# Overstrand Municipality
# Development Contribution Policy

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## Table of Contents

## SECTION A: POLICY

### 1. DEFINITIONS

**"Condition of approval"** means a condition prescribed by the Municipality with regards to the approval of a development application in terms of land use planning legislation;

**"Consent"** means special permission granted by the Municipality, after due consideration of all relevant facts and after following the lawful process, in terms of which a specific type of land use or activity is permitted, in addition to the primary uses applicable to the property concerned;

**"Consent use"** means the secondary use right that is permitted in terms of the provisions pertaining to a particular zone, only with the consent of the Council ;

**"Constitution"** means the Constitution of the Republic of South Africa, 1996 (Act 108 of 1996);

"**Council**" means the Council of the Overstrand Municipality and includes a councillor, the Municipal Manager, a committee, or an official where delegated authority is granted to decide a matter on behalf of the Council;

**"Coverage"** means the total area or percentage area of a land unit which may be covered by buildings and covered by a roof; provided that the following portions of buildings shall be disregarded in the calculation of coverage:

(i) Entrance steps and landings less than 1 m²;

(ii) Retractable awnings;

(iii) Cornices, chimney breasts, pergolas, flower boxes, water pipes, drain pipes and minor decorative features not projecting more than 500 mm from the wall of the building;

(iv) Eaves not projecting more than 1 m from the wall of the building;

(v) A portion of a building where the ceiling is at ground level or lower;

**"Developer"** means the person, including an organ of state, applying for approval to develop or change the use of land;

**"Development"** means the changing of use and/or of cadastral boundaries in order to increase the use of land;

**"Development Charge"** means a once-off charge enforced 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 increase of land use;

**"Engineering services"** means the infrastructure required to supply water, sewerage, electricity, municipal roads, stormwater drainage and solid waste collection and removal required for the purpose of land development;

**"External engineering services"** means municipal engineering services infrastructure external to the development site boundary and includes both:

1. bulk engineering services, which means municipal services infrastructure external to the development required to provide engineering services to users in the boundaries of the municipality; and
2. link engineering services, which means municipal services infrastructure external to the development site boundary required to connect internal engineering services of the proposed development to existing or proposed bulk engineering services;

**"Floor space"** in relation to any building means the area of a floor which is covered by a slab, roof or projections, provided that:

(i) any area, including a basement, which is reserved solely for parking or loading of vehicles shall be excluded;

(ii) external entrance steps and landings, any canopy, any stoep and any area required for external fire escapes shall be excluded;

(iii) a projection of eaves, and a projection which acts as a sunscreen or an architectural feature, which projection does not exceed 1,0 m beyond the exterior wall or similar support, shall be excluded;

(iv) Any common pedestrian thoroughfare which is not covered by a roof, which provides access through a building concerned from parking, public street or open space, to some other parking, public street or open space, and which is accessible to the general public during normal business hours, shall be excluded;

(v) Any covered area outside and immediately adjoining a building at or below the ground floor level, where such paved area is part of a forecourt, yard, external courtyard, pedestrian walkway, parking area or vehicular access, and which is permanently open to the elements on at least the front or lthe side(s), shall be excluded;

(vi) Subject to clause (vii), any stairs, stairwells and atriums that are covered by a roof, shall be included;

(vii) In the case of multi-level buildings, any stairwells, lift wells, light wells or other wells, and any atrium, shall only be counted once;

and provided further that floor space shall be measured from the outer face of the exterior walls or similar supports of such building, and where the building consists of more than one level, the total floor space shall be the sum of the floor space of all levels, including that of basements;

**"Gross Leasable Area (GLA)"** means the area of a building designed for, or capable of, occupancy and/or control by tenants, measured from the centre line of joint partitions to the inside finished surface of the outside walls, and shall exclude the following:

(i) all exclusions from the definition of floor space;

(ii) toilets;

(iii) lift shafts, service ducts, vertical penetrations of floors;

(iv) lift motor rooms and rooms for other mechanical equipment required for the proper functioning of the building;

(v) interior parking and loading bays.

**"Internal engineering services"** means infrastructure within the boundary of the development to service that development;

**"LUPO"** means the Land Use Planning Ordinance, 1985 (Ordinance 15 of 1985);

**"Master plans"** means high level infrastructure plans prepared for the Municipality to cater for possible future development. For example: Bulk Water and Sanitation Master Plans;

**"Municipality**" has the same meaning as Council;

**"Services Agreement"** means an arrangement between the Municipality and the developer in cases where the developer constructs or installs bulk engineering services in lieu of the payment of a Development Charge (full or in part) and in which the parties agree on their different roles in the construction, installation and financing of infrastructure;

**"SPLUMA"** means the Spatial Planning and Land Use Planning Act, 2013 (Act 16 of 2013); and

**"Systems Act"** means the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000).

## 2. INTRODUCTION

Overstrand Municipality appointed Deca Consulting Engineers to calculate the contributions payable by developers for the provision of bulk services and to develop a policy regarding these contributions.

This document was drawn up to provide a description of how the contributions were determined. The study was based on the Overstrand Municipal Growth Management Strategy (OMGMS) which was drawn up in 2010 and which shows the development capacity of all the areas in the municipal area in terms of the Overstrand Zoning Scheme. The number of units and areas of the existing and proposed developments were determined from the OMGMS on which the master planning of the different services were also based. Bulk services that were taken into account were water, sewer, stormwater, roads, solid waste and electricity services. Jan Palm Consulting Engineers were consulted with regards to the existing and required solid waste bulk infrastructure for the Overstrand Municipality. Aurecon Consultants were consulted to provide information regarding the electricity bulk infrastructure for the Overstrand Municipality.

