DRAFT POLOKWANE DEVELOPMENT CHARGES AND CONTRIBUTIONS POLICY,2025

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ACRONYMS AND ABBREVIATIONS

COTO	Committee of Transport Officials standards
DC	Development Charges
ESA	Engineering Services Agreement
FAR	Floor Area Ratio
Kl	Kilolitres
kV	Kilovolts
kVA	Kilovolt Amperes
LM	Local Municipality
NPRV	Nett Present Replacement Values
NRS 069	Industry Standard for Recovery of Capital Costs for Distribution Network Assets
PFMA	Public Finance Management Act
SLA	Service Level Agreement
SPLUMA	Spatial Planning and Land Use Management Act
TRH	South African Road Classification and Access Management Manual of COTO
V	Volts
VA	Volt-Ampere
VMA	Volume Moving Average

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1. DEFINITIONS

"Act"	means the [Municipal Fiscal Powers and Functions Act]
"Applicant"	means an owner(s); or duly authorised person on behalf of the owner or property(ies); or land within the area of the municipality read with section 45 of the Act who submits a land development application or combination of land development application.
"Application"	means a land development and land use application submitted to the municipality in terms of Polokwane Municipal Bylaw.
"**Brownfields type Development**"	means development of land where all bulk services are available to serve the proposed development.
"Bulk service"	means that portion of an external engineering service which is intended to ensure provision of the engineering services for the benefit of multiple users or the community as a whole, whether existing or provided for in a municipal spatial development framework.
"Capacity"	means the maximum demand for an engineering service, that the associated capital infrastructure assets can satisfy.
"**Combined type Development**"	means development of land where use can be made of spare capacity in existing bulk services, and where additional bulk services are also required.
"Condition of approval"	means a condition imposed by the municipality on the approval of a land development application in terms of land use planning legislation.
"Constitution"	means the Constitution of the Republic of South Africa, 1996.
"**Council**"	means the Municipal Council of Polokwane Municipality.
"Developer"	means an applicant, as defined in the SPLUMA whose land development application is approved, in whole or in part, by the person or body authorised to do so in terms of applicable legislation. The developer is any private or public association/individual and includes Government.
"Development"	means the changing of land use or of cadastral boundaries in order to intensify the utilisation of land, or the simultaneous changing of both land use and cadastral boundaries in order to intensify the utilisation of the land.
"Development Charge" (DC)	means a financial charge imposed by the municipality on a developer as a condition of approval of a land development application in order to cover the cost of municipal engineering services required as a result of an intensification of land use;
"**Engineering Services Contributions**"	means financial contributions calculated in accordance with this policy document, which an Applicant is required to make in terms of conditions of approval imposed by

	the Municipality when granting approvals under the SPLUMA and which relate to requirements resulting from those approvals in respect of the provision of the necessary engineering services to the land to be developed;
"Engineering services"	means the infrastructure required to supply water, sewerage, municipal roads, stormwater drainage, municipal public transport, Parks and open spaces, solid waste collection and removal required for the purpose of land development;
"Engineering Services Agreement"	means a written agreement which is concluded between an owner of the property and the municipality on which a land development application has been brought in terms of Polokwane Planning Bylaw.
"External engineering services"	means municipal engineering services infrastructure external to the development site boundary and includes bulk engineering services, which means municipal services infrastructure external to the development, including land, required to provide engineering services to multiple users at a municipality-wide scale as indicated in the relevant master plans; and
"Greenfields type Development"	means development of land where no bulk services are available to serve the proposed development, and completely new bulk services are required.
"Internal engineering services"	means infrastructure that falls within the boundary of the development to service that development and which will be transferred to the municipality;
"Land development"	means the erection of buildings or structures on land, or the change of use of land, including township establishment, the subdivision or consolidation of land or any deviation from the land use or uses permitted in terms of an applicable land use scheme;
"Land use"	means the purpose for which land is or may be used lawfully in terms of a land use scheme, or in terms of any other authorisation, permit or consent issued by a competent authority, and includes any conditions related to such land use purposes.
"Municipality"	means the Polokwane Local Municipality or its successor in title as envisaged in section 155(1) of the Constitution established under section 11 and 12 in 2000 and amended by Notice No 1866 of 2010 in terms of the Local Government Municipal Structures Act,1998.
"SPLUMA"	means the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013);
"Systems Act"	means the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000);

2. INTRODUCTION

City Planning SBU to develop a Bulk Contribution Policy report for the implementation of Engineering Contributions within the municipal area. Engineering contributions deals with the recovery of capital for infrastructure development to service these developments and future customers in a sustainable way. The key to the success of this policy lies in the establishment of the optimum differentiation where developers must contribute capital for infrastructure that will be recovered from property sales, and where the customers and rate payers need to finance engineering infrastructure to ensure an acceptable level of service and attract new developments.

3. BACKGROUND

The rapid expansion and high growth rate of development of the Municipality's area of jurisdiction has resulted in an increasing number of applications for new connections, subdivision of land, applications for rezoning and increased services requirements of existing customers.

Granting the rights to proceed with such developments frequently causes a heavy burden on existing municipal service infrastructure and necessitates upgrading and/or extension of the infrastructure at enormous cost, if not immediately, then at a later stage. It is accepted to be fair and equitable that a developer who establishes new properties or applies for the subdivision of land, or for particular departures in utilization rights, should be obliged to make a financial contribution (henceforth referred to as engineering contribution) for the upgrading and/or extension of existing or future engineering infrastructure. The aim of this document therefore is to establish a uniform approach to establish in which cases and to what extent engineering contributions will be levied by the municipality.

This policy recommends a methodology and application guidelines that are fair, reasonably easy to understand and practical and further determines the detail cost of the engineering contributions.

4. PURPOSE AND OBJECTIVES OF THE DEVELOPMENT CHARGES POLICY

To develop a Bulk Contribution Policy report for the implementation of Engineering Contributions within the municipal area.

Engineering contributions deals with the recovery of capital for electrical infrastructure development to service these developments and future customers in a sustainable way. The key to the success of this policy lies in the establishment of the optimum differentiation where developers must contribute capital for infrastructure that will be recovered from property sales, and where the customers and rate payers need to finance engineering infrastructure to ensure an acceptable level of service and attract new developments.

The desired outcome of this Development Charges policy is to:

a) Recover the portion of the capital cost of economic infrastructure that is attributable to particular developments; and

b) Determine a fair contribution paid by either the applicant or municipality depending on the type of engineering service.

c) Enable the provision of economic infrastructure in a timely and enough manner to support land development; and

d) Provide economic infrastructure in the most cost-effective manner taking into consideration scarce resources and effective urban form.

5. PRINCIPLES GUIDING THE DEVELOPMENT CHARGE POLICY

The principles set out in this section guide the Polokwane Local Municipality in the implementation of this policy. These principles closely reflect National Treasury's National Policy Framework for Municipal Development Charges. The principles furthermore support the enabling planning legislation which guides developments and Development Charges:

5.1 Equity and Fairness

Development Charges should be reasonable, balanced and practical so as to be equitable to all stakeholders. In recognition of this principle:

a) The Municipality should, as far as possible, recover from the developer the full and actual costs of the essential municipal services infrastructure that results from particular types of land development;

b) The Development Charge associated with new land development –

i) Can be related – to pre-installed municipal services infrastructure resulting from historical municipal investments in excess (spare) capacity; and

ii) To the provision of new infrastructure to meet additional capacity requirements; and

iii) Cannot be used to compensate for inherited backlogs.

c) Funds recovered through Development Charges should be dedicated only to the purpose for which they were raised, i.e. investment in external infrastructure.

5.2 Predictability

a) Development Charges should be a predictable, legally certain and reliable source of revenue to the Municipality for providing the necessary infrastructure. These revenues should thus be treated as a formal commitment by the Municipality to provide or upgrade the associated municipal service infrastructure and should be clearly and transparently accounted for.

b) In order to promote predictability and coordination the costs associated with municipal infrastructure must be established before any capital grants from national or provincial government or other funding sources are applied so that there is full transparency.

5.3 Spatial and Economic Neutrality

A primary role of the Development Charge is to ensure the timely, sustainable financing of the required municipal infrastructure to support land development in line with municipal planning, therefore Development Charges should:

A. be determined on identifiable and measurable costs in a way that avoids distortions in the economy and in patterns of spatial development;

B. not be used for the purpose of achieving spatial planning or economic development objectives; and

C. where appropriate, be raised on a sectoral or geographic scale to more accurately recover costs within a specific impact zone.

5.4 Administrative Ease and Uniformity

The determination, calculation and operation of Development Charges should be administratively simple and transparent. This will necessarily detract from the accuracy of individual charges, but this is a necessary trade-off. Development Charges thus only estimate the actual costs for the provision of proportionate new municipal infrastructure capacity to support the land development. The development charges should be calculated by each developer through an appointed professional engineer as well as signed-off and is paid by the developer not the Municipality. The Municipality will confirm the amount provided by the professional engineer to determine if the amount is correct, whereby if not can be amended by the municipality. The application will then be submitted to the Town Planning department within the Polokwane Local Municipality.

