

**- RESEARCH REPORT -**

**THE CRITICAL SUCCESS FACTORS IN TOWNSHIP  
ESTABLISHMENT THROUGH THE PROCESS OF THE  
PROVINCIAL LAND USE ORDINANCE 15 OF 1986**

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Submitted in partial fulfilment of the requirements for the degree  
Masters of Business Administration

in the

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

at the

UNIVERSITY OF PRETORIA

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Date of submission

17 October 2008

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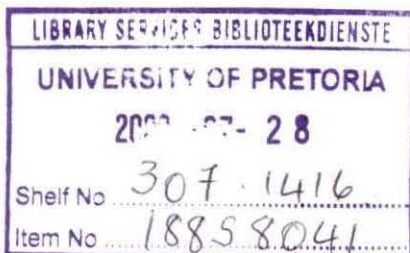
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## **RESEARCH REPORT**

# **THE CRITICAL SUCCESS FACTORS IN TOWNSHIP ESTABLISHMENT IN ORDER TO MINIMIZE THE RISK OF PROJECT DELAYS AND COST OVERRUNS THROUGH THE PROCESS OF THE PROVINCIAL LAND USE ORDINANCE 15 OF 1986**

### **ABSTRACT**

A study, as part fulfilment of the MBA requirements, was undertaken to establish the critical success factors within the township establishment process through the Town-planning and Township Ordinance 15 of 1986.

The study included a literature survey and evaluation of current practises to get a thorough understanding of the present requirements and procedures available to developers to do township establishment. This created a knowledge base from which a guideline was extracted to determine what activities are critical to the township establishment process in terms of the Township Ordinance

This was supported by personal interviews and questionnaires with experienced relevant role players i.e. developers, project managers, engineers and town planners to draw on their experiences with regard to the factors which they deem critical to the successful establishment of a township.

The study found that there are four critical success factors that can have a detrimental impact on the profitability of a project. These factors include the quality of the professional team, preliminary investigations, geotechnical and environmental investigations. However, with the current skill shortages and lack of enthusiasm experienced within the local and external governmental bodies, obtaining statutory approval from these authorities seems to have a more significant impact on the timely transformation of land into residential, commercial or industrial stands.



The findings of the study concluded that the crux of a successful township application lies in the pro-active management, integration and coordination off all activities within the scope of the professional team, local and external bodies. Obtaining statutory approval from local and external authorities is becoming increasingly difficult as local authorities lack the necessary expertise and enthusiasm to facilitate the application process. This places further emphasis on the pro-active management of all activities to optimize the township establishment process in order to minimize the risk of project delays, cost overruns and loss of income. .

It is therefore recommended that careful consideration supported by further research be conducted to identify the managerial activities and requirements to manage the township establishment process successfully within the present environment of an uncoordinated approach, acute shortage of skills, lack of knowledge and even corruption as a new simplified bill will not necessarily remove all the present short comings. This should include the structures required to develop the necessary capacities within the governmental authorities to facilitate the process.

## **Definitions:**

**Township Development:** Active form of investment where land is converted into residential, industrial or commercial stands with the sole purpose of making a profit.

**Township Establishment:** Process of converting land into residential, industrial or commercial stands through the process of the Provincial Land Use Ordinance 15 of 1986. The process falls within the wider township development process.

**Township:** Land developed as residential, industrial or commercial stands.

**Acts:** Legislation affecting land and land use which is introduced into parliament and passed into law at a national level. (Cloete 1998:31)

**Ordinance:** Legislation affecting land and land use which is drafted by provincial level government and affect activities on a province wide basis. (Cloete 1998:31)

**By-Laws:** "These are laws and regulations formulated by municipalities in accordance with provisions of Acts and ordinances, e.g. aesthetical control of buildings, parking regulations, health by-laws, etc."(Cloete 1998:40)

**Town Planning Scheme:** Land-use-management document prepared by the local authority that deals with local matters such as building lines, zoning and special uses. Purpose of which is to ensure the orderly development of the area within its jurisdiction to promote the general welfare of the community.

**Zoning:** Restrictions imposed on the erection and use of buildings or the use of land.

**Guide Plan:** Planning framework that direct, guide and control development activities within the local authority's jurisdiction.

**Local Authority:** City or town council governing the establishment of new townships.

**Applicant:** Land owner other than the local authority who has submitted or intend to submit a township application.

**Cadastral:** Erf boundaries as surveyed by a qualified land surveyor and recorded by the Surveyor-General.

**Erf:** Land registered in the deeds registry of an approved township as an erf, lot, plot or a stand. (Town-Planning and Township Ordinance 15 of 1986)

**Boundary and Bulk Contributions:** Monetary contribution paid to the local authority for the utilisation of their bulk engineering services as set out in the Service Agreement.