## 3. BACKGROUND

The cost liability for engineering services has remained an argumentative legal issue in property development over the years. A number of parliamentary commissions and committees have been appointed to make recommendations intended to remove problems at the procedural level and to create a more positive climate in terms of township establishment. The settling of the dispute of determining a basis on which engineering services should be provided by the township establisher and the local authority concerned was seen as one of the biggest factors hindering the township establishment process. The Venter Commission was appointed in 1982/1983 to improve the situation. Specific recommendations regarding the basis for determining cost liability for engineering services was made.

Before the Venter Commission produced their recommendations, the Townships Ordinance No 33 of 1934 applied in the Cape of Good Hope Province. In terms thereof developers were required to make endowment contributions (cash or sites) to the authorities. A recommendation made by the Venter Commission was

that internal engineering services to the township should be the responsibility of the township establisher. External engineering services should be installed and financed by the local authority.

The commission emphasized that any formula which is used in determining the cost of the provision of services should ensure equal treatment. This should be done by ensuring the residents of the existing town do not subsidise the new township and that the existing town do not derive any benefit from the new township, unless a deliberate decision to the contrary is taken. Contrary to this principle, endowment contributions were essentially seen as representing a subsidy to the government by new residents.

The Land Use Planning Ordinance No. 15 of 1985 (LUPO) was born out of the adoption of recommendations made in the Venter Commission report. LUPO dismantled the Townships Ordinance with effect from 1 July 1986 and did away with endowment contributions. LUPO empowered local authorities when approving applications under the ordinance to impose conditions relating, amongst other things, to the payment of money in respect of engineering services.

Since the establishment of LUPO, various local authorities in the Western Cape have required developers to make development contributions toward the cost of bulk engineering services. This practice has continued unchanged and unfavourable comment has arisen from time to time from interested parties (e.g. that it tends to choke economic growth).

An attempt to provide consistency in the application of the LUPO principles, the Provincial Administration of the Western Cape published guidelines in 1996 regarding the determination of costs for developments in accordance with the principles of that legislation and the Venter Report.

LUPO has recently been replaced by the Land Use Planning Act (LUPA). Section 48 of the new Act empowers municipalities to require a Development Charge. The Municipality Development Charges policy (this document) needs to align with the regulations set out in the new Act.

## 4. LEGISLATIVE FRAMEWORK

In line with the new legislative framework under LUPA in conjunction with SPLUMA, the Municipality drafted a municipal planning by-law which regulates aspects of land and building development management, including the provision of engineering services for land development and the raising of Development Charges. The Municipal planning by-law supplements the Overstrand Zoning Scheme Regulations. The Draft National *Policy Framework for Municipal Development Charges* proposes that every municipality have both a Development Charges policy and by-law. The sections of the proposed municipal planning by-law dealing with Development Charges satisfy the national requirement for a Development Charges by-law. A separate Development Charges by-law may be considered if further enhancement is required.

The Municipality may, in line with the current wording of Section 48 of the Western Cape's Land Use Planning Bill, impose a condition on the approval of a land development application relating to:

"*the provision of municipal engineering services [or] the cession of land or payment of money, in compensation for past, present or future public expenditure or community needs, including … engineering services … which arise directly as a result of the approval in question."*

A Services Agreement should be concluded between the Municipality and the developer, capturing such a condition to provide municipal engineering infrastructure in lieu of payment before any construction of infrastructure begins. The Draft National *Policy Framework for Municipal Development Charges* stipulates that once the condition of approval is finalised, no further agreement is needed, which differs from this requirement.

In terms of Section 49 of SPLUMA:

*(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.'*

## 5. DEVELOPMENT CHARGE COMPONENTS

5.1 External engineering services include bulk- and link engineering services. The Development Charge includes both, but different rules apply to them. Developers are required to pay a Development Charge consisting of both of these components:

a) a pro rata share of the cost of bulk engineering services to the development; and

b) the costs of any link engineering services required for the development.

5.2 Unless bulk engineering services are provided *in lieu* of Development Charges, the developer shall be responsible for both of the above.

5.3 Only the provision of infrastructure for which the municipality is responsible is covered by the Development Charge. The cost of required Provincial and national infrastructure is therefore not covered by the Development Charge. These costs may have to be paid by the developer, but the process will be managed by the authority in charge of providing the specific service. For example: Provincial Government Western Cape for provincial roads.

5.4 Excluded from the Development Charge is the provision and installation of internal engineering services, which is the responsibility of the developer.

5.5 Link external engineering services may be vital to link the proposed development's internal engineering services to external engineering services to keep up functionality of the overall network where development takes place ahead of planned infrastructure provision, or where development takes place outside the specific master planning area.

5.6 In terms of section 49 of the Spatial Planning and Land Use Management Act, 2013, the Municipality is responsible to provide all bulk engineering services. However, the responsibility on the Municipality to provide external engineering services is not unqualified. The Municipality is not obliged to provide infrastructure where it is not in line with the relevant master plans and capital budgets.

5.7 The developer may be required to install some of the required external engineering services where the infrastructure required are inconsistent with the applicable master plans and capital budgets, should the Municipality nevertheless approve the development application.