6. ROLE-PLAYERS AND STAKEHOLDERS

There are four sets of primary stakeholders. The first set consists of the various departments in the Polokwane Local Municipality that have a direct interest in the Development Charges system. They have been included in the development of this policy. The second set of stakeholders includes the land development industry, which includes both the private sector as well as the public sector (this is illustrated through low-cost housing) entities engaged in land development such as the provincial and national authorities responsible for low-cost housing.

Thirdly, there are civil society organizations, especially community, citizen and ratepayer associations as well as special interest groups that are also stakeholders affected by this draft policy. The Fourth set of primary

stakeholders is Government which includes the development of low-cost infrastructure but should also provide Bulk Contributions towards the services required for that development. Considered to have the same responsibility as any Developer, If Bulk Contribution Charges is not provided; Government should give an alternative to providing infrastructure.

7. LEGISLATIVE FRAMEWORK

Development Charges are an integral part of the broader legal framework for urban land development and municipal finance. The legal framework set out below outlines the legal environment regulating Development Charges.

7.1 Enabling Legislation

1. Constitution of the Republic of South Africa, Act 108 of 1996
2. Local Government: Municipal Systems Act, 32 of 2000
3. Local Government: Municipal Finance Management Act, 56 of 2003
4. Electricity Regulation Act, 4 of 2006 and the Electricity Regulation Amendment Act, 28 of 2007
5. Water Services Act, 108 of 1997
6. Access to Information Act, 2 of 2000
7. National Environmental Management Act, 107 of 1998
8. Spatial Planning and Land Use Management Act, 16 of 2013
9. Public Finance Management Act (PFMA), Act No. 1 of 1999
10. Municipal Fiscal Powers and Functions Amendment Bill, 2022

7.2 Policy Context

This policy is consistent with the *Policy Framework for Municipal Development Charges* issued by the National Treasury in 2011 and which reflects a broadly shared understanding of the role, purpose and legal nature of Development Charges across the country. This policy may require adjustment once the Guideline for the implementation of Municipal Charges in South Africa becomes final.

7.3 Applicable Legislation

National Provincial and Local Government exercised their legislative powers in respect of land use planning and a new legislative framework that came into force in 2015. Development contributions are dealt with in three laws.

7.3.1 SPLUMA

SPLUMA is the national law which provides a framework for spatial planning and land use management in the Republic and deals with the imposition of development charges.

Section 49 of SPLUMA, provides that:

1. *An applicant is responsible for the provision and installation of internal engineering services.*
2. *A municipality is responsible for the provision of external engineering services.*
3. *Where a municipality is not the provider of an engineering service, the applicant must satisfy the municipality that adequate arrangements have been made with the relevant service provider for the provision of that service.*
4. *An applicant may, in agreement with the municipality or service provider, install any external engineering service instead of payment of the applicable development charges, and the fair and reasonable cost of such external services may be set off against Development Charges payable.*
5. *If external engineering services are installed by an applicant instead of payment of development charges, the provision of the Local Government: Municipal Finance Management Act, 2003 (Act No. 56 of 2003), pertaining to procurement and the appointment of contractors on behalf of the municipality does not apply.*

7.3.2 Polokwane Municipality By-Law

The Polokwane Local Municipal Planning By-law, 2017 gives effect to the municipal planning competencies conferred on Local Government in terms of Schedule 4 B of the Constitution. Sections 120 to 124 of the Polokwane Municipal Planning Bylaw, 2017 states that:

❖ ***120 PAYMENT OF DEVELOPMENT CHARGES***

(1) ***The Municipality must develop a policy for development charges and may levy a development charge in accordance with the policy,*** *for the provision of —*

(a) *the engineering services contemplated in this Chapter where it will be necessary to enhance or improve such services as a result of the commencement of the amendment scheme; and*

(b) *open spaces or parks or other uses, such as social facilities and services, where the commencement of the amendment scheme will bring about a higher residential density.*

(2) *If an application is approved by the Municipal Planning Tribunal subject to, amongst others, the payment of a development charge or an amendment scheme comes into operation, the applicant or owner of the land to which the scheme relates, must be informed of the amount*

of the development charge and must, subject to section 117, pay the development charge to the Municipality.

(3) *An owner who is required to pay a development charge in terms of this By-law must pay such development charge to the Municipality before —*

(a) *any land use right is exercised;*

(b) *any connection is made to the municipal bulk infrastructure;*

(c) *a written statement contemplated in section 118 of the Municipal System Act (Act No 32 of 2002) is furnished in respect of the land;*

(d) *a building plan is approved in respect of —*

(i) *the proposed alteration of or addition to an existing building on the land; and*

(ii) *the erection of a new building on the land, where that building plan, were it not for the commencement of the amendment scheme, would have been in conflict with the land use scheme in operation;*

(e) *the land is used in a manner or for a purpose which, were it not for the commencement of the amendment scheme, would have been in conflict with the land use scheme in operation.*

❖ *121 OFFSET OF DEVELOPMENT CHARGES*

(1) *An agreement concluded between the Municipality and the applicant in terms of section 49(4) of the Act, to offset the provision of external engineering services and, if applicable, the cost of internal infrastructure where additional capacity is required by the Municipality, against the applicable development charge, must be in writing and must include the estimated cost of the installation of the external engineering services.*

(2) *The owner must submit documentary proof of the estimated cost of the installation of the external engineering services.*

(3) *The amount to be offset against the applicable development charge must be determined by the Municipality.*

(4) *If the cost of the installation of the external engineering services exceeds the amount of the applicable development charge, the Municipality may refund the applicant or the owner if there are funds available in the Municipality's approved budget.*

(5) *This section does not oblige the Municipality to offset any costs incurred in the provision of external engineering services other than that which may have been agreed upon in the engineering services agreement contemplated in section 117.*

❖ *122 PAYMENT OF DEVELOPMENT CHARGES IN INSTALMENTS*

The Municipality may —

(a) *in the circumstances contemplated in section 121(1) of this By-law, allow payment of the development charge contemplated in section 120 in instalments agreed to in the engineering*

services agreement which must comply with the timeframes provided for in the Municipality's Credit Control and Debt Collection By-law or policy, or if last-mentioned By-law does not provide for such instalments over a period not exceeding three years;

(b) *in any case, allow payment of the development charge contemplated in section 119 to be postponed for a period not exceeding three months where security for the payment is given to its satisfaction; and*

(c) *in exercising the power conferred by paragraphs (a) or (b), impose any condition, including a condition for the payment of interest.*

❖ ***123 REFUND OF DEVELOPMENT CHARGES***

No development charge paid to the Municipality in terms of section 120 or any portion thereof must be refunded to an applicant or owner, provided that where the owner paid the applicable charge prior to the land use rights coming into operation and the application is abandoned in terms of section 122 the Municipality may, on such terms and conditions authorise the refund of development charges or any portion thereof.

❖ ***124 GENERAL MATTERS RELATING TO CONTRIBUTION CHARGES***

(1) *Any provision to the contrary, where a development charge or contribution for open space is paid to the Municipality, such funds must, in terms of the provisions of the Municipal Finance Management Act, 2003 (Act No. 56 of 2003), be kept separate and only applied by the Municipality towards the improvement and expansion of the services infrastructure or the provision of open space or parking, as the case may be, to the benefit and in the best interests of the general area where the land area is situated or in the interest of a community that occupies or uses such land area.*

(2) *The Municipality must annually prepare a report on the application fees and development charges paid to the Municipality together with a statement of the Municipality's infrastructure expenditure and must submit such report and statement to the Premier.*

8. WATER AND SANITATION BULK SERVICES CONTRIBUTION

8.1 Policy Approaches To Water And Sanitation Development Contributions

In terms of the so-called **"Brownfields approach",** the point of departure is that the bulk services that will serve the proposed development have been funded by existing ratepayers and the Applicant should make a contribution towards those costs on a pro rata basis, based on the unit rate of usage. The value of Engineering Services Contributions must reflect the burden to date on the existing ratepayers for providing those services and not the future burden, as ratepayers in the proposed new development will share this burden and will benefit from contributions from future developments. For this reason, outstanding loans in respect of the

particular services are to be subtracted from the replacement value of those services when determining the amount of Development Contributions payable.

In terms of the so-called **"Greenfields approach"** the Applicant is responsible to finance the provision of all bulk engineering services, as these are specifically required for the proposed development, and the intention is that the new development should not place any financial burden on existing ratepayers. However, this scenario is only fully applicable if the development is self-contained, if the development does not make use of other existing services, and other existing or future developments will not make use of these services.

In most cases it is necessary to partially apply a Brownfields approach and to partially apply a Greenfields Approach to a particular development application, depending on the availability and adequacy of available bulk engineering services. This can be described as a "Combined approach". In an ideal situation, if it was practically possible, the actual engineering services required should be determined for each development, and charged to the Applicant concerned. However, because this is not practically possible, use is required to be made of calculation methods derived and outlined in the Annexure attached to this report.