# 1 INTRODUCTION

This research report is aimed to serve as a guide for property developers, civil engineers and project managers when transforming land into residential, industrial or commercial stands. The report will highlight the critical success factors required to optimize the transformation process in order to minimize the risk of project delays, cost overruns and loss of income. The report will provide background knowledge on the township development and establishment processes and will focus on the most common current township establishment process, the Town-planning and Township Ordinance 15 of 1986. The report will also serve as a guideline to determine what activities are required and who to appoint when to develop land in terms of the Township Ordinance. The National Environmental Management Act 107 of 1998 (NEMA) as well as the Development Facilitation Act 67 of 1995 (DFA) will also be briefly discussed as the NEMA could have a significant impact on the township establishment process. The DFA serve as an alternative means to the ordinance to transform land into residential, industrial or commercial stands.

The township development process of converting land into residential, industrial or commercial properties involves the integration of a wide spectrum of professionals that includes various legal, financial and technical requirements that need to be understood and adhered to. The township establishment process which forms an integral part to the development process also relies on the input of a variety of professionals of a multi-disciplinary team and various external governmental departments. The process is time consuming and any delays can therefore have a serious impact on the programming of the project. The process necessitates thoroughness in the research and investigations done prior to the lodging of the application. The identification, performance and management of all influences are critical to the feasibility and implementation of a project.

The identification, evaluation and management of the critical success factors will enable the developer and professionals to focus resources in the most appropriate way in order to minimize the risk of cost overruns and project delays which could result in a loss of revenue.



## 1.1 INTRODUCTION TO TOWNSHIP DEVELOPMENT AND ESTABLISHMENT

### 1.1.1 TOWNSHIP DEVELOPMENT

Township development within South Africa has grown significantly over the last few years as a result of urbanization and continued economic development. The market has become very lucrative however, a number of risks exist in the process that can only be mitigated through a thorough understanding of the township development and establishment process.

Township development can take on various forms and due to its wide scope this report will therefore focus on land development where land is being developed into residential, industrial or commercial stands through the Town-planning and Township Ordinance 15 of 1986 which is applicable within the Gauteng region of South Africa.

The township development process consists of seven phases:

#### ***Phase 1: Idea***

The developer identifies suitable land for the proposed township development or investigates alternative development options on land he or she owns.

#### ***Phase 2: Preliminary feasibility***

The primary motivator for any private sector developer is to make a profit. The developer makes a “rough cut” analysis of whether the proposed project is economically feasible. Cost estimates, cash flow predictions, risk factors and the resulting market values are determined. The project will only continue if the estimated return outweighs possible cost overruns and other quantifiable risks.

Depending on the proposed development the developer can appoint a professional team to assist the developer in determining factors such as the rights obtainable for the identified land, public opinion and possible objections to the proposed development, the availability of bulk engineering services such as water, sewer, roads, stormwater and electricity to the proposed land development as well as the associated costs to install these services. These estimates will be based on the preliminary township layout which is

compiled by a town planner. In the majority of cases the professional team would have done this preliminary work on a risk basis as the developer still has to decide whether to continue with the process or not.

### ***Phase 3: Gaining control of the site***

Based on the preliminary feasibility this stage involves the outright purchase of the land or obtaining an option to purchase subject to certain conditions such as securing the necessary finance, zoning and permission to do the proposed development if the developer does not already own the land.

### ***Phase 4: Feasibility analysis and design***

Within this phase of the development process a comprehensive analysis is done on the legal, market, site and financial aspects of the proposed development which is an integral part of the township establishment process.

The **legal** analysis will determine the land use and area legally allowed as prescribed by the town planning schemes of the local authority. Care should be taken by the township developer as not to purchase farm land that falls outside the development scope or guide plan of the local authority. Conflicting land uses to the guide plan will not be permitted by the local authority.

The **site** analysis will include the following:

- Environmental Impact Assessment (EIA) to determine the potential impact on the environment and what the impact is of the NEMA requirements on the proposed development.
- Flood line study if applicable indicating the 1:100 flood line.
- Geotechnical investigation to determine whether the underlying soil conditions are safe for the proposed development as well as what costs might be incurred in terms of the founding and the installation of engineering services.
- Traffic impact assessment to determine the impact on the existing road infrastructure generated by the additional traffic of the proposed development.
- Municipal services report to address the level, extent and availability of municipal services to be provided as well as the estimated installation costs.