5.8 Should the developer and Municipality agree, the cost of the installation of bulk engineering services by the developer can be set off against the developer's overall Development Charge. The developer shall be responsible for the additional cost of bulk engineering services should the set off value described here be greater than the total Development Charge for all phases of the development.

5.9 Unless otherwise agreed with the Municipality, the installation of link engineering services are however the direct responsibility of the developer.

5.10 In order to maintain the functionality of the Municipality's engineering service network according to master planning, the Municipality may require that the developer install services with greater capacity than required for the specific development. The cost of the additional link engineering services can then be set off against the developer's overall Development Charge.

## 6. DEVELOPMENT APPLICATIONS REQUIRING DEVELOPMENT CHARGES

A Development Charge is required where there is intensification in the use of the land and resultant increase in loading on the engineering services, for example: changes in land use or zoning. Development Charges will be required for all these applications where the Municipality must approve a development application in terms of the relevant land use or planning legislation.

### 6.1 DEVELOPMENT CHARGES APPLY

Development Charges apply to the following application types:

a) Rezoning applications:

   i. Rezoning to sub divisional area applications which enable rezoning together with subdivision of the land;

   ii. Rezoning of land from one zone to another in order to change the allowable land uses;

   iii. Rezoning from one subzone to another in order to increase the allowable floor space.

b) Subdivision applications where the number of dwelling units increases because of the subdivision, or where the subdivision application causes the increase of floor space or GLA.

c) Departure applications:

   i. Applications to increase the allowable Floor Space, GLA, number of occupants or rooms;

   ii. Applications to increase allowable Coverage;

   iii. Applications to depart from parking requirements.

d) Consent use applications (in terms of the Zoning Scheme) where the change in land use is deemed by the Municipality to result in additional use of infrastructure.

e) Any application for the revision of conditions of a previous approval where the condition restricted the land use, Floor Space, GLA or Coverage.

## 6.2. DEVELOPMENT CHARGES DO NOT APPLY

Where development applications will have no significant impact on external engineering services, Development Charges will not apply:

a) Rezoning applications from one zone to another with a similar or lesser impact on all engineering services.

b) Subdivision applications which do not result in additional impact on engineering services.

c) Permanent departure applications for building lines, height or other similar factors, which do not produce an intensification of land use.

d) Temporary departure applications where rights are approved on a temporary basis. These applications may however only be granted if the impact on the infrastructure is similar or less than the existing use. Should the municipality not have adequate spare capacity available, the temporary departure cannot be approved.

e) Consolidation applications not accompanied by rezoning or additional rights applications.

f) Consent use applications if the impact on the infrastructure is similar or less than previous rights applicable to the property.

## 7. ADMINISTRATIVE PROCESS

In order to implement this policy the following procedures will apply:

### 7.1. INFORMATION REQUIRED FROM THE DEVELOPER

In terms of the relevant legislation, the Municipality may entail from the developer any information essential for it to assess an application. This comprises information that will allow it to determine the necessary Development Charge. The type of information that a developer must make available, as well as the format in which it is provided will be prescribed by the Municipality from time to time. These details, however, will differ according to the type of land use change planned as well as the extent of the proposed project.

### 7.2. APPLICATION PROCEDURE

7.2.1 Land development applications must be submitted to the relevant departments of the Municipality for approval.

7.2.2 A Department may impose conditions relating to the development and, conditions relating to Development Charges. This must include conditions relating to the time within which payment must be made.

7.2.3 If a developer wishes to obtain additional development rights in the future over the rights already approved, a new application will be necessary in terms of the relevant planning legislation and the Development Charges must be recalculated.

7.2.4 The final Development Charges must form part of the conditions to be approved and must be reflected in the calculation.

7.2.5 The final approval of the conditions will be binding in terms of the relevant land use or planning legislation. Section 51 of SPLUMA makes provision for appeals against the decisions of a municipality in relation to Development Charges which should be referred to the Municipal Manager.

## 7.3. PAYMENT OF DEVELOPMENT CHARGE

7.3.1 The conditions which must be included with a land development application must set out the payment requirements and must specifically indicate:

a) the total to be paid and include provisions for escalation over time; and

b) the date when the Development Charge is payable and in the case of phased developments, may include more than one payment date.

7.3.2 Payment shall be made as follows, unless the conditions of approval indicate otherwise:

a) prior to the issuing of a subdivision clearance certificate which would allow the transfer of the first unit;

b) prior to approval of building plans in the case of an application with no subdivision required;

c) prior to commencement of any activity on site in accordance with the application where no subdivision or building plans approval is required;

7.3.3 Where a developer has not conformed with his Development Charge liability, the Municipality may deny any approval in terms of planning or building control legislation.

7.3.4 Where the development involves subdivision of land, no transfer of a certificate of registered title may be concluded of any portion of land until the Development Charge has been paid.

7.3.5 The Municipality must withhold both building plan approval and the certificate of occupation until the Development Charge has been paid where there is no transfer.

7.3.6 If a developer continues with exercising his or her rights without the paying of Development Charges in agreement with the conditions of approval, no

transfer of that erf, or registration of a certificate of registered title, may be processed or approved until the Development Charge has been paid.

7.3.7 The Municipality must impose a condition that confirms that the land use becomes unlawful in the case of non-payment of the required Development Charge, enabling the Municipality to invoke its enforcement measures with regards to unlawful land use.