In appropriate circumstances the Municipality may further require that an Applicant provides engineering services to a higher capacity than warranted by the development proposed, to accommodate future developments. In those circumstances and when Applicants are required to fund the provision of bulk engineering services suitable arrangements need to be incorporated in a Services Agreement relating to control over the costs of such external services and the refund (where appropriate) of costs in excess of the costs which the Applicant would have incurred if normal capacity standards were applied. Such arrangements may include the application of set-off of Engineering Service Contributions against such costs.

In all circumstances, where lawful development exists on the site to be redeveloped, Engineering Service Contributions should be required only to the extent that the redevelopment for which approvals are required under the Ordinance, place an additional burden on the existing bulk services infrastructure.

8.2. Imposition Of Appropriate Conditions Of Approval

When the Municipality receives an application under the SPLUMA and the Bylaw, it must determine whether adequate bulk engineering services are available to serve the proposed development, whether the upgrading of such services will be required and/ or what new bulk services will have to be installed to serve the proposed development.

The Municipality must, when it approves an application under the SPLUMA and the Bylaw, impose appropriate conditions relating to the provision and/ or upgrading of bulk engineering services to serve the proposed development and/ or the payment of Engineering Service Contributions.
Such conditions may inter alia require the Applicant:

- in lieu of payment of Engineering Service Contributions (partially or in full), to install bulk engineering services to serve the proposed development or the area concerned to the standard as required by the Municipality; and
- to enter into a Services Agreement with the Municipality.

Before submitting an application under the SPLUMA and the Bylaw Ordinance to the competent municipal decision-maker, the Municipality must inform the Applicant which conditions relating to the provision of bulk engineering services and the payment of money (stating the amounts that will become due and payable) it regards as appropriate, afford the
Applicant the opportunity to make representations in respect thereof and, where required, enter into negotiations with the Applicant in an attempt to avoid unnecessary appeals.
In the event that the Municipality and the Applicant fail to reach agreement on the amounts payable as Engineering Services Contributions, the bulk services to be provided by the Applicant or in respect of matters relating thereto, and the Municipality imposes its interpretation as a Condition of Approval, the Applicant shall, in addition to his right of appeal under Section 62 of the Local Authorities: Municipal System Act, have a right of appeal under section 44(1) of the Ordinance to the competent provincial authority.

The Municipality should, when imposing Conditions of Approval under the SPLUMA and the Bylaw clearly stipulate when Engineering Services Contributions shall become payable (e.g. before a rates clearance certificate as contemplated in section 31(1) of the Ordinance may be issued, before approval of a site development plan or building plan, or before a certificate for occupancy is issued in terms of the building regulations).

9. CALCULATION OF DEVELOPMENT CONTRIBUTIONS

9.1 General

All internal services are the responsibility of the Applicant and are not considered to be a contribution.

9.2 Brownfields Developments

i) In this scenario, sufficient existing bulk services are available and the construction of new bulk services is not required. The Applicant must, however, make an Engineering Service Contribution for his portion of the capacity of the existing services. Because it would be complicated, impractical and time-consuming to calculate this exactly for each development

on a case-by-case basis, calculation method as set out in "Annexure A" can be used, as it covers this scenario on an average basis across all the areas within the municipal area unless it would be more appropriate to adopt a different method of calculation in any particular instance.

ii) The calculation method employed in "Annexure A" has inter alia taken into consideration the principles of the Venter Commission Report, the empowering provisions of the Ordinance, past and future infrastructure costs in terms of existing master planning, replacement value costs, existing loans and existing and future potential grants and subsidies.

9.3 Greenfields Developments

In this scenario no bulk services are available and all bulk services still need to be constructed. The Applicant must make an Engineering Service Contribution for his portion of the capacity of the bulk services to be installed. If the development is self-contained and all bulk services are only for that development, then the actual costs thereof can be calculated, and charged to the Developer.

9.4 Combined Approach

In this scenario use can be made of spare capacity in some bulk services, but additional bulk services also need to be constructed. The Applicant must make Engineering Service Contributions for his use of the existing services and his portion of the new services. Because it would be complicated, impractical and time consuming to calculate this exactly for each development on a case-by-case basis, the calculation method as set out in "Annexure A" can be used as it covers this scenario on an average basis across all those areas.

10. SERVICES AGREEMENTS

Services Agreements concluded in compliance with Municipal conditions of approval imposed under the SPLUMA and the Bylaw must stipulate and record at least the following:

- The amount of Engineering Service Contributions payable;
- How escalation will be calculated on Engineering Service Contributions payable;
- Exactly when Engineering Service Contributions will become due and payable;
- What bulk engineering services the Applicant is required to construct and/ or upgrade, the standard with which such services should comply and the agreement reached relating to set-off and/ or refund of costs to be incurred by the Applicant in respect thereof.

11. ENSURING COMPLIANCE

11.1 The Municipality may use various checkpoints /milestones to ensure that an Applicant complies with the Conditions of Approval with regard to the payment of Engineering Service Contributions or the

provision of engineering services. The Conditions of Approval imposed should stipulate clearly which further approvals or clearances as may be required by the Applicant in a given set of facts, should be used to ensure compliance.

11.2 Only once the Applicant has complied with such Conditions of Approval, whether it is in terms of an agreed phasing or the entire development, should the further approvals or clearances as may be required be given by the municipal decision makers concerned.

12. BULK ENGINEERING SERVICES CONTRIBUTION RATES

TABLE 1: POLOKWANE LOCAL MUNICIPALITY PROPOSED ENGINEERING SERVICES CONTRIBUTION RATES FOR 2015/16

A.	**BULK WATER ENGINEERING SERVICES**	**R/kl/day**
	1.1 Greenfields (New) Development	R1 094.55
	1.2 Brownfields Development (Rezoning, Change in water use rights or upgraded development)	R3 875.21
B.	**BULK SEWERAGE ENGINEERING SERVICES**	
	1.1 Greenfields (New) Development	R4 988.36
	1.2 Brownfields Development (Rezoning, Change in water use rights or upgraded development)	R5 640.00

13. ANNEXURES

Annexure A: Proposed Method of Calculation for Contributions towards the Provisions of Engineering Services

Annexure B: Water Services Division Table of Consumption: Calculating Bulk Contributions for Developments

14. ELECTRICITY CONTRIBUTIONS BULK SERVICES CONTRIBUTION

14.1 Basic Principles For Calculation Of Engineering Contributions

The following points form the basis of the electricity engineering contribution policy and guidelines:

- A consistent approach should be applicable throughout the municipal area;
- The approach should be in harmony with sound practices employed within South Africa and internationally;
- The approach should be consistent within different utilization and zoning categories;
- Contributions for each service should be financially ring-fenced;

- Contributions should be targeted at developers to service properties to the full capacity according to the new zoning;
- Contributions should be charged to customers when they exceed the designed capacity contributed by the developer or that associated with the zoning;
- Capital and interest redemption through tariffs should be minimized;
- Assets financed by engineering contributions remain the property of the distributor;
- Assets financed by engineering contributions may be used for other customers;
- The principle of contestability of dedicated networks and funded by customers is supported;
- Recognition must be given in the longer-term to society benefits from most network extensions because they allow the utility to gradually extend and expand its distribution system to the benefit of all;
- The standard must be transparent in the way it is set out and applied;
- The approach should be relatively easy to implement and practical; and
- The approach should be developed in consultation with representatives from all technical services.
- Engineering contributions will be calculated by the Electrical Engineering Section.
- The calculation of engineering contributions must be based on the fundamental principle that customers or subsequent customers should not benefit from a new development at the cost of the developer, or that the developer should not benefit at the cost of customers.
- Calculation of engineering contributions is based on specific applications and guidelines as set out in the documentation for the various services.
- Capital for engineering infrastructure in the consumption tariffs should be limited to spare capacity that will eventually be recovered from future engineering contributions. It is the municipalities' responsibility to ensure the level of spare capacity is limited as this places risk and an unfair burden onto customers via electricity tariffs.
- Developers, who have funded bulk infrastructure networks in full, should receive a refund of the pro-rata contribution once other developments pay engineering contribution for sharing of that infrastructure. Refund of contributions should be avoided where possible and be limited to a set a window period of 5 years as proposed by NRS 069.
- Where developments are sharing bulk or link infrastructure, it should be done on a pro-rata basis and based on infrastructure cost and capacity.
- In the absence of an existing supply or agreement, the zoning and FAR will guide the level of services to be credited.

14.2 Methodology And Calculation Of Electricity Engineering

14.2.1 Contribution Fees

The methodology to be followed is the most important and critical part of the policy. It describes how contributions are made up and how the calculations should be done in respect of engineering contributions. It also addresses refunding of excess contribution payments where required.

This section also describes how the fees will be established for electricity contributions.

Where a step change in the electricity supply from ESKOM is required due to the additional load imposed by a new development, the developer will be required to fund the full pro-rata increased demand cost as part of the contribution.