The physical feasibility of the site is then analysed in terms of site and location characteristics as well as the environmental factors to determine whether there is match between the unique requirements of the suggested development and unique characteristics of the site.

The **market** analysis will establish what future market values can be expected. This will include a socio-economic feasibility study which includes factors such as demographics, urban growth patterns, housing tendencies, personal income and expenditure patterns and local economic and political factors. The identification and analysis of these factors will have a positive or a negative impact on the development.

A **financial** analysis is then done to determine whether the project conforms to the developer's financial requirements. This will include an estimation of the total cost and projected income, cash flow projection, estimated profitability and associated risks of the proposed development.

If the project is still deemed feasible, the detail design stage will commence where construction drawings are created and issued to the council for approval.

#### ***Phase 5: Financing***

During the feasibility and design stage negotiations are started with possible financiers and finalized once the project is deemed to be feasible.

#### ***Phase 6: Construction***

The construction is a critical success factor of the entire project. Project delays, cost overruns due to legal proceedings, cash flow constraints, high interest rates, poor estimates, labour problems or other delays could hurt or even ruin the profitability of the project.

#### ***Phase 7: Marketing***

The ultimate success of a development depends on its marketability. Decisions such as when to sell and at what price are required. Future market conditions and the availability of and the cost of capital now versus future market conditions need to be carefully



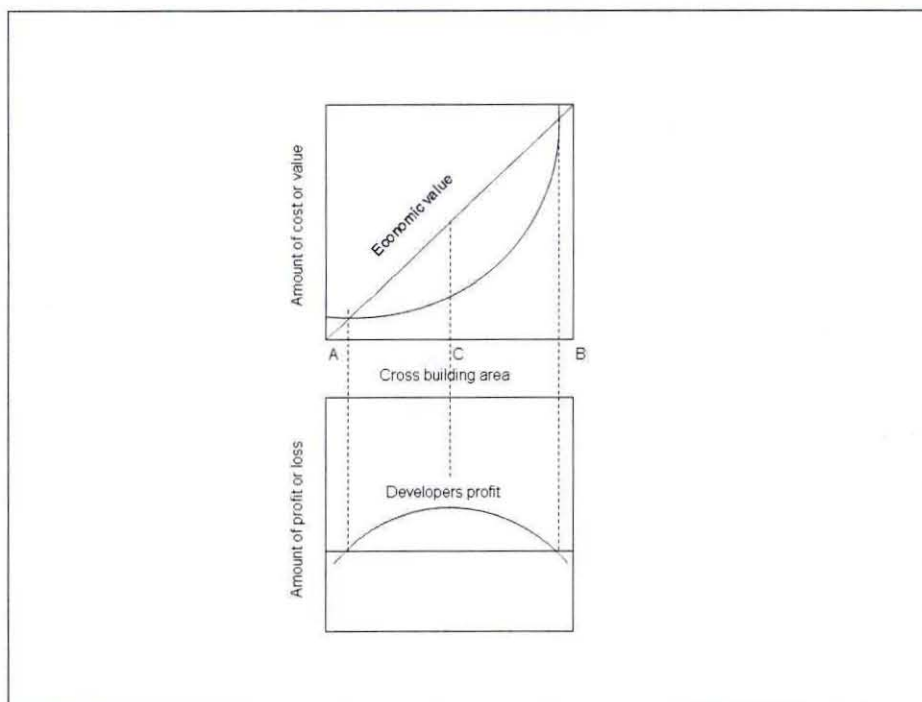
considered as these could affect the profitability. This means that any delays within the township development process can result in project delays which will impact negatively on the marketability of the project.

In order to successfully complete the township development process the developer must have a complete understanding of the entire township development process but should also meet the following requirements as stated by (Cloete 1998:123):

- Sufficient demand for the product at a price that justifies the investment
- A cost structure that ensures optimum net profit
- A design that ensure maximum demand that will meet the proposed cost structure
- Good location
- Control of costs and the effective management and selling of the development.

The developer must attempt to evaluate the costs and values associated with each development alternative in order to choose the most profitable concept. This is illustrated in the Figure 1 below which illustrates the relationship between the quantity of space, development costs, value created and developer's profit (Cloete 1998:115).

**Figure 1: Relationship between development costs, economic value and developer's profit**



Source: Adapted from Cloete 1998:115

The upper graph shows how development costs increase as more space is being developed on the site. The economic value curve reflects the assumption that each square metre of additional space adds the same amount of value which is not always true but only shown here to illustrate the concept.