7.3.8 The Municipality may approve a development in phases in more complex projects which will allow the developer to pay Development Charges at the beginning of each approved phase.

7.3.9 The Municipality may agree to a postponed payment of a Development Charge where external engineering services are provided in lieu of Development Charges by the developer. A Services Agreement between the Municipality and the developer should be signed and a written guarantee from a registered financial services provider should be provided by the developer to cover any risk to the Municipality.

## 7.4. INFRASTRUCTURE IN LIEU OF DEVELOPMENT CHARGE

7.4.1 In agreement with the Municipality, a developer may install bulk engineering services in lieu of Development Charges.

7.4.2 The developer may deduct the cost of the bulk infrastructure to be installed from the Development Charges for that specific development, provided that:

a) a written Services Agreement is entered into between the developer and the Municipality. The Services Agreement must specify the infrastructure to be provided in lieu of Development Charges and the standards to which the infrastructure is to be built. It should further specify the cost of the infrastructure and the assets to be transferred to the Municipality;

b) the developer and the Municipality signs the Services Agreement prior to commencement of the works to be provided in lieu of Development Charges;

c) the implementation programme and expected transfer date is documented;

d) in terms of local government legislation the Municipality may not issue any clearance otherwise outstanding to the developer or approve a building plan in relation to the particular development prior to the fulfilment of the commitment and provision of a guarantee;

e) procurement of a service provider/s by a developer to build and install the infrastructure specified in the Services Agreement shall comply to the following:

i. The process followed by the developer for calling for bids from infrastructure providers must be fair and competitive. The developer should appoint the bidder offering the most cost effective bid;

ii. the Municipality reserves the right to participate as an observer in the bidding process in order to ensure that it is fair and a sensible selection is made;

iii. the developer shall keep accurate records of payment to verify final payment certificates;

iv. the Municipality may have access to all applicable records relating to the construction process;

7.4.3 The final value of the assets transferred must be checked in correlation with the original Development Charges and any balance due by the developer must be paid in full.

7.4.4 Where the developer installs external infrastructure of a higher value than the Development Charge required by the Municipality the additional amount may be offset against the Development Charges for following phases of the same development.

## 8. REVIEW

This policy should be reviewed when needed. Situations which can lead to reviews of the policy include:

a) The growth of the Municipality deviates considerably from the growth management model;

b) The engineering service provision duties of the Municipality changes; or

c) An under- or over-recovery of bulk infrastructure costs are detected.

## SECTION B: TECHNICAL

## 9. PROVINCIAL AND NATIONAL GUIDELINES

The Provincial Guidelines of 1996 and the National Policy Framework for Municipal Development Charges were used in this study in the calculation of development contributions for bulk civil engineering services. The main principle throughout these guidelines is that equality and fairness be adhered to when determining the contributions payable by the developer. This means that the cost of providing services for a new development should not be a burden on existing ratepayers and that a new developer should not be expected to subsidise the existing ratepayers by paying excessive contributions.

The formula for the calculation of contributions payable by a developer (see below), was obtained from the Provincial and National guideline documents and was used in this study:

$$W = n(\frac{K}{E_1} - \frac{L}{E_2})$$

Where: $W$ = the contribution payable by the developer for that particular type of bulk service;

$n$ = the total number of units of consumption, flow or usage regarding the new development and with respect to that particular type of engineering service (e.g. kl/day, trips/day, etc.);

$K$ = the current (2016) value of the existing bulk service plus the additional required bulk service for the new development, minus any subsidy with respect to that particular type of bulk service;

$E_1$ = the total number of potential units of consumption, flow or usage that can be provided by that particular type of bulk service (potential capacity), expressed for example in kl/day, trips/day etc.

$L$ = the outstanding loan dept with respect to that particular type of bulk service

$E_2$ = the total number of units of consumption, flow or usage that the new development will consume (e.g. kl/day, trips/day, etc.).

The National Policy Framework for Municipal Development Charges contains the following example for further clarification:

Assume that:

- The total municipal system, say for potable water, has a current value of R10 million (existing plus required infrastructure);
- The system has a design capacity of 10Ml/d;
- It is estimated that the proposed development will consume 1Ml/d;
- There is an outstanding loan of R200 000 against the service;

The development charge is then calculated as follows:

W = (R10 000 000 ÷ 10Ml/d) – (R200 000 ÷ 1Ml/d)
= R 800 000 / Ml/d

## 10. DISCUSSION OF POLICY APPROACHES

Two types of policy approaches are known when dealing with bulk services levies. These include the brownfields and greenfields approaches, but a scenario seldom exists for the use of only one of the approaches. The greenfields approach will only be appropriate if the development is entirely separate from existing development areas and the bulk services necessary for the development are entirely independent and only for the benefit of the new area. The brownfields approach will be appropriate when the existing bulk services in the area of the new development have sufficient capacity for the new development as well.

In the most cases some capacity exist in the existing service, but that additional capacity is required by the proposed development. Existing and future services should therefore be taken into account. The formula based on the National and Provincial Guidelines indicated in *Paragraph 2* takes this into account. The factor $E_1$ refers to the total potential capacity in consumption units of the different services. This capacity includes the existing capacity and the required additional capacity for the new development. The factor $K$ refers to the total value of the bulk infrastructure for the specific service. This value includes the current day value of the existing infrastructure as well as the value of the infrastructure

required to accommodate the new development. The factors $E_1$ and $K$ thus include the total capacity and value of the infrastructure for each service for existing and future development. As mentioned before, the Overstrand Municipal Growth Management Strategy (OMGMS) was used to determine the future development potential of the Overstrand area and was used as the basis for the master planning of each engineering service.

