and prioritised, so that improvements are implemented on critical components and in critical areas first, and then rolled down to less critical infrastructure components over

subsequent periods. Prioritisation will be necessary due to the reality of constrained budgets.

In the case of preventive maintenance, it is not optimal to only maintain assets in a poor condition, since it is cheaper to keep an asset from deteriorating from 4.5 to 5 to a lower condition rating. Therefore the allocation of preventive maintenance budgets should be based on addressing condition values across the board.

- vi. **Levels of service (LoS):** Levels of service measure the extent to which equipment or buildings meet the requirements for which they are used. Generic standards exist, but these will have to be adapted for their particular application. LoS are typically described in terms of the following criteria:
 - Suitability
 - Quantity
 - Quality
 - Aesthetic quality
 - Capacity
 - Responsiveness
 - Safety
 - Condition
 - Performance
 - Risk
 - Security
- vii. **A service-led planning approach** should be followed. This means that facility functionality must be aligned with the needs of the department and the level of service that it should be rendering. This relates to both departmental users (staff) and learners.
- viii. **Statutory obligations:** All relevant and applicable statutory regulations will be complied with, including, but not limited to the following:
 - National Building Regulations
 - Access requirements (disabled)
 - Electrical safety
 - Emergency management
 - Environmental protection
 - Fire safety
 - Hazardous materials (including asbestos)
 - Workplace health and safety (Occupational Health and Safety Act)
- ix. **Risk:** This must be included in decision-making. Risk is a function of probability and impact; it assesses the likelihood of an asset failing and the result of such a failure in terms of:
 - Service delivery
 - Occupational safety and health
 - Financial risk
 - Reputational risk
- x. **Information management:** A standardised methodology must be put in place to capture relevant data and information regarding infrastructure maintenance requirements. This relates to asset knowledge and should include provisions for condition monitoring and budget requirements. A centralised facility in the form of a Call Centre to handle maintenance related queries and capture all data should be provided.

- xi. Life cycle approach:** The objective of infrastructure maintenance is to provide sustainable use of the infrastructure now and in the future. In practice, this usually means spending some money now to avoid spending much more later.
- xii. Long-term financial planning:** This is linked to information management and related to the issue of sustainability and the optimised usage of assets. The objective is to plan for planned and unplanned maintenance, as well as for replacement costs in the medium to long term, in order to maximise the life span of infrastructure at minimum cost.
- xiii. Proactive maintenance:** One of the more important objectives of infrastructure maintenance is to move from a reactive to a proactive maintenance regime. This applies to the building fabric, as well as the plant and equipment.
- xiv. Systematic approach:** It is necessary to develop systematic approaches to infrastructure maintenance. This will institutionalise knowledge within the department and ensure that the tools, templates and support are available where needed. The following are the basic steps in the implementation cycle:
 - Planning
 - Budgeting
 - Delivery
 - Evaluation
- xv. Continuous improvement:** As a fundamental principle, continuous improvement is important for the organisation if it wishes to be successful. This relates to asset knowledge and statutory requirements and means that initial objectives must be realistic and achievable, but also that improvement objectives must be set each year.
- xvi. Cost-effectiveness:** All efforts must be made to ensure that the departments obtains as close to an optimised cost solution as possible. It is acknowledged that optimisation is an ongoing and long-term ideal, but all actions and tasks undertaken must be designed so as to maximise the long-term cost-effectiveness of the maintenance process as part of the larger service of providing infrastructure to support the primary function of the departments served.
- xvii. Holistic:** Looking at the big picture and considering all aspects of the management of assets – physical, human, financial and informational.
- xviii. Systematic:** Methodical, consistent, repeatable, documented and auditable.
- xix. Systemic:** Considering the assets as part of a system and trying to optimise the whole system, rather than individual aspects.
- xx. Risk-based:** Prioritising budgets and actions based on identified risks and associated costs/benefits.
- xxi. Optimal:** Establishing an optimal compromise between competing factors such as performance, cost and risk.
- xxii. Sustainable:** Considering the potential adverse impact of short-term decisions aimed at quick wins on the organisation in the long term.

Section 10. PARTNERSHIPS

Strategic Partnerships shall be formed with Technical Vocational Education and Training (TVET) colleges with regards to the training of artisan painters, plumbers, electricians, carpenters, etc.

A link to each TVET in the district shall be established. TVETs are currently based in the following districts, but have various campuses across the province:

District	TVET Colleges
Amajuba	Majuba FET
Harry Gwala	Plessislaer FET
Ilembe	Stanger FET
Pinetown	Various in Durban
Ugu	Enyenyenzi FET
Umgungundlovu	Umgungundlovu FET/ Plessislaer FET
Umkanyakude	Mthashana FET
Umlazi	Various in Durban
Umzinyathi	Mthashana FET
Uthukela	Mnambithi FET
Uthungulu	Umfolosi FET
Zululand	Mthashana FET

Section 11. MONITORING, EVALUATION AND PERFORMANCE MEASUREMENT

A Programme Management component for the monitoring and evaluation of the maintenance programme shall be based at Head Office, within the Maintenance Directorate, that will report on the IRM. The entire process shall be aligned to the IDMS and shall be GIAMA compliant.

- 1) The performance of the maintenance team will be benchmarked against industry standards, deviations analysed and corrective actions identified and implemented. Data must be recorded to allow for the analysis of time and materials spent on jobs/projects as well as total productive time vs. non-productive time.
- 2) Critical reviews of district and institution level staff will be carried out by the Provincial Maintenance Directorate annually. The review will follow a formal process and will cover issues such as performance matrices, problems encountered, comparisons between institutions and districts with a focus on improvement and celebrating successes.