The lower graph maps the difference between the value created and the cost, which is the profit. In the graph, point C, illustrate the maximum profit and optimum development intensity.

### **1.1.2 TOWNSHIP ESTABLISHMENT**

The township establishment process is applicable to all types of township developments and is done in terms of the provisions contained in the Town-Planning and Township Ordinances of the various provinces within South Africa.

In the past the use and development of land was primarily governed by common law. However, as South Africa developed, the need for town planning controls and policies became more apparent to protect the public interest. As a result the first town planning ordinance came into existence in 1931 in the province formally known as Transvaal.

Government identified the need for strategic planning frameworks and with the help of professional town and regional planners established planning policies on a national, regional and local level to guide the physical and orderly development of regions. Regional and local planning policies were formulated into Guide Plans and Structured Plans and lately Land Development Objectives (LDO's) and Integrated Development Plans (IDP's) which were formulated in terms of Development Facilitation Act, 1995 and the Local Government Transition Act (Second Amendment Act 97 of 1996) respectively. The latter represented the concept of "Forward Planning". The formulation of LDO's and IDP's included an extensive public participation and provided information on needs, service levels and objectives that best represented the community within that specific region. All physical development and land use plans must be in accordance with the stipulated LDO's and IDP's which serves as a guide to municipal budgets and private investment within a town or city in order to direct social-economic and physical development.

Town-planning schemes and by-laws were created by a local authority for any land situated within its area of jurisdiction. It operates only on a local level and according to Cloete (1998:25) and The Town-Planning and Township Ordinance 15 of 1986 the broad goal of a town-planning scheme is to improve the general welfare of the community and to ensure the sustainability of the environment. The township establishment process should protect the public interest by ensuring that:

- the proposed township adheres to the LDO's and IDP's for that specific region;
- the location of the proposed development or township in terms of the visual exposure and proposed land use does not impact negatively on the natural environment, competing land uses or adjacent residential properties;
- the proposed development falls within the planned area's of growth of the local municipality which would facilitate economic and infrastructure development creating employment opportunities, roads, water networks, electricity, schools, hospitals and recreation facilities;

The need and desirability of each application is also assessed and judged by the controlling authority to assess whether the proposed township development falls within the listed criteria.

In order to successfully complete the township development process the developer must have a complete understanding of the township development and establishment process. The identification of the critical success factors within these processes will enable the developer to mitigate and minimise the down-side risk of township development.

## **1.2 PROBLEM DESCRIPTION**

### **1.2.1 Problem Statement**

Various residential development projects never realize, suffer economically, experience delays and disruptions as a result of a lack of understanding of how to plan and facilitate the rezoning of agricultural land for residential, commercial or industrial land use.



### **1.2.2 Research Question**

What are the critical success factors within the township establishment process in terms of the provisions contained in the Town-Planning and Township Ordinances 15 of 1986 to minimize risk and to optimize the conversion of raw land into proclaimed land?

### **1.3 RESEARCH OBJECTIVES**

The aim of this report is to:

- Provide a thorough understanding of the township establishment process available to property developers, civil engineers and project managers.
- Describe the impact of the Town-Planning and Township Ordinance 15 of 1986 legislative procedure on the township establishment process.
- Describe the alternative legislative procedures available to township establishment
- Describe the impact of the National Environmental Management Act (NEMA) on the township development process.
- Describe the critical success factors within the township establishment process to minimize the risk of project delays and cost overruns.
- Provide a project plan that will enable property developers to better plan, estimate costs and to identify milestones to facilitate the streamlining of the overall process of township establishment within the overall township development process.

### **1.4 ASSUMPTIONS AND LIMITATIONS**

The research will be conducted locally, limited to the South African property industry and will primarily focus on township development within the Gauteng region.

The research will depend on the participant's perceptions and experiences within the township development process. Limited information is available on the actual township establishment processes and no literature is available on what the critical success factors are and what their impact is on the township development process.

No research will be done at this stage on the various other critical phases within the township development process such as the financing, construction and marketing phases.

## **1.5 CONCLUSION**

There are numerous requirements for successful township development. Developers, to a certain extent, have control over various factors such as the type and quality of the project that may determine success. However, over the township establishment process developers have very little control as controlling authorities have their own criteria by which the need and desirability of each proposed development is judged. If history has taught us anything the attitude of the local authority within the application process is often to discourage rather than to encourage new development. Developers therefore need to have a good understanding of how the township establishment process works to try and mitigate their risk in terms of projects delays and cost overruns to the proposed development.