By dividing the total value of the existing and future bulk infrastructure (factor $K$) through the total design capacity for that service (factor $E_1$) for a specific area, a cost per consumption unit for that area is obtained. Existing spare capacity which may exist for a specific service is taken into account in this method as the ultimate capacity of each service was determined in the master planning done for that service to provide for all development of a certain area up to a point in time (according to the OMGMS).

Provision is made in the second part of the formula (factors $L$ and $E_2$) to ensure that the developer is not double charged as the end users of a specific development will still also be assisting in paying off the outstanding loans (which is also a present day value) for the existing services.

The development contributions payable by new developments for roads, sewer, water and solid waste infrastructure were determined in the manner explained above. The only unit costs which were determined solely on the greenfields approach were the unit costs for the stormwater infrastructure. This was done as inadequate information regarding the existing stormwater infrastructure of the Overstrand Municipality is available. The development contributions payable for the stormwater infrastructure were determined by only making use of the additional or future developments according to the OMGMS and the pre- and post-development runoff for each land use.

The principles which were used to determine development contributions for bulk electricity infrastructure differs from the principles explained here. ***Paragraph 13*** gives an indication of how the development contributions were determined with respect to electricity.

## 11. IDENTIFICATION OF EXTERNAL / BULK SERVICES

An important consideration in determining the contributions is the definition of external and/or bulk services. The following general definition of external services is given in the Provincial Guidelines:

*"External services comprise the design, supply, installation and commissioning of main services, including roads and streets, outside the boundaries of the development with sufficient capacity to provide service and access to the development and where the internal services can connect into at points agreed between the parties, or lacking an agreement as determined by the local authority."*

In accordance with the above mentioned definition the following thresholds were used in this study:

- Roads: Municipal Class 4b and higher as classified in the South African Road Classification and Access Management Manual (RCAM) document;

- Sewerage System: Sewerage works, major pump stations and rising mains, main sewers of 160mm diameter and larger.

- Water supply: reservoirs, pump stations, main feeder mains 160mm diameter or larger.

- Storm water system: outfall culverts and canals, storm water detention ponds and pipes of 600mm diameter and larger;

- Solid waste: landfill sites, composting sites, transfer stations and refuse trucks;

# 12. DETERMINATION OF PARAMETERS

## 12.1 METHODOLOGY

The 2010 Overstrand Municipal Growth Management Strategy (OMGMS) document as well as 2014 zoning plans of the Town Planning Department of the Overstrand Municipality was used to determine the existing and future lettable areas and number of units for each type of land use according to the Overstrand Zoning Scheme (OZS) document.

The different land uses according to the Overstrand Zoning Scheme document for which development contributions were determined and the relevant measuring units for each are summarised in ***Table 1***. For residential land uses, the number of individual units was used. For other land uses, the total erf sizes were measured. A bulk factor was subsequently applied to determine the expected Gross Leasable Area (GLA) of each of the non-residential land uses. ***Table 2*** summarises the bulk factors which were used to determine expected GLAs.

***Table 1: Land Uses according to the OZS document for which development contributions were determined***

| **Land Use** | **Unit** |
|---|---|
| Residential Zone 1: Single Residential (SR1) | Erven |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | Units |
| General Residential Zone 3: Flats (GR3 and GR4) | Units |
| Less Formal Development Zone (LFD) and Subsidised Housing | Units |
| Business Zone 1: General Business (B1) | m² |
| Business Zone 2: General Business (B2) | m² |
| Business Zone 3: Local Business (B3) | m² |
| Business Zone 4: Service Station (B4) | m² |
| Industrial Zone 1: General Industry (IND1) | m² |
| Industrial Zone 2: Noxious & Risk Industry (IND2) | m² |
| Community Zone 1: Community Facilities (CO1) | m² |

***Table 2: Bulk factors applied to non-residential land uses to determine expected GLAs***

| Land Use | Bulk Factor |
|---|---|
| Business Zone 1 | 120% |
| Other Business Zones | 50% |
| Industrial Zones | 60% |
| Community Facilities | 25% |

To determine the existing value of the bulk roads, water, sewer and solid waste infrastructure, the latest fixed asset registers from the Overstrand Municipality were obtained. These registers contain the existing value of all the infrastructure components in the Overstrand for the specific service as well as the funding source of the items. The relevant bulk items for each service were identified and the values of these items and the value of items obtained through loans and grants were used in the calculations. The value of the existing stormwater infrastructure was not determined as inadequate information was available. As mentioned, the unit cost of stormwater infrastructure for the Overstrand was determined on the greenfields principle.

The recently completed Draft Overstrand Transport Plan indicates which roads need to be upgraded and where new roads are required to provide adequate capacity for the development of the areas as indicated in the OMGMS. The cost of these new roads and upgrades of existing roads were calculated based on existing construction costs.

To obtain the value of future required bulk water and sewer infrastructure for the different identified areas, masterplans were obtained from GLS consultants. These plans indicate the specific components (and their associated costs) required to provide capacity for the development of these areas as indicated by the OMGMS document in terms of water and wastewater infrastructure. The costs of the projects indicated on the masterplans were escalated from the 2011 values given and checked with relevant tenders for similar projects and adjusted where necessary.