The municipal supply network is segmented into the various voltage and functional equipment:

- High voltage equipment operating at 66kV which includes the ESKOM intake yards and completed 160MVA dual Goat conductor ring supply
- Main substation which includes two 66kV bays, bus-section, two 40MVA transformers and 11kV switchgear
- Medium Voltage 300mm² Cu inter-connection cables operating at 11kV
- 11kV Switch station which includes 11kV switchgear complete with paving and fence
- Medium Voltage 185mm² Cu ring cables operating at 11kV.
- Distribution substation which includes 500kVA miniature substation complete with plinth and earth mat
- Low voltage 95mm² Cu radial cable complete with distribution kiosks operating at 400V
- Standard 400V and 230V service connections.
- The Nett Present Replacement Values (NPRV) of each of the above segments of the network is determined as follows:
- For the HV network, values are based on the actual or network quantities of existing equipment and immediate future expansion to complete the primary networks in terms of the master plan.
- Calculations for the main substations and downstream networks are based on a generic network model, using the standards adopted by the municipality.
- The nominal service capacity of each of the segments of the network is determined based on standard ADMD's and the diversity at each voltage level.

The following ADMD's at secondary transformer level are to be used (TABLE 2):

TABLE 2: AMD'S AT SECONDARY TRANSFORMER LEVELS

Description	ADMD
Special residential (per connection)	6 kVA
General residential (per connection)	4 kVA

Low income residential (per unit)	2 kVA
Hotel, B&B or equivalent use	70 VA/m²
Business, office or equivalent use	70 VA/m²
Light Industrial, Garage or equivalent use	30 VA/m²
Educational or equivalent use	30 VA/m²
Devotional, agricultural, nursery, scrap yard or equivalent use	20 VA/m²

Note: *The m² above refer to the maximum building area.*

Gross floor area is used by multiplying the total floor area with the applicable FAR / % cover stipulated in the Town Planning Scheme.

Initial contribution will be based on the highest of the NMD on the application or the ADMD used for the development.

The R/kVA engineering contribution fees of each segment are calculated by dividing replacement cost by the system capacity. In order to apply the correct applicable fee, a clear differentiation must be made at the level the development will connect to the municipal network to only include upstream shared equipment.

15. DETERMINATION OF ELECTRICITY ENGINEERING CONTRIBUTION FEES

15.1 This section describes in steps how the Electricity Contribution fees are determined according to the modelled network configuration and adopted standards. Refer to Tables A and B in Annexure C to logically assist and follow the notes below.

15.1.1 The electricity supply networks are modelled to allow for standard equipment types and capacity and separated into logical components.

15.1.2 Each component is allocated the minimum of its own capacity / rating or the associated upstream or downstream component's capacity / rating.

15.1.3 Each component cost is allocated at the replacement values that include installation and commissioning.

15.1.4 Provision for a base date and industry related escalation was built into the model.

15.1.5 Provision for a pre-determined portion for the respective equipment is subject to rate of exchange.

15.1.6 The cost per kVA is calculated taking all the above-mentioned into consideration.

15.1.7 Select a typical generic connections type at the applicable voltage levels at a differentiation of the point where the connection will be done.

15.1.8 Each generic connection is allocated all the respective components required to make the supply available with a diversity differentiation at all the voltage levels.

16. CALCULATION OF ENGINEERING SERVICES CONTRIBUTIONS

16.1 This section describes in steps how the Electricity Contribution fees are determined according to the modelled network configuration and adopted standards. Refer to Tables A and B in Annexure C to logically assist and follow the notes below.

16.1.1 Only shared infrastructure is used to calculate contributions on a pro-rata basis.

16.1.2 Establish the point in the network where infrastructure will be shared with other developments.

16.1.3 Determine the incremental capacity to be charged for as follows:

a. The highest of the demand required by a development or the calculated nominal capacity based on the approved zoning.

b. Only increased capacity will be applicable for any rezoning and full credit must be given for previous zoning rights.

16.1.4 Determine the optimum means to service the development for the medium and long term, taking cognisance to mitigate risk, avoid unutilised capacity and duplication of infrastructure.

16.1.5 Multiply the incremental capacity with the relevant engineering service contribution fee to determine the contribution payable.

17. ROADS BULK SERVICES CONTRIBUTION

17.1 Road Design Standards & Classification

Roads and streets comprise all elements normally associated with a road or street, including; earthworks, foundation courses, wearing courses, kerbing, bridges, culverts, stormwater drainage, kerb inlets, auxiliary lanes, junctions intersections, public transport stops, pedestrian walkways, finishing of the street reserve, road markings and signs, traffic signals, guard rails, safety devices, street lighting and everything necessary to allow vehicles and pedestrians to move safely, effectively and conveniently. The provision of road infrastructure services also includes the land that is required for road reserves.

In order to establish the responsibilities for and contributions to road infrastructure, roads must be classified by the Municipality into Functional Classes as defined in the TRH23South African Road Classification and Access Management Manual of COTO (2012). The Municipality will prepare a road network master plan showing these road classes. The required design standards for roads will be prescribed by the Municipality. In terms of this manual, roads will be provided to the following nominal standards: (TABLE 3)

TABLE 3: NOMINAL STANDARDS FOR INTERNAL AND EXTERNAL ROADS

Road Class	Road Reserve Width	Paved Carriageway Width (excluding shoulders or kerbs)
1	62m	9.0m
2	48m	9.0m

3	32m	9.0m
4	20m	9.0m
5	16m	7.0m (8.0m for bus routes)
Stop or yield controlled intersections		

Any widening of roads or the provision of other forms of intersection control above the nomination standards will be determined by means of engineering studies.

17.2 Internal Road Infrastructure

17.2.1 The Applicant is fully responsible for the provision and installation of internal roads including- the design, provision, installation, construction and commissioning of alf components of such services. it also includes the road reserves required to accommodate the services, and such land must be provided to the Municipality at no cost.

17.2.2 Internal roads are defined as the following:

a) Al Class 4 and 5 roads and streets located within the boundary of the development; but excluding any widening that may be required by the Municipality to accommodate other developments. Widening Of roads required for the purpose of the development itself is classified as an internal service (including any upgrading of roads on the initiative of the Applicant that is not required to increase the capacity of the road network).

b) Al Class 4 and 5 roads and streets at, on or outside of the boundary of the development that are required for the exclusive use of the development (now and in perpetuity).

c) Only roads that will be taken over by the municipality are classified as engineering services.

17.3 Connections (junctions or intersections) between internal and external services are defined as external services up to the continuous road reserve boundary (i.e. excluding splays) of the external service. The external engineering service contribution provides for connections, but only up to the road reserve boundary of the external Service. Any additional work required on or along the internal Service as a result of the application at the Connection is defined as internal.

17.4 For township establishments, any reference to the boundaries of the development will be taken to mean the boundaries of the township. The boundaries of developments other than township establishments, are taken as those of the development and not of the original township.

17.5 In addition to internal roads, the Applicant is also responsible for the provision and installation of all roads (e.g. private roads) that will NOT be taken over by the Municipality. This includes the connections with these roads, including Erf or property accesses, even if such connections will be taken over by the Municipality.

17.3 External Road Infrastructure

17.3.1 The Municipality is responsible for the provision of external engineering services, including external services located within the boundaries of the application. This includes the compensation for land required to accommodate such services, The Applicant is responsible to contribute to the cost of the external engineering services.

17.3.2 All municipal road infrastructures NOT classified as internal services are classified as external services.

17.3.3 The Applicant must make an engineering service contribution to external road infrastructure in accordance with the following formula:

Total contribution = $C_A + C_B$

Where:

C_A = Basic external road contribution

C_B = Boundary road contribution

16.3.4 The basic external road contribution is calculated by means of the following formula:

$$C_A = (C_{AQ} - C'_{AQ}) + (C_{AH} - C'_{AH})$$

Where:

C_A = external road contribution

C_{AQ} = Capacity component for total development (total rights)

C'_{AQ} = Capacity component for the existing land use rights

C_{AH} = Strength component for total development (total rights)

C'_{AH} = Strength component for existing land use rights

17.3.4 Any reduction in contributions (negativeC_A) shall only be taken into consideration to the extent that the Municipality can recover the cost of such services.

17.3.5 The principles according to which external engineering service contributions are determined are described in the following sections; with details provided in Appendix A the method for calculating the contributions is described in Appendix B.

17.4 Basic external road contribution: Capacity component

17.4.1 The capacity component of the basic external road contribution provides for the road space required to serve traffic visiting a development. This space is broadly determined by first calculating the "amount of travel" by multiplying the trip generation of the development with half the average of trip lengths on the external road network between the Development and previous or next developments visited during trips. Only half of the trip lengths are taken into account since the development at the other end of the trip would contribute to the cost of the other half of the trip length. Travel on certain roads is excluded from the trip lengths. The amount of travel is then divided by the typical service flow rate of Class 3 road to determine the length of road required to serve the traffic demand. This length

of road is then multiplied by an average unit cost rate to determine the capacity component of the basic external road contribution.