## **2 LITERATURE REVIEW**

### **2.1 INTRODUCTION**

The township establishment process is applicable to all types of township developments and is done in terms of the provisions contained in the Town-Planning and Township Ordinances of the various provinces within South Africa. "The township establishment process can generally be defined as the conversion of raw land (usually farm land) into proclaimed land which can be subdivided into plots and sold to buyers. The process is regulated by legislation which ensures that all parties and organisations deemed to have an interest in the land or in the proposed township have an opportunity to comment.

The outcome of the process is the creation of a new township, to which titles to specific erven or plots can be registered in the Deeds Office with the title deeds on the basis of a General Plan held at the Surveyor General's Office. All required documents are drawn up through the township establishment process." (Department of Housing/National Business Initiative, 1997:18).

The township establishment process is complex and time consuming as there are more than 130 Acts and 50 ordinances that can affect and control the use of land. As a result a thorough investigation has to be undertaken by the property developer prior to the lodging of the township application. Many developments have been delayed or never realised as the necessary preparatory work has not been done.

### **2.2 TOWNSHIP ESTABLISHMENT PROCESS**

The township establishment process is an integral part of the township development process. According to Cloete (1998:25) the township establishment process can be divided into a number of activities.



## 1. Identifying suitable land for development.

After suitable land has been identified the acquisition of the land will in all probability be subject to a set of terms and conditions i.e. securing of the development rights. These terms and conditions are agreed upon by the seller and the purchaser prior to the purchase of the land.

## 2. Appointment of professional team

Depending on the envisaged development the property developer can appoint a professional team consisting of the following professionals to assist in the township establishment process:

- **Town-planner** who can act as the coordinator of the planning project and who is responsible for processing township applications for land-use rights.
- **Civil engineer** who is responsible for determining the location and availability of existing services to the new township. The civil engineer is also responsible for the drafting of a services report and the design and supervision of the township services such as water, sewer, stormwater and internal roads.
- **Electrical engineer** who is responsible for the determining the location and availability of existing electrical services. The electrical engineer is also responsible for the design and supervision of the electrical reticulation system.
- **Engineering geologist** who is competent to undertake a dolomitic or any other type of geotechnical investigation for the new township.
- **Transportation engineer** who is mainly concerned with the compilation of a Traffic Impact Assessment report, indicating how the surrounding roads and other transportation systems are affected by the new township and what needs to be done to accommodate the additional flow of traffic generated.
- **Land surveyor** who is responsible for the contour and cadastral surveys which is required for the proclamation of the township.
- **Attorney** who draw up all legal documentation, agreements and contract. He is responsible to assist in scrutiny of the title deed of the land.
- **Conveyancer** who is primarily concerned with the registration of all property and other real rights pertaining to the land.

The above-mentioned professionals are important to the township establishment process. However, there are a number of other professionals such as an architect, financier, marketing consultant, quantity surveyor and estate agent that will in all probability form part of the professional team at the different phases within the township development process.

### 3. Investigating the legal and cadastral position of the land.

It is the responsibility of the developer to investigate the legal and cadastral boundaries as well as what the future planning is for the broader area. This involves the scrutiny of the title deed, existing leases, possible mineral rights, and what existing restrictive conditions such as water rights and servitudes for roads, railway lines, water, sewer, gas and power lines are tied into the land.

The availability and location of existing engineering services such as electricity, water, sewerage and stormwater drainage which is essential to the proposed development must also be investigated to determine what cost and time implications could arise.

Accessibility to the development and whether the proposed development is aligned with the IDP's and LDO's of the local authorities should also be investigated.

### 4. Conduct a geotechnical survey and flood line study

The existing soil conditions should be examined by an engineering geologist or geotechnical engineer who is competent to determine whether the soil conditions are safe and feasible for the proposed development.

If the proposed development falls within a dolomitic geological area, approval from the Council for Geoscience (CGS) is required as stipulated by Tshwane and Ekurhuleni local authorities as well as the National Home Builders Registration Council (NHBRC).



The Record of Decision (RoD) issued by CGS is based on a specific residential type, layout, density, foundation solution, risk management plan and proposed precautionary measures.

It is recommended that the Developer obtain a RoD from CGS before the scoping report required in the EIA process, is submitted to Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (GDACEL). The CGS ROD is a prerequisite for the issuing of the ROD by GDACEL.

The flood levels or flood lines must be investigated, if applicable, by a civil engineer as required in terms of Section 144 of the National Water Act, 1998 (Act 36 of 1998). This is to ensure that no development occurs in areas deemed in danger of a 1:50 or 1:100 year flood.