The value of the required stormwater infrastructure for the different identified areas was determined through a number of known issues and their associated costs in the Overstrand municipal area as well as a number of assumptions.

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## 12.2 REPLACEMENT VALUES ($K$)

### 12.2.1 Roads

As mentioned, the recently completed Overstrand Transport Plan indicates which roads need to be upgraded and where new roads are required to provide adequate capacity for the development of the areas as indicated in the OMGMS.

The Overstrand Transport Plan classified roads according to the RCAM document. Municipal roads of Class 4b, 4a and 3 were identified as bulk infrastructure. The RCAM document also indicates typical cross sections, intersection control, intersection spacing etc. for each of the different class roads.

Many of the classified roads are existing roads and are on standard with the RCAM document's typical requirements. Many roads only require upgrades in terms of kerbing and/or stormwater. Some roads however require extensive upgrades or needs to be newly built. A cost per metre was determined for each of these scenarios which in turn were used to determine the total required cost of required bulk road infrastructure.

The existing value of the corresponding classified roads identified was obtained from the latest asset registers as obtained from the Overstrand Municipality.

The replacement value ($K$) for roads in a specific area were subsequently determined by adding up the cost of the existing infrastructure and the cost of the upgrades required.

### 12.2.2 Water and Sewerage

As mentioned the values of the required/future water and sewer infrastructure were obtained from the master plans of GLS consultants.

The existing value of the water and sewer bulk infrastructure was determined from the latest asset registers of these services from the Overstrand Municipality.

The replacement value ($K$) for water and wastewater in a specific area were subsequently determined by adding the cost of the existing infrastructure and the cost of the upgrades required.

### 12.2.3 Stormwater

As mentioned the value of the required / future stormwater infrastructure were determined through a number of known issues in the Overstrand area and their associated costs as well as a number of assumptions.

The existing value of the stormwater infrastructure was not determined, as inadequate information about the stormwater infrastructure is available and the greenfields approach was used in determining development contributions.

The replacement value ($K$) for bulk stormwater infrastructure in a specific area subsequently only consisted of the required/future values for the service.

### 12.2.4 Solid waste

The Overstrand asset register was consulted in order to obtain the replacement values of the solid waste infrastructure that forms part of the Overstrand solid waste management system. The system consists of the various drop-offs, transfer stations, collection vehicles, Karwyderskraal landfill (cell 3) and Gansbaai landfill.

## 12.3 CAPACITY OF THE VARIOUS SERVICES ($E_1$)

### 12.3.1 Roads

The proposed road upgrades and new roads required for certain areas as indicated by the Overstrand Transport Plan are expected to provide adequate capacity for the existing and future development areas and number of units as explained in ***Paragraph 12.1***.

There is a debate whether the daily number of trips, or the peak hour trips generated by a development should be used as basis in the calculation of development contributions. Daily trips are a useful tool, as is takes into account trips generated by land use types such as restaurants and community facilities that operate outside normal morning and evening peak hours. On the other

hand, roads need to have the capacity to carry peak hour traffic volumes, which means that daily trips cannot be used when determining required road capacity. Both methods are useful if the purpose is simply to determine the contribution ratio between different land use types.

Due to the fact that daily trip rates cover all land uses, it was decided to use this method for the purpose of this study. The daily trip generation potential of the different areas for the land uses as indicated in ***Table 1*** were used as an indication of the capacity for the roads in that area. The South African Trip Generation Rates document was used to determine the total number of daily trips generated by each land use for existing and future developments of a specific area. ***Table 3*** indicates the daily Trip Generation Rates used for each land use.

***Table 3: Daily Trip Generation Rates (TGR) used to determine the capacity of the future road network***

| **Land Use** | **Daily TGR** |
|---|---|
| Residential Zone 1: Single Residential (SR1) | 3.9 |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | 3.9 |
| General Residential Zone 3: Flats (GR3 and GR4) | 3.9 |
| Less Formal Development Zone (LFD) and Subsidised Housing | 2.6 |
| Business Zone 1: General Business (B1) | 11 |
| Business Zone 2: General Business (B2) | 11 |
| Business Zone 3: Local Business (B3) | 11 |
| Business Zone 4: Service Station (B4) | 11 |
| Industrial Zone 1: General Industry (IND1) | 7.7 |
| Industrial Zone 2: Noxious & Risk Industry (IND2) | 7.7 |
| Community Zone 1: Community Facilities (CO1) | 11.00 |

### 12.3.2 Water and Sewerage

The proposed water and sewer upgrades required for certain areas as indicated by the masterplans of GLS Consultants are expected to provide adequate capacity for the existing and future development areas quantities as explained in *Paragraph 12.1*. The daily water consumption potential of the different areas for the land uses as indicated in ***Table 1*** were used as an indication of the capacity of the water infrastructure. The Guidelines for the Provision of Engineering Services for Residential Townships document and a number of assumptions were used to determine the total daily consumption figures of each land use for existing and future developments of a specific area. ***Table 4*** indicates the daily consumption rates used for each land use while ***Table 5*** indicates the daily waste water production rates for each land use.