17.4.2 The capacity component CAQ of the basic extend road contribution is calculated by means of the following formula (a similar formula is used for calculatingC_{AQ}):

C_{AQ}= **SUM OF** C_{AQD} **FOR DIFFERENT LAND USES (D)**

In which:

$C_{AQD}=A_D*T_D*(L_D/2)*R_Q$

With:

$T_D=F_{QD}*AADT_D$

Where:

C_{AQ}	=	Capacity component for total development
C_{AQD}	=	Capacity component for a particular land use
A_D	=	Size of the land use rights appropriate size units
T_D	=	Impact trip rate (trips per hour per size unit)
F_{QD}	=	Traffic factor to convert AADT to an impact trip rate
$AADT_D$	=	AADT trip generation rate (trips per day per size unit)
$L_D/2$	=	Half average trip length (km) on external roads only
R_Q	=	Cost rate per veh-km/hour for the capacity component

17.4.3 The size of a land use right AD is determined in terms of prescribed size units. The size applies to the approved land use rights and not exercised land use.

17.4.4 The cost rate RQ for the capacity component is a rate per veh=km/hour. The rate is determined using formulae provided in Appendix A.

17.4.5 AADTD is the Annual Average Daily Trip generation rate (per size unit). The estimated total in- and outbound traffic generated by one size unit of the development over one year divided by the number of days in a year.

17.4.6 The traffic factor FOD converts the AADTD to an equivalent impact hourly trip rate TD for the development. Peak hour traffic demand is the basis for the design of the road networks particularly the higher order roads. The factor, however, also provides for the utilisation of available road space by developments that generate traffic outside the peak hours. All developments therefore contribute to the cost of road space in relation to their total use of roads. The factors determined using formulae provided in Appendix A.

17.4.7 The parameters required for the calculation of the capacity component are provided in the latest available version of the South African Trip Data Manual.

17.4.8 The parameters provided in the Trip Data Manual refer to specific land uses and not the zoning of the land. The definition of certain zoning classifications may include a wide range of land uses which have

a trip generation rate or length exceeding the trip generation of the zoning description. The calculations are therefore based on land uses and not zoning descriptions.

17.5 Basic external road contribution: Strength component

17.5.1 The strength component of the basic external road contribution provides for strengthening roads to accommodate heavy vehicles. The strengthening required is determined on the basis of the number of heavy vehicles expected to visit the development over the design life of the road. The trip length is taken as the average of half the. Trip lengths on the external road network between a development and previous or next developments on a trip.

17.5.2 The strength component CAH of the basic external road contribution is calculated by means of the following formula (a similar formula is used for the calculation ofC_{AH}):

In which:

$$C_{AHD}=A_D * \text{AADT}_D * P_{HD} * E_{HD} * (L_D/2) * R_H$$

Where:

C_{AH}	=	Strength component for total development
C_{AHD}	=	Strength Component for a particular land use
A_D	=	Size of the land-use right in appropriate size units
P_{HD}	=	Proportion of heavy vehicles (of AADT_D)
E_{HD}	=	Average number of E80 axles per heavy vehicle
AADT_D	=	trip generation rate (trips per day per Size unit)
L_D /2	=	Half average trip length (km)
R_H	=	Cost rate per E80-km/day for the strength component

17.5.3 The cost rate RH for the strength Component is determined using formulae provided in Appendix A. The trip length for heavy vehicles may also be different from the trip lengths used to determine the capacity component.

17.5.4 The parameters requited for the calculation of the strength component are provided in the latest available version of the South African Trip Data Manual.

17.6 Boundary Road Contribution

17.6.1 In addition to the basic external road contributions (capacity and strength components), an additional contribution must also be made to the cost of Class 4 and 5 roads located at or on the boundaries of the development (end which are not required for the exclusive use of the development). And such contribution will be made to Class 1 to 3 boundary roads (the cost of such roads is recovered by basic exterior road contributions).

17.6.2 The boundary road contribution must be made irrespective of whether the development actually requires direct access to the boundary road or not. These roads are available to provide access and the development may require such access in future.

17.6.3 The contribution is made for existing as well as planned boundary roads. This means that the Applicant may be contributing to the cost of boundary roads which do not exist at the time of application and which will only be provided in future.

17.6.4 The boundary road contribution is only requited once and only with township establishment.

17.6.5 The boundary road contribution is calculated by means of the following formula:

C_B**=Sum of** $P_B * K_B * L_B$ **for boundary road segments B**

Where:

C_B= Total boundary road contribution

P_B= A factor which is either 0.5. Or .1.0

K_B= Cost of: one kilometre of boundary road to nominal standards

L_B= Length of the boundary road segment (km)

17.6.6 The value of the factor PB is 1.0, but is reduced to 0.5 where the boundary road is flanked by another developed or developable property that can obtain access to the road.

17.6.7 The length LB is measured along the centreline of the boundary road segment. At intersections between internal roads, the length is measured up to the intersection of the two centrelines. The overlapping of road space as a result of this method of measurement is used to account for the widening of roads at junctions. At intersections with external roads, the length is measured up to the continuous road reserve boundary (i.e. excluding splays) of the external road.

17.6.8 The cost of a Boundary Service is determined using average cost rates for a particular class of road (adjusted for price escalation). The average cost rate will be used, even if the actual cost of particular boundary road is lower or higher than the average cost.

17.6.9 The average cost rates for boundary roads are determined for roads designed to nominal standards as defined in this manual. Where widening of a boundary road is required to accommodate traffic, such widening will be covered by the basic component of the external engineering contribution and the boundary service contribution will not be increased to cover the cost of the widening.

17.7 Connections

17.7.1 In terms of this manual, connections between internal and external services are classified as an external service up to the continuous road reserve boundary (i.e. excluding splays) of the external service. Connections to roads that will not be taken over by the Municipality are the responsibility of the Applicant.

17.7.2 On roads, a connection may be provided as an at grade junction or intersection in accordance With the standards of the responsible road authority- The cost of providing such connection includes all

elements of the intersection within the road reserve of the external road, including but not limited to the following:

a) Additional land required along external roads to accommodate the intersection, over and above the normal road works.
b) Ali work required to widen roadways within the road reserve of the external roads at the connection.
c) Public transport facilities requited within the road reserve of the external road network as a direct result of the connection.
d) Traffic control devices and road traffic signs within the road reserve of the external roads, additional street lighting required for the connection along the external road network.

17.7.3 Any work or improvements required along the internal road to provide the connection are classified as internal, including additional land that may be required along the internal road, work required to widen the internal road, public transport facilities, and road traffic signs as well as street lighting required along the internal road.

17.7.4 Interchanges are mostly provided between major roads classified as external services and would not normally be provided on roads classified as internal. Where such an interchange is required, the Applicant will enter into an agreement with the Municipality regarding the provision of such interchange.

18. TRIP GENERATION RATE

18.1 The daily trip generation rates used in the contribution formulae are the same as those used in Traffic Impact Assessments. These trip rates take modal split and the use of public transport into account.

18.2 The trip generation rates are measured in units of trip ends, with either an origin or a destination within the development. It is the sum of in- arid outbound traffic to or from a development.

18.3 The trip generation rate used for the determination of the capacity component of the engineering service contributions may, when agreed with the Municipality, be adjusted for mixed-use developments, developments in low-vehicle ownership areas and transit orientated developments by means of the following formula:

$$\textbf{Reduction factor} = (1-P_{Mixed})*(1-P_{Low/Veh})*(1-P_{Transit})$$

Where:

P_{Mixed}	=	Proportion reduction for mixed-used development
$P_{Low/Veh}$	=	Proportion reduction for low-vehicle ownership areas
$P_{Transit}$	=	Proportion reduction for transit orientated developments

The trip generation rate is reduced by multiplying the standard trip rate with the above reduction factor.

18.4 The above reduction is NOT applied to the strength component of the engineering service contributions.

18.5 The reduction accounts for travel by modes of transport other than private vehicles. The mixed-use reduction accounts for walking trips between land-uses located within a reasonable walking distance of each other. The reduction for low vehicle ownership areas accounts for the greater use of public transport and non-motorised forms of transport in such areas. Provision is also made for very low vehicle ownership areas in which most trips are made by means of public transport. The reduction for transit orientated developments provides for reduced need for vehicular travel as a result of high density land use in such developments, as well as the increased use of public transport.

18.6 The reduction for mixed-use development will only be allowed when there are other complimentary land-uses within a reasonable walking distance from the proposed development. Furthermore, the reduction in the number of-trips may not exceed the total available mixed-use trips at the other land uses, determined as follows:

$$\textbf{Total mixed-use trips at other land uses} = \sum P_{MIXED} * \textbf{Trips}$$

Where:

P_{Mixed}= Mixed-use proportion for other developments

Trips= Trips generated by other developments after deduction for low vehicle ownership and transit orientated developments.

Where the Applicant wishes to apply the mixed-use reduction factor, the Applicant must provide trips that will be made (generated) and the mixed-use trip generation of such land uses, calculated with the formula above. The mixed-use reduction may not exceed the total mixed-use trip generation of these land uses.

18.7 No deductions will be made from the trip rate for pass, by or diverted traffic. The reason for this is that all developments must share equitably in the Cost of the road infrastructure required by all traffic visiting the development. This implies that developments that rely significantly on pass-by traffic also make an equitable contribution to the cost of road infrastructure.

18.8 No deductions will also be made for "internal" trips where such trips are made on internal roads. This manual already provides for a reduction of the trip length for travel on such roads and no additional reduction in the trip generation rate can be allowed.