5. Undertake an environmental and social impact study.

There are numerous environmental and conservation acts impacting on the use of land such as National Environmental Management Act 107 of 1998, Environmental Conservation Act 73 of 1989 and the National Water Act 36 of 1998. The aim of these acts is to

- protect ecological processes, natural systems and beauty as well as the preservation of biotic diversity in the natural environment;
- promote the conservation and sustainable utilization of species and eco systems;
- protect the environment against pollution, destruction and ecological deterioration as a result of the proposed development;
- establish and maintain acceptable living environments in accordance to the community environmental values and needs;
- ensure sustainable development through the integration of social, economic and environmental factors so that the proposed development serves present and future generations.



It is the responsibility of the property developer to appoint an environmental assessment practitioner (EAP) to undertake the environmental impact study. Any sensitive area's to the development must be identified and incorporated into the planning. Local authorities could have declared any part of the site as a conservation area which can either have a detrimental effect on the feasibility of the project in terms of its economical layout or could even stop the proposed development. The process is time consuming and can take several months or even years depending on the sensitivity of the proposed development on the immediate and surrounding environment. Based on the Environmental Impact Assessment and in conjunction with the EAP the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (GDACEL) will either refuse the application or release a Record of Decision (RoD) that stipulates the terms and conditions to which the proposed development must adhere to. The applicant can appeal within 30 days from the date the RoD was issued to the provincial authority with all the relevant documentation. The appeal will then be considered and based on the outcome the RoD may or may not be amended.

The social impact study must also be undertaken to determine whether the social economic climate is favourable for the proposed development. Various factors must be analysed such as demographics, the urban growth patterns, property tendencies, income and expenditure factors, local and macro economic factors as well as political factors.

## 6. Conduct a Traffic Impact Assessment Study

The access to the development and the additional traffic generated by the development and the impact thereof on the existing road infrastructure must be investigated by a transportation engineer depending on the additional trips generated. The engineer must also obtain written approval from the South African Roads Agency Limited (SANRAL) as required by virtue of the National Roads Act, 1998 (Act No. 7 of 1998) if the development requires access from provincial or national roads.

This process can have a time and cost implications if deemed that the surrounding various intersections and existing roadways must be upgraded to accommodate the proposed development

## 7. Obtain base mapping information

A contour plan of a suitable scale must be obtained either from the local authorities or from a contour survey which must be done in accordance with the regulations framed under the Township Ordinance so that the area can be planned.

## 8. Define planning parameters

The planning parameters include the residential, industrial or commercial zoning applied for, non-residential land usage, road hierarchy with possible access routes from existing roads, geotechnical data and flood lines if applicable, established service corridors as well as the existing servitudes running adjacent and or through the proposed development.

Residential, commercial and industrial zoning has various categories with different building restrictions in terms of the maximum permitted building coverage of land, floor area ratio under a roof of a unit and the density which is the maximum dwellings allowed per hectare. The building restrictions pertaining to each zoning are summarised in Table 1.

**Table 1: Residential, commercial and industrial zoning with associated building restrictions**

Zoning	Building Restriction
Residential 1	One dwelling per stand or erf with maximum footprint coverage of 40%.
Commercial 1	Mostly unrestricted and allows for shopping centres or malls.
Industrial 1	Permits zoning for normal factories, warehouses or storage depots.
Residential 2	10 to 20 dwellings per hectare with a maximum coverage of 40% such as clusters of houses or larger townhouse complexes
Commercial 2	Allows for a shopping centre but with restricted businesses due to the location and immediate surroundings.
Industrial 2	Zoning specifically for operations which may involve noxious or unpleasant odours and emissions.



Zoning	Building Restriction
Residential 3	21 to 40 dwellings per hectare with a maximum coverage of 40% such as smaller clusters of houses and town house complexes.
Commercial 3	Stricter zoning that does not allow a wide variety of business to open and operate in the shopping centre.
Industrial 3	Applies for specific applications such as workshops or mini-factories.
Residential 4	41 and 120 dwellings per hectare with a maximum coverage of 40% such a block of flats.
Commercial 4	Provides zoning for office parks with or without residential use.

It should be noted that the above mentioned zonings are not universal to all the local authorities within the Gauteng region. The definitions and meaning can differ for each authority. Town planners therefore mainly apply under a special zoning heading where the township is described in detail to ensure no misunderstanding of what is applied for. Also each zoning has a different demand on utilities in terms of water supply, sewerage disposal, stormwater runoff and the possible upgrade of existing roads and intersections.