***Table 4: Daily water consumption rates used to determine the capacity of the future water network***

| **Land Use** | l/d | Unit |
|---|---|---|
| Residential Zone 1: Single Residential (SR1) | 1000 | Erf |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | 800 | No |
| General Residential Zone 3: Flats (GR3 and GR4) | 600 | No |
| Less Formal Development Zone (LFD) and Subsidised Housing | 400 | No |
| Business Zone 1: General Business (B1) | 400 | 100 m² GLA |
| Business Zone 2: General Business (B2) | 400 | 100 m² GLA |
| Business Zone 3: Local Business (B3) | 400 | 100 m² GLA |
| Business Zone 4: Service Station (B4) | 400 | 100 m² GLA |
| Industrial Zone 1: General Industry (IND1) | 400 | 100 m² GLA |
| Industrial Zone 2: Noxious & Risk Industry (IND2) | 400 | 100 m² GLA |
| Community Zone 1: Community Facilities (CO1) | 400 | 100 m² GFA |

***Table 5: Daily waste water production rates used to determine the capacity of the future sewer network***

| | l/d | Unit |
|---|---|---|
| Residential Zone 1: Single Residential (SR1) | 750 | Erf |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | 600 | No |
| General Residential Zone 3: Flats (GR3 and GR4) | 450 | No |
| Less Formal Development Zone (LFD) and Subsidised Housing | 300 | No |
| Business Zone 1: General Business (B1) | 300 | 100 m² GLA |
| Business Zone 2: General Business (B2) | 300 | 100 m² GLA |
| Business Zone 3: Local Business (B3) | 300 | 100 m² GLA |
| Business Zone 4: Service Station (B4) | 300 | 100 m² GLA |
| Industrial Zone 1: General Industry (IND1) | 300 | 100 m² GLA |
| Industrial Zone 2: Noxious & Risk Industry (IND2) | 300 | 100 m² GLA |
| Community Zone 1: Community Facilities (CO1) | 300 | 100 m² |

### 12.3.3 Stormwater

The factor E for the stormwater infrastructure were determined by firstly determining the total area (ha) of the number of additional or planned units and areas from the OMGMS for certain regions. As only the number of units per residential land use is given in the OMGMS, average erf sizes were assumed for each residential land use and multiplied by the number of units. ***Table 6*** indicates the average erf sizes assumed for each residential land use. The individual undeveloped areas were multiplied by a runoff factor C of 0.3 (average runoff factor assumed for undeveloped ground) and the results subtracted from the same areas multiplied by the relevant runoff factor for the specific land use (once developed). This was done to determine only the additional or new runoff (C x ha) for the proposed developments according to the greenfields approach. ***Table 7*** indicates the runoff factors (C) used for each land use.

***Table 6: Average erf sizes assumed for residential land uses***

| Land Use | Area (ha) |
|---|---|
| Residential Zone 1: Single Residential (SR1) | 0.06 |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | 0.04 |
| General Residential Zone 3: Flats (GR3 and GR4) | 0.011 |
| Less Formal Development Zone (LFD) and Subsidised Housing | 0.015 |

***Table 7: Runoff factors (C) used for each land use***

| | C Value |
|---|---|
| Residential Zone 1: Single Residential (SR1) | 0.5 |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | 0.7 |
| General Residential Zone 3: Flats (GR3 and GR4) | 0.8 |
| Less Formal Development Zone (LFD) and Subsidised Housing | 0.6 |
| Business Zone 1: General Business (B1) | 0.9 |
| Business Zone 2: General Business (B2) | 0.9 |
| Business Zone 3: Local Business (B3) | 0.9 |
| Business Zone 4: Service Station (B4) | 0.9 |
| Industrial Zone 1: General Industry (IND1) | 0.9 |
| Industrial Zone 2: Noxious & Risk Industry (IND2) | 0.9 |
| Community Zone 1: Community Facilities (CO1) | 0.9 |

### 12.3.4 Solid Waste

In order to evaluate the capacity of the solid waste infrastructure and the possible requirement for expansion, the current waste generation quantities were evaluated based on actual weighbridge totals for each sub-area. From the actual quantities, an estimate could be calculated from the existing number of units for the waste to be generated by the additional developments.

From the tonnages measured, the basic assumption was that each unit would generate one full wheelie bin (240l) of solid waste per week for collection on average. Some areas consist of a large number of holiday homes which are unoccupied during a large part of the year, but are still counted as contributing units and waste generators. Due to this, the average waste density in the

whole Overstrand's wheelie bins was calculated as 93kg/m$^3$. This density yielded the closest balance between the actual waste collected and the assumed weekly generation rate per unit (***Table 8***).

***Table 8: Solid waste units (bins) generated by land use***

| **Land Use** | Units (bins) | Unit |
|---|---|---|
| Residential Zone 1: Single Residential (SR1) | 1.00 | Erf |
| General Residential Zone 1 & 2: Town Housing (GR1 and GR2) | 1.00 | dwelling unit |
| General Residential Zone 3: Flats (GR3 and GR4) | 1.00 | dwelling unit |
| Less Formal Development Zone (LFD) and Subsidised Housing | 1.00 | dwelling unit |
| Business Zone 1: General Business (B1) | 0.25 | 100 m² erf |
| Business Zone 2: General Business (B2) | 0.33 | 100 m² erf |
| Business Zone 3: Local Business (B3) | 0.25 | 100 m² erf |
| Business Zone 4: Service Station (B4) | 0.05 | 100 m² erf |
| Industrial Zone 1: General Industry (IND1) | 0.17 | 100 m² erf |
| Industrial Zone 2: Noxious & Risk Industry (IND2) | 0.17 | 100 m² erf |
| Community Zone 1: Community Facilities (CO1) | 0.18 | 100 m² erf |

## 12.4 GRANTS AND OUTSTANDING LOANS ($L$)

The Asset Register for the water, wastewater and road services as obtained from the Overstrand Municipality indicated the funding for each of the items listed. The items which were obtained through grants were left out of the contribution calculation. The value of the items obtained through loans were used in the factor $L$.