18.9 Where the rights applied for allow for an optional range of land-use types, the land-use type resulting in the highest engineering service contribution shall be selected to determine the contribution (worst-case scenario). Should the Applicant not intend to develop the land uses that result in the higher contribution, such uses should be excluded from the application, or alternatively the maximum extent of certain land uses may be curtailed.

18.10 The Municipality will NOT allow the use of trip rates observed at a particular development for determining the development contribution. The reason for this is that the current rate observed at a development may not necessarily be representative of the future trip generation rate at the development since the development may change; expand or improve in future. Statistically sound methods must be used to establish representative trip rates for different rand uses.

19. TRIP LENGTH

19.1 The incorporation of idle length in the cost contribution formula makes provision that some types of developments may generate traffic over longer travel distances than others, large regional developments, for example, attract traffic from larger areas arid travel distances are therefore longer.

19.2 The trip length Lb for a particular land use is determined as the distance travelled between a development and the previous or next developments visited during trips excluding travel on the following roads:

a) Travel on roads other than those under the jurisdiction of the Municipality.

b) Travel on Class 4 and 5 roads. These roads are either provided by the Applicant or have previously been provided by other Applicants as internal or boundary roads. However, widening of boundary and external Class 4 and 5 roads is recovered from the external engineering contribution, and a portion of the trip length on such widened roads must therefore be included in the trip length. This portion is taken as 50% of the trip length on these widened roads.

19.3 The trip length LD for the capacity component of the contribution is primarily related to private passenger car travel, whereas LD for the strength component of the contribution applies exclusively to heavy vehicles used for the transport of goods that typically takes place over longer distances. Different values for 1-0 may thus apply to the Calculation of the two components of the contribution.

19.4 The trip length used for the determination of the engineering service contribution is determined by means of the following formula:

$$(L_D/2)=F_T*[(1-P_N)*(L_T/2)-L_{45}]$$

Where:

$L_D/2$ = Half adjusted average trip length (km)

$L_T/2$ = Half total average trip length from origin to destination

F_T = Adjustment for size of the Municipality

P_N = Proportion travel on roads not under jurisdiction of Municipality

L_{45}= Length of travel on Municipal Class 4/5 roads

19.5 The adjustment factor FT is used to account for the impact of the tot-al size of the urbanised or developed area in which the development is located. In smaller urbanised areas, trip lengths can be

expected to be shorter compared to large areas. The adjustment is made by means of the following formula:

$$F_T = 1 - F_{LA} * e^{-A * F_{LB}}$$

Where:

F_T = Adjustment for size of the urbanised area

A = Total size of the urbanised area (km 2)

F_{LA}, F_{LB} = Parameters of the formula

The Municipality will determine the total size of the urbanised area (A) for use in the above formula. Where a Municipality consists of two or more separate urbanised areas and where travel between the areas is limited, the Municipality may determine different adjustment factors for the different areas.

19.6 Half the average trip length is used to determine contributions; however, the inland outbound trip lengths ate not added together but are measured as separate trips in determining the trip length.

19.7 Trip lengths are measured in regions or areas in which developments have stabilised and no further amendments or re-development are likely, Trip lengths measured in developing areas would not be a representative of future travel and may result in an inequitable cost recovery.

20. COST RATES

20.1 The cost rates of the capacity component of municipal roads include all components of such roads, such as the following:

a) The cost of land.
b) Earthworks (fills and cuts).
c) Pavement, including auxiliary lanes at junctions (excluding strength component required by heavy vehicles).
d) Kerbs.
e) Sidewalks.
f) Guard tails and other safety devices.
g) Stormwater drainage, including culverts and bridges.
h) Public transport stops directly associated with the road network and located within the road reserve (excluding modal transfer facilities, ranks, holding areas and termini).
i) Grade separated intersections and interchanges.
j) Traffic signals and road signs.
k) Road signs.
l) Street-lighting.
m) Landscaping to the extent reasonably required for road provision. Landscaping aimed at purposes such as city beautification is not an engineering service and can thus not be induced.
n) Preliminary and general items.
o) Professional fees (planning, design and supervision),

20.2 The cost of boundary roads includes all components of providing Such roads to nominal Standards, such as the following:

a) The cost of land.

b) Earthworks (fills and cuts).
c) Pavement (including strength component required by heavy vehicles).
d) Kerbs.
e) Sidewalks.
f) Guard rails and other safety devices.
g) Stormwater drainage, including culverts and bridges.
h) Public transport stops directly associated with the road network and located within the road reserve (excluding modal transfer facilities, ranks, holding areas and termini).
i) Priority controlled intersections.
j) Road signs.
k) Street lighting.
l) L-landscaping (see note above).
m) Preliminary and general items.
n) Professional fees (planning, design and supervision), including the cost of master planning.

20.3 The cost rate for boundary roads is determined for Class 4 and 5 roads provided to nominal standards and do not include the cost of any Widening required of such roads.

20.4 The above components are those that are normally associated with a well planned and designed road network. Costs resulting from inadequate infrastructure planning or insufficient reservation of land for infrastructure provision are not taken into account. These costs could have been prevented if adequate planning was in place or land was adequately reserved for infrastructure provision before development occurred in an area, the following cost items are therefore not taken into account in the rates:

a) Relocation of engineering services.
b) Demolition of buildings and other structures.
c) Excessive measures required to accommodate traffic.

21 LAND VALUES

21.1 The cost rate of external roads includes the cost of the land required for the road reserve and such cost is therefore included in the engineering service contribution made by an Applicant.

21.2 The cost of and is taken as the average cost of land in an area at the time when a new township is established (adjusted for price escalation). Typically, the cost would be that of farmland with development potential.

21.3 The Municipality will establish geographic areas in which land values are relatively homogeneous. The land value for- a particular application will thus depend on the geographic area in which the proposed development is located.

21.4 Where an Applicant offers to make land available for an external road, the Applicant must be compensated for the value of such land.

22 PARAMETERS FOR CONTRIBUTIONS

22.1 The Municipality will establish parameters for the calculation of engineering service contributions for use in the Municipality. Where such parameters have not been established, the parameters provided in the South African Trip Data Manual will be used. The latest available version of this manual must be used for the determination of the contributions.

22.2 The Municipality may establish parameters for the Municipality as a whole, or it may differentiate between different geographical areas of the Municipality.

22.3 All newly established parameters or revisions to parameters must be approved by the Municipality. Such revisions will be applicable from the date on which such parameters are approved by the Municipality.

22.4 Unit cost rates used for establishing engineering service contributions will be revised at time intervals not exceeding five years. The rates will be determined fora specific base date. Such revisions must be approved by the Municipality.

22.5 After approval of unit cost rates by the Municipality, the rates will be escalated annually in accordance with price indices published by Statistics South Africa using formulae provided in Appendix A. The adjusted cost rates will be approved by the Municipality and published annually. Published rates will be applicable until the next rate schedule has been approved and published by the Municipality.

22.6 The annual review of the cost rates will form part of the contents of the annual budget of the Municipality.

23 ENGINEERING SERVICES AGREEMENT

23.1 An Engineering Services Agreement between the Applicant and the Municipality will be drawn up for all developments (township establishment and amendment schemes). The agreement will stipulate the conditions and requirements for the provision or improvement of engineering services.

23.2 The agreement will, in addition to any other conditions and requirements of the Municipality, specify the following:

a) The amount of engineering service contributions to be made with regard to the application, together with conditions regarding the payment of such contributions.

b) Should the Municipality allow payment of contributions in instalments; the Municipality will impose conditions for such payment with regard to security of payment and interest payable.

c) The amount of any additional costs paid by the Applicant and which will be recovered from the Municipality, together with conditions regarding such cost recovery.

d) Where an applicant will provide land in lieu of the monetary contributions, the detailed definition of land that will be provided, the agreement must include security for the provision of the land to the satisfaction of the Municipality.

e) Where an Applicant will provide and install external engineering infrastructure in lieu of monetary contributions, the detailed scope of the work together with any conditions imposed by the Municipality with regard to such work. The agreement must include security for the provision of the infrastructure to the satisfaction of the Municipality. Such security must provide for escalation in the cost of providing and installing the road infrastructure. The time of completion of the work will also be specified in the agreement.

ANNEXURE A

1. PROPOSED METHOD OF CALCULATION OF RATES FOR CONTRIBUTIONS TOWARDS THE PROVISION OF ENGINEERING SERVICES

1.1. Basis For Methods Of Calculation And Timing For A Specific Year

It is important to have a uniform policy with regard to the timing of the calculation of the unit cost of a service for a specific year. Cost values for the determination of all the relative contributions shall be revised each year, based on the values of the previous year. It is proposed that contributions be annually calculated and implemented for a 12 month period with effect from 1st of July of each year The information used for the calculation of the contribution are normally not available on an annual basis. Since the contribution will have to be adapted annually in terms of inflation, it is proposed that this be done, by means of the standard Haylett formula, used in the construction industry. If contributions are not paid within the period of validity, the outstanding contributions will be recalculated at the rate applicable on the date of payment, subject to the transitional arrangements as accepted by the Polokwane Municipality.