Performance management will consider:

- a) Functionality
- b) Utilisation
- c) Economic Performance
- d) Legislation (e.g. SANS and OHS requirements)

Typical KPI's will be:

- a) Percentage of Total Budget Spent on Maintenance
- b) Maintenance Expenditure per institution
- c) Percentage Value of Deferred maintenance (against required maintenance values)
- d) Training and Skills Development Expenditure as a percentage of Total Budget.

This Maintenance strategy shall be reviewed annually.

Section 12. Conclusion

This strategy seeks to bring together all facets of maintenance in a holistic and sustainable manner. The numerous dimensions are dependent on commitment to asset management and result in a culture of asset management as encompassing as central to the theme.

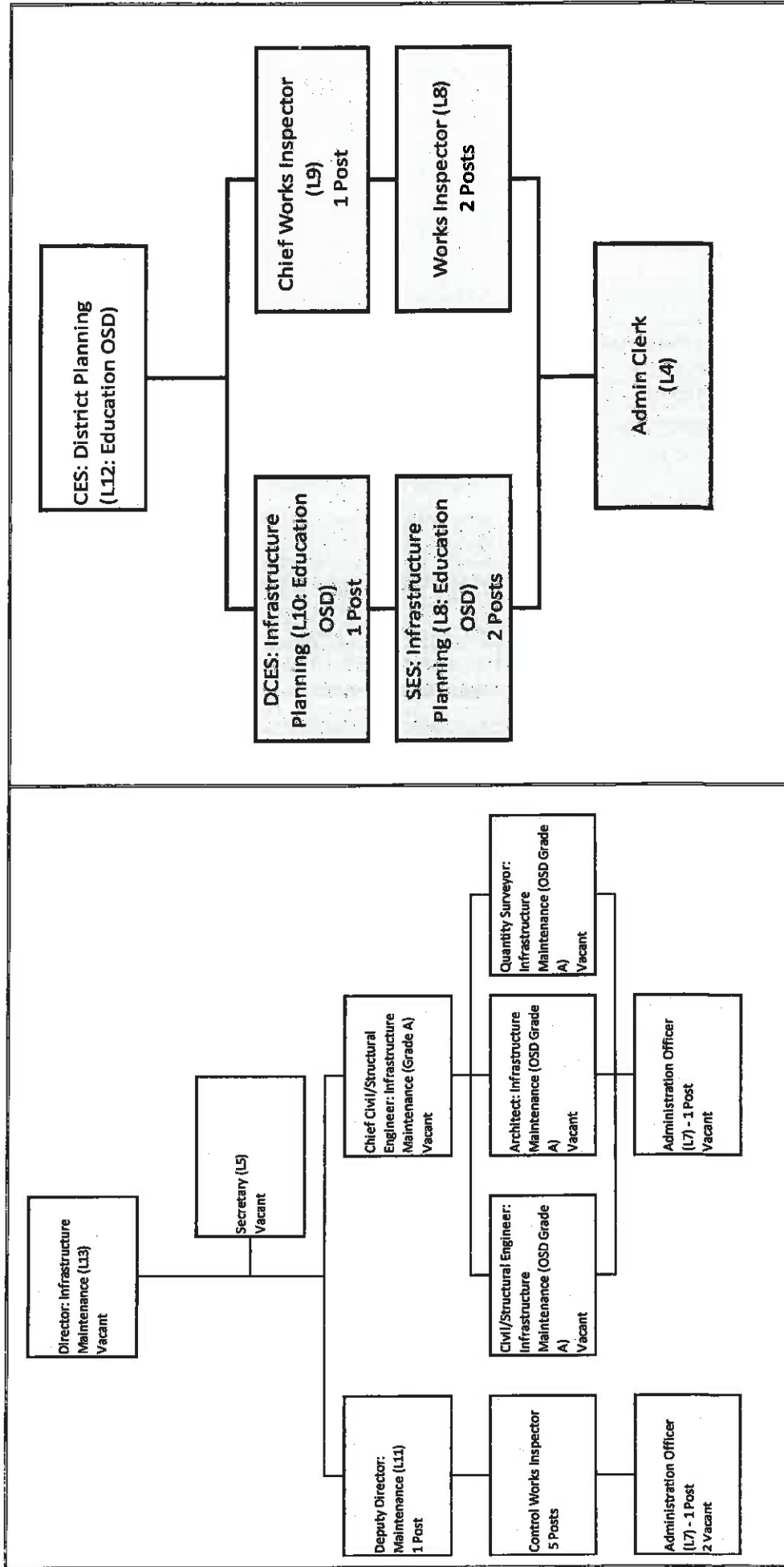
- Asset inventories
- Supply chain management (Demand and contract), Departmental Bid specification Committee, DBEC,
- Central call centre
- Document management systems
- Legal Services
- Work/project/programme planning and scheduling systems
- Materials management systems
- Purchasing systems
- Decision support systems
- Performance reporting systems
- Geographical information systems (spatial analysis capability)
- Supervisory control and data acquisition (SCADA) in certain areas
- Spares and inventory
- Condition monitoring
- Knowledge management systems

Improved maintenance will lead to improved quality of facilities in the province.

The strategy highlights clear recommendations for improving skills and systems to support planning, management, budgeting, monitoring and reporting.

This attempts to bring together a wide array of best practice approach from CIDB, and National Department and combines them in a practical and achievable way.

APPENDIX A



District Infrastructure Organogram

Maintenance Organogram Head Office