#### 9. Prepare a draft layout plan

Once all the information is analysed a draft layout plan of the proposed development is compiled which incorporate all the planning parameters.

Based on the above mentioned studies and the information gathered the down-side risk of the development in terms of its legal, market and cost should be revisited prior to the lodging of the township application. Public opinion and possible objections must be carefully evaluated as well as what the outcome was on recent decisions at similar developments within the surrounding area. These factors must be included in the feasibility and planning of the project as any delays could result in cost overruns as result of project delays, inflation and changes within the market demand.



## 10. Lodging of township application

On the completion of the previous activities a township application with supporting documentation is prepared and submitted to the authorised local authority (in Gauteng) planning department or else the provincial government Department of Planning Environment and Works if the local authority is not authorised. .

The township application is done in terms of a planning report which defines the rezoning and the subdivision of land. The report will include the following documents.

- Township layout plan indicating
  - A suitable scale
  - Contours
  - Coordinates with a grid spacing of not more than 300m and grid values
  - North Point
  - Existing buildings, topographical features, existing and planned roads of the adjacent areas, boundaries of the proposed township, proposed access to the development, sufficient dimensions indicating the size of erven and street widths, specific uses of erven should be indicated clearly, 50 and 100 year flood lines if applicable, soil zones as per the geotechnical report, servitudes.
  - Locality plan of where the proposed township is situated
  - Table providing a summary indicating the area of township, total number of erven and special residential zoning, erven for specific uses, length and width of streets, percentage of the area covered by roads and what percentage are open areas
  - Name of township
  - Name of local authority
  - Name of registered owner and signature of applicant as well as the name and address of the firm or person responsible for the layout
  - Drawing number
  - All amendments to the plan should also be tabulated
- Geotechnical report
- Traffic impact study

- Environmental Impact Assessment report with the Record of Decision
- Powers of attorney
- All legal documentation such as the title deed tied to the land
- Motivating Memorandum where the need and desirability of the proposed development is fully motivated. Each authority has its own set of criteria by which the desirability and need of the development is judged
- Services Reports
- Mineral Rights holder consent. Letter stating that the rights to minerals in respect of the land on which the applicant wishes to establish a township have been severed from the ownership of land or granted a lease of the rights to minerals or that the applicant has requested the local authority of the Expropriation of Mineral Rights Act, 1969 to expropriate the rights to minerals. (Town-Planning and Township Ordinance 15 of 1986:40)
- Flood Line Report if applicable

Refer to Appendix A for an example of a township layout plan.

However, the services reports are not required for the initial township application. Only when the local authority approves the township in principle with a set of detailed and general conditions will these documents be required to address these conditions.

The local authority requires that an advertisement of the proposed development be posted in the newspapers, provincial gazette and on site as to provide all interested parties the opportunity to submit their comments or objections. According to the Township Ordinance 15 of 1986 the local authority may require that the advertisement be posted once a week for two consecutive weeks. The ordinance also states that any person will have 28 days from the first date of publication to lodge an objection in writing to the local authority. Any objection will be forwarded to the applicant whereby the applicant will have 28 days to respond in writing to the local authority.

Running in parallel the local authority also consults with its own internal departments and external bodies i.e. Eskom, Randwater, Telkom, and Department of Agriculture etc. for comments or recommendations on the application. Only when all the comments have



been received will the local authority consider the application and make a recommendation to the township application. An article 60 committee of the local authority may carry out an inspection of the site and have a hearing of the views of the applicant, objectors and the local authority. However, this will only take place if objections were lodged against the development.

If the township application was denied or approved subject to certain conditions the applicant will have 60 days from the day he was notified of the decision and conditions to respond to the local authority. If there are any disputes between the applicant and the local authority the matter can be referred to a committee of the Township Board by the local authority which serves as an appeal body for disputes. The Township Board will review and make a final recommendation to the local authority for the approval or refusal of the application. It should be noted that the applicant on the request of the local authority will be allowed to amend his application while the application is pending before the Township Board or the local authority.

The local authority then issues a letter stating that the Townships Board has made a recommendation approving in principle the establishment of the township or subject to a certain set of conditions. Upon acceptance of these conditions by the applicant they become final conditions, which are embodied in a number of pre-proclamation conditions that needs to be adhered to by the applicant within a period of 12 months. These conditions will in the majority of the cases require service reports. Failure to comply with these conditions will result in a lapse of the township application.