1.2. Determining Bulk Water Engineering Services Contribution For A Greenfields (New) Township Development

Water and Sanitation Master Plans that determines the bulk infrastructure development needs for the foreseeable future have been prepared by Polokwane Municipality. In these Master Plans the costs of the future required estimated infrastructure have been converted into a cost per kilolitre per day. This represents a fairer, easier and realistic basis for determining the bulk contributions payable in respect of a private sector development on an average basis across the whole municipality. It is proposed that this is the basis to be used for new developments.

Provided that the costs of the future infrastructure as well as future water consumption to be provided for are known, the Engineering Services Contribution of an Individual development can then be calculated as follows:

- Determine the average daily water use of the development, i.e. q kl/d. Determine the projected increased future use, **ΔQ**. in kl per day of the Polokwane Municipality for which provision is made in the Master Plan as well as the capital costs there off;
- Determine the proposed township development's estimated water use **q** in kl per day, as a fraction of the increase in the **future annual water use** (**ΔQ)** of the Municipality (i.e.**q/ΔQ**);
- Multiply this fraction with the capital cost (**FC)** which is needed to increase the capacity of the current waterworks to the required future capacity. (The units in the calculation must be the average annual daily demand in kl/day (AADD) as it is normally used by Municipalities – See Annexure B.)

This leads to the following formula:

Bulk Water Services Contribution = q/ΔQ) xFC (Rand/kl/day)

- The fraction **[q/ΔQ]** can be considered the portion of the new development's water use, relative to the future estimated increased use of the Municipality. Multiplying this fraction with the total estimated costs to provide the future water (**FC)** gives the price per kl/d of this development purchasing its fair share of the total estimated future use.

It is clear from the previous that the value of **q** plays an important part in the determination of the contribution to be paid by the developer. It is essential that the value of q should be calculated in a consistent way so that no two Consultants would come up with values of **q** for the same development that varies unacceptably. It is noted that different municipalities often use different water use figures for similar zonings.

The Polokwane Municipality prepared a table that set out the current actual water use in Polokwane. This table will then have to be put at the disposal of Developers for the determination of **q**. The aim of this analysis will be to determine, as accurately as possible, the actual distribution of water use in Polokwane between the different water user sectors. (See Annexure B)

1.3. Calculating the Bulk Water Contribution

Table 4 shows the levels of water use in two different regions within the Polokwane Municipal area as well as, the future requirements thereof as well as the capital costs to expand the water infra structure to what is needed in the foreseeable future.

1.4. Greenfields (New) Developments: Bulk Contribution Based on Bulk Infrastructure Upgrading Cost*

TABLE 4: BULK WATER CONTRIBUTION COST

Service Delivery Area	Current Supply from Source 2014 kl/day	AADD 2025 kl/Day	Increase (Future Demand – 2025) kl/day	Estimated Yearly Water Upgrade Cost (Rand)*	Development Contribution Levy Rand/kl/day
URBAN -Internal	52 000	103 718	51 718	R64 780 728.00	R1 252.58
RURAL -	15 000	38 332	23 332	R21 850 900.00	R936.52
Total	67 000	142 050	75 050	R86 631 628	
				Average	**R1 094.55**

**** Cost based on Project List for Polokwane***

As can be seen from Table 4 the cost to expand the present Polokwane water supply from the current demand of 67 000 kl/d to demand of 75 050 kl/day requires a capital expenditure of R86 631 628 per year i.e. representing a Bulk Contribution levy of R1 094.55 per kl/day. It can be expected to be fair and equitable that a developer should contribute to this extent towards bulk water services for Greenfields Developments.

2. CALCULATING BULK WATER SERVICES CONTRIBUTION FOR BROWNFIELDS DEVELOPMENT (REZONING, CHANGE IN WATER USE RIGHTS OR UPGRADING OFNETWORK)

2.1 With respect to rezoning, upgrading or water use right change it is important to note that a water supply and distribution network is already available of which the cost (Replacement Value) will have to be taken into account when determining bulk contribution since the rezoning or upgraded development will be using existing network services which has already been paid for in the past. In the effort to establish a policy for upgraded rezoning, change in water use right or development it is important to note that the availability of municipal network services will vary in different areas within Polokwane. This variation will be from sparse services in some lesser developed areas to virtually complete full services in the more developed areas, depending on the actual status of the available network in the vicinity where the service is required. It cannot be recommended that the contribution policy should vary from area to area. It is proposed that the policy for upgrading should be the same throughout the whole of the Polokwane Municipal area.

A bulk water contribution by the developer is required for:

a) A bulk contribution for the additional water to be supplied to the development.

b) A contribution towards the physical upgrading of the available supply system and contribution network.

c)

2.2 It has been found in other Municipalities that the contribution rate for upgraded development are fixed onto cost estimates to complete development within ad-hoc chosen underdeveloped areas within the municipal borders. Since the physical and other requirements of underdeveloped areas vary from area to area it cannot be recommended to fix a final and credible rate in this way. In this proposal the whole distribution network of Polokwane is analysed in an effort to find a typical characteristic of the supply system and distribution network. This characteristic will then play an important role in determining the contribution rate for upgrading Brownfields development. By using this characteristic the contribution rate will always be based on the same principles.

2.3 The current Replacement Value of the water supply system and distribution network in Polokwane LM is the typical characteristic that will be based to determine the bulk water services contribution in Rand/kl/day for Brownfields developments. The Replacement Value of the water supply system and

distribution network for different areas within Polokwane LM is shown in Table 5 to Table 13 here below. The average value of the Bulk Water Contribution for Bulk Water Services in Brownfields Development is R3 875.21 as shown in Table 13.

TABLE 5: URBAN – POLOKWANE/SESHEGO URBAN COMPLEX

Supply capacity of the Internal Reticulation			52 000	kl/day
Internal Reticulation - Total length of pipes			742 220	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	445332	R 174.00	R 77 487 768.00	R 1 490.15
150mmdia and <	222666	R 346.00	R 77 042 436.00	R 1 481.59
200mmdia and <	74222	R 516.00	R 38 298 552.00	R 736.51
			Levy Amount	R 3 708.25

TABLE 6: URBAN-MANKWENG RWS

Supply capacity of the Internal Reticulation			3 576	kl/day
Internal Reticulation - Total length of pipes			44 853	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	26912	R 174.00	R 4 682 653.20	R 1 309.47
150mmdia and <	13456	R 346.00	R 4 655 741.40	R 1 301.94
200mmdia and <	4485	R 516.00	R 2 314 414.80	R 647.21
			Levy Amount	**R 3 258.62**

TABLE 7: RURAL – BADIMONG RWS

Supply capacity of the Internal Reticulation			3 454	kl/day
Internal Reticulation - Total length of pipes			58 311	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	43733	R 174.00	R 7 609 585.50	R 2 203.12
150mmdia and <	11662	R 346.00	R 4 035 121.20	R 1 168.25
200mmdia and <	2916	R 516.00	R 1 504 423.80	R 435.56
			Levy Amount	**R 3 806.93**

TABLE 8: RURAL-BOYNE RWS

Supply capacity of the Internal Reticulation			679	kl/day
Internal Reticulation - Total length of pipes			11 185	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	8389	R 174.00	R 1 459 642.50	R 2 149.69
150mmdia and <	2237	R 346.00	R 774 002.00	R 1 139.91
200mmdia and <	559	R 516.00	R 288 573.00	R 425.00

	Levy Amount	**R 3 714.61**

TABLE 9: RURAL SEBAYENG-DIKGALE RWS

Supply capacity of the Internal Reticulation			5 350	kl/day
Internal Reticulation - Total length of pipes			70 934	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	49654	R 174.00	R 8 639 761.20	R 1 614.91
150mmdia and <	14187	R 346.00	R 4 908 632.80	R 917.50
200mmdia and <	7093	R 516.00	R 3 660 194.40	R 684.15
			Levy Amount	**R 3 216.56**

TABLE 10: RURAL-MOTHAPO RWS

Supply capacity of the Internal Reticulation			2 813	kl/day
Internal Reticulation - Total length of pipes			56 480	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	45184	R 174.00	R 7 862 016.00	R 2 794.89
150mmdia and <	8472	R 346.00	R 2 931 312.00	R 1 042.06
200mmdia and <	2824	R 516.00	R 1 457 184.00	R 518.02
			Levy Amount	**R 4 354.96**

Supply capacity of the Internal Reticulation			1 159	kl/day
Internal Reticulation - Total length of pipes			37 268	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	29814	R 174.00	R 5 187 705.60	R 4 476.02
150mmdia and <	5590	R 346.00	R 1 934 209.20	R 1 668.86
200mmdia and <	1863	R 516.00	R 961 514.40	R 829.61
			Levy Amount	**R 6 974.49**

TABLE 11: RURAL-LAASTE HOOP RWS

TABLE 12: RURAL HOUTRIVIER RWS

Supply capacity of the Internal Reticulation	2 192	kl/day
Internal Reticulation - Total length of pipes	36 644	m