## 12.5 CONSUMPTION FIGURES OF NEW DEVELOPMENT ($E_2$)

The consumption figures of the new development areas were obtained from available masterplans or were calculated by a similar method to the calculation of the capacities described in ***Paragraph 12.3*** above.

# 13 DETERMINATION OF ELECTRICITY DEVELOPMENT CONTRIBUTIONS

## 13.1 STANDARDS

The Electricity BICL calculation for Overstrand Municipality shall be in accordance with the latest editions (current at time of works) of all relevant National and International Standards, including and not limited to:

NRS 069:2004 Edition 1, Code of practice for the recovery of capital costs for distribution network assets.

## 13.2 METHODOLOGY

The standard is a guideline as all municipal networks are diverse by nature of their environment therefore it is required that each municipality develops a policy for the recovery of capital costs for electricity networks.

The electricity network shall be broken up into logical segments as for a cost of supply analysis as described in ***Table 9*** below.

***Table 9: Network Segments***

| Network No. | Description | Voltages | Comments |
|---|---|---|---|
| N0 | EHV networks | >132 kV to 765 kV | Eskom |
| N1 | EHV to HV transformation | | Eskom |
| N2 | HV | >33 kV to 132 kV | Hermanus only; others included in Eskom tariff |
| N3 | HV to MV transformation | | Hermanus only; others included in Eskom tariff |
| N4 | MV | >1 kV to 33 kV | MV Switching Stations, cable network and RMUs |
| N5 | MV to LV transformation | | 11/0.4 kV transformers |
| N6 | LV | <1 kV | LV switches, cables and kiosks |

Service connection to be charged as a direct cost to client – MCB, service connection cable and metering

Street lighting is not included

The municipality may choose to recover capital costs in any of the three ways listed in ***Table 10*** below.

***Table 10: Capital costs recovery method***

| Capital costs recovery method | Definition |
|---|---|
| capital rate | non-escalating monthly capital repayment rate applied to the capital contribution due to the conversion to a monthly capital charge |
| network capital costs | costs incurred through once-off expenditure on plant quipment and other productive resources |
| tariff capital allowance | contribution to network capital costs that are contained in the tariffs |

Overstrand Municipality based on information received recovers costs using the network capital costs method.

The methodology meeting the requirements of Overstrand Municipality is defined in Table C1, page 29 of the NRS 069.

**Table 7 Table C1 of NRS 069 Page 29**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Network No. | Replace-ment cost | Stand-ard capa-city | Cost /kVA/ network | Cumulative contribu-tion | Cumulative contribu-tion | Tariff capital allow-ance per segment |
| | R | kVA | R | R | R | R |
| N0 (EHV) | | | | | | |
| N1 | | | | | | |
| (EHV/HV) | | | | | | |
| N2 (HV) | | | | | | |
| N3 (HV/MV) | | | | | | |
| N4 (MV) | | | | | | |
| N5 (MV/LV) | | | | | | |
| N6 (LV) | | | | | | |
| Total | | | | | | |

Therefore the objective of this task is to calculate the replacement cost and standard capacity of the various towns network to establish a cost per kVA for capital contribution charges.

### 13.2.1 Network Components

The following information was sourced from the municipality:

- Asset Register
- Single line Diagrams (SLD) for each town's network
- GIS database for each town's network
- Tender document for costing

The GIS geodatabase was used to produce a database of the network components for costing.

The network components were identified per:

- Town
- Network Segment
- Capacity

The SLDs were used to check all MV network components.

### 13.2.2 Component costs

The tender document combined with an Aurecon database was used to produce a catalogue of network component rates for the costing exercise.

The rates include material and labour and the following costs were added:

| | |
|---|---|
| - Preliminary and General | 5% |
| - Commissioning | 3.5% |
| - Material and Labour price escalations for the year | 5% |
| - Engineering Fees | 10% |
| - **Total** | **23.5%** |

### 13.2.3 Adjustments

Adjustments were also made for network components that included more than one network segment. The miniature substation which includes the following was the only component identified and the costs were divided as follows.

| | |
|---|---|
| - N4 – the ring main unit | 30% |
| - N5 – transformation MV/LV | 45% |
| - N6 – LV network switches | 25% |

### 13.2.4 Standard Capacity

As each component's capacity was listed in the database, a sum of the total capacity at each network segment is calculated.

Note 3 of NRS 069 Table C1 states the standard capacity of the transformation networks and that capacity is then repeated to the previous network (this implies downstream network).

The standard capacity for network segment N4 for each town provided a challenge in obtaining a fair cost per kVA to the consumer. The standard capacity was calculated by using the sum of the Main Switching Substation feeder cables and further applying an n-1 contingency where applicable and a 20% increase for ring networks where applicable.

| | |
|---|---|
| **Policy Section:** | Engineering Services |
| **Current Update:** | |
| **Previous Review:** | |
| **Approval by Council:** | 25 May 2016 |