Pipe Diameter Range (mm)	Pipe Length (m)	Rate per meter length	Replacement Value (Rand)	Development Contribution Levy (R/kl/day)
90mmdia and <	29315	R 174.00	R 5 100 844.80	R 2 327.03
150mmdia and <	5497	R 346.00	R 1 901 823.60	R 867.62
200mmdia and <	1832	R 516.00	R 945 415.20	R 431.30
			Levy Amount	**R 3 625.95**

TABLE 13: RURAL-MOLEPO RWS

Supply capacity of the Internal Reticulation			2 059	kl/day
Internal Reticulation - Total length of pipes			36 740	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
90mmdia and <	27555	R 174.00	R 4 794 570.00	R 2 328.59
150mmdia and <	5511	R 346.00	R 1 906 806.00	R 926.08
200mmdia and <	3674	R 516.00	R 1 895 784.00	R 920.73
			Levy Amount	R 4 175.41
Average Rural				**R 4 266.99**
BROWNFIELDS DEVELOPMENT : BULK CONTRIBUTION				**R 3 875.21**

3. Calculating the Bulk Sewerage Engineering Services Contribution

3.1. Greenfields (New) Township Development

Table 3 shows the levels of sewerage disposal within the Polokwane LM i.e. the present day disposal rate, the future required disposal rate as well as the capital costs expenditure to expand the sewerage infra structure to what is needed within the foreseeable future. It can be seen from Table 3 that the cost of upgrading the sewer system for what is required in future amounts to R193 490 900 per year. This figure forms the basis of the calculation of the Bulk Contributions Table 14 indicate that the Bulk Contribution Cost for Sewerage Services for Greenfields Developments amount to R4 988.36 kl/day.

*TABLE 14: GREENFIELDS (NEW) DEVELOPMENTS: BULK SANITATION CONTRIBUTION BASED ON BULK INFRASTRUCTURE UPGRADING COST**

Service Delivery Area	Current Sewerage Flow 2014 kl/day	Estimated Future Sewerage Flow 2025 kl/day	Increase in Sewerage Flow Future 2025 kl/day	Sanitation Upgrade Cost Estimate per Annum (Rand) *	Development Contribution Levy Rand/kl/day
Urban - Sanitation	39 000	77 788.50	38 789	R193 490 900	R4 988.36
				Levy Amount	**R4 988.36**

**** Cost based on Project List for Polokwane***

Loan amounts required to increase the present sewerage disposal works capacity from a current level of 39 000 kl/d is not included in above costs.

3.2. Calculating Bulk Sewage Services Contribution For Brownfields Developments

3.2.1. As the case with water services it is important to note that in the case of upgrading of sewage services, a distribution network is already available of which the cost (Replacement Value) will have to be taken into account when determining bulk contribution since the upgraded development will be using existing network services which has already been paid for in the past. For upgrading within a township a bulk sanitation contribution by the developer is required for:

a) Bulk contribution for the additional sewage to be drained from the development.

b) Contribution towards the physical upgrading of the existing, available sewage network.

3.2.2. It has also been found with other Municipalities that the contribution rate for upgraded development are fixed onto estimated costs to complete development within ad-hoc chosen under-developed areas within the municipal borders. Since the physical requirements of under-developed areas within Polokwane vary from no sewerage services to sparse services, it cannot be recommended to implement a single, fixed rate for all areas. It is proposed rather to fix a contribution rate based on the replacement value of a drainage network and implement the bulk sewerage contribution rate only in areas where an existing sewerage network is available. The Bulk Connection Cost for sewerage services for Brownfields Development is R5 640.00/ kl/day as shown in Table 15.

Brownfields Development: Bulk Sanitation Contribution Based on Replacement Value of Infrastructure

TABLE 15: URBAN – POLOKWANE / SESHEGO URBAN COMPLEX

Sewerage Flow to be treated			39 000	kl/day
Internal Sewer Reticulation – Total length of pipes			646 000	m
Pipe Diameter Range (mm)	**Pipe Length (m)**	**Rate per meter length**	**Replacement Value (Rand)**	**Development Contribution Levy (R/kl/day)**
160 dia and <	387 600	R246.00	R95 349 600.00	R2 444.86
200 mm – 300 mm dia	193 800	R438.00	R84 884 400.00	R2 176.52
315 mm dia and >	64 600	R615.00	R39 729 000.00	R1 018.69
			Levy Amount	**R5 640.08**

ANNEXURE B

WATER SERVICES DIVISION TABLE OF CONSUMPTION: CALCULATING BULKCONTRIBUTIONS FOR DEVELOPMENTSAVERAGE ANNUAL DAILY DEMAND (AADD)

TABLE 16: WATER SERVICES DIVISION TABLE OF CONSUMPTION: CALCULATING BULK CONTRIBUTIONS FOR DEVELOPMENTSAVERAGE ANNUAL DAILY DEMAND (AADD)

No.		Zoning	Unit/	Water	Waste
1.		**Residential Development**	kl/erf		
	1.1	Low cost housing – erf up to 500 m²		0.7	0.6
	1.2	Conventional small sized erf up to 500 m²	kl/erf	0.8	0.5
	1.3	Medium sized erf 500 m² - 1 000 m²	kl/erf	0.8	0.5
	1.4	Large sized erf 1 001 m² - 1 500 m²	kl/erf	1.0	0.6
	1.5	Extra large erf – 1 501 m² and larger	kl/erf	1.5	1.0
	1.6	Cluster housing up to 20 units per hectare	kl/unit	1.0	0.65
	1.7	Cluster housing 21 up to 40 units per	kl/unit	0.8	0.53
	1.8	Cluster housing 41 up to 60 units per	kl/unit	0.6	0.4
	1.9	Cluster housing 61 up to 80 units per	kl/unit	0.5	0.34
	1.10	Cluster housing 81 up to 100 units per	kl/unit	0.4	0.28
	1.11	High-rise flats (± 50 m²/unit) + FSR	kl/unit/50 m²	0.6	0.4
	1.12	Boarding houses, hostels, hotels,			
	1.13	Alternative Category : Hostels	kl/100 m²	0.2	0.2
	1.14	Guesthouses – allocation per room	kl/room	0.4	0.4
	1.15	Agriculture holdings &Farm land	kl/domestic	2.4	1.56
	1.16	Agriculture holdings (houses + servants	kl/ holding	4.0	1.4
	1.17	Gate house for security villages	kl/unit	0.2	0.2
2.		**Business Development**			
	2.1	General business with an FSR **(dry)**	kl/100 m²	0.8	0.6
	2.2	General business with an FSR **(wet)**	kl/100 m²	1.2	0.8
	2.3	Business 4 offices	kl/100 m²	0.6	0.4
	2.4	Gym, health spa	kl/100 m²	0.6	0.4
	2.5	Commercial	kl/100 m²	1.0	0.7
	2.6	Restaurant, bakery	kl/100 m²	1.0	0.8
	2.7	Butchery	kl/100 m²	0.2	0.2
	2.8	Warehousing (including up to 20% offices)	kl/100 m²	0.6	0.4
	2.9	Garage or filling station	kl/100 m²	1.2	1.0
	2.10	Car wash facility (**no recycling**)	kl/wash bay	6.0	6.0
	2.11	Car wash facility (**with recycling plant**)	kl/wash bay	3.6	3.6
	2.12	Motor city/Retail park as a single zoning	kl/100 m²	0.6	0.4
	2.13	Vehicle parking garage/grounds	kl/bay	0.0	0.0

	2.14	Nursery (sales area)	kl/100 m²	0.4	0.4
No.	**Zoning**		**Unit/**	**Water**	**Waste**
	2.15	Nursery (planting and production area)	kl/hectare	15.0	0.2
3.		**Industrial Development**			
	3.1	Industrial (dry)	kl/100 m²	0.5	0.4
	3.2	Industrial (wet)	kl/100 m²	min of 1.2 kl	min of 1.0 kl
4.		**Institutional Uses**			
	4.1	Club buildings	kl/100 m²	0.3	0.3
	4.2	Club grounding	kl/hectare	3.0	0.0
	4.3	Stadium building	per 1 000	1.5	1.5
	4.4	Stadium grounds	kl/hectare	3.0	0.0
	4.5	Municipal park building	kl/100 m²	0.4	0.4
	4.6	Municipal park ground	kl/hectare	3.5	0.0
	4.7	Hospital buildings without laundry	kl/100 m²	1.54	1.0
	4.8	Hospital building with laundry	kl/100 m²	4.2	3.15
	4.9	Hospital grounds	kl/hectare	10.0	0.0
	4.10	Church building	kl/100 m²	0.1	0.1
	4.11	Church grounds	kl/hectare	10.0	1.0
	4.12	School, crèche, educational buildings	kl/100 m²	1.5	0.5
	4.13	School, crèche, educational buildings	kl/hectare	1.5	0.5
	4.14	Municipal, governmental developments	kl/100 m²	1.0	0.8
5.		**Miscellaneous Uses**			
	5.1	Mixed Use	Kl/hectare	20.0	13.0
	5.2	Private one space	kl/hectare	10.0	0
	5.3	Special	Development	Development	Development
	5.4	Home enterprise (**dry**, re office, IT)	kl/100 m²	0.4	0.4
	5.5	Home enterprise (**wet**, re tavern, hair-dresser)	kl/100 m²	0.8	0.8