#### 11. Preparation of conditions of establishment

According to the Town Planning and Township Ordinance 15 of 1986 every township shall be provided with engineering services such as water, electricity, sewerage and roads necessary for the development of the township. Normally the developer will finance and install the internal services while the local authority will be required to install the external services and to maintain the internal services installed. The applicant and the local authority will enter into a service agreement relating to the provision of these services. Prior to the undersigning of the service agreement a service report must be compiled by a



Professional Civil and Electrical Engineer. The services reports will address the requirements of the local authority. The report from the civil engineer will include:

- a bulk services investigation indicating where the bulk services are and where possible connections can be made
- whether there are sufficient spare capacity to serve the proposed township or what possible upgrade of external services are required to serve the township
- cost estimates for the installation of the internal services and the connection to external services as well as what boundary and bulk contributions are payable.

An electrical engineer will investigate the electricity requirement of the proposed development and submit an application to the licensed electricity regulator requesting approval for the required supply.

The service agreement provide for the following according to Department of Housing/National Business Initiative (1997:51)

- the type of services to be installed and to what specifications as it may differ from each authority
- rights and the obligations of the developer in terms of the installation of the services and charges payable to the local authority in terms of boundary and bulk contributions as reflected in the services report
- method of handover of services from the developer to the local authority
- liability period of the developer to rectify any defects and what service guarantees are required by the local authority
- rights and obligations of the local authority in terms of the provision of bulk services, service rebates and bulk contributions payable to them

Refer to Appendix C for a typical service agreement.

## 12. Preparation of General Plan

On approval of the residential township the applicant must within a period of 12 months lodge an application for approval with the Surveyor-General. This entails a complete cadastral survey of the land by a land surveyor indicating and defining the cadastral

boundaries of the new township. A General Plan of the new township is prepared and submitted for approval. The Surveyor-General ensures that the General Plan conform to current standards and also acts as the keeper of the plan to register any changes to the cadastral of the township such as the registration of new servitudes. Failing in lodging an application within the prescribed time frame or obtaining permission from the Surveyor-General will result in the cancellation of the township application. On approval the applicant must within a period of three months from the date of approval submit a certified copy of the approved General Plan to the local authority which is forwarded to the Deeds Office.

On receipt of the approved General Plan the township amendment scheme is prepared by the local authority whereby the new approved township is included into the greater township area. Refer to Appendix B for an example of an approved General Plan.

### 13. Opening of the township register

Before the township register, which is the record of ownership in respect of the new township, can be opened at the Deeds Office, the applicant must comply with all the pre-proclamation conditions as determined by the local authority or the Township Board. It is the responsibility of the applicant to undertake the necessary steps to address the conditions tied to the land. Only when all the conditions have been removed, cancelled or adhered to and the documentary evidence of this has been submitted to the local authority can the Section 101 Certificate be obtained which is required to open the township register by the Deeds Office. This may include the payment of the bulk and boundary contributions as stipulated by the service agreement and the provision of a guarantee for the installation of the total or remaining services and maintenance thereof. The payment of the contributions is depended on the local authority as this is not required by the Town-planning and Township Ordinance 15 of 1986 to obtain the Section 101 certificate.

Once all the documents have been received and scrutinised by the Deeds Office the local authority will by notice in the Provincial Gazette declare the township an approved township as well as to what conditions it was declared an approved township. On receipt



of the approved General Plan, signed services agreement and approved civil construction drawings the developer may start with the installation the engineering services.

However, a Section 82 certificate is required before any transfers of erven can take place. The certificate will only be issued once all the engineering services have been installed and approved by the local authority and the bulk and boundary contributions have been paid. A guarantee to the value of 10% of the total construction cost must also be issued by the developer which must be valid for the one year maintenance period. Only then can the transfer of erven take place and will the developer start realising his return on investment.

Although the Provincial Land Use Ordinance Route is most commonly followed in current development projects there are two other legislative procedures available to undertake township establishment according to Cloete (1998:150).

**Less Formal Township Establishment Act (LFTE)** which is intended for lower income residential areas. The act allowed the province to establish a township without the approval of the local authority. However, since 1996 the act also requires the approval of the local authority resulting in a procedure that requires two approvals making this procedure very time consuming.

**Development Facilitation Act (DFA)** which is similar to the Provincial Land Use Ordinance route but comprises of a more comprehensive application. The DFA has two main aims.

- Fast tracking reconstruction and land development projects by providing a national uniform township establishment procedure. The application is reviewed and approved or disapproved at the Tribunal hearing, which consists of all the various role players within the township establishment process.
- Providing a policy framework at national, provincial and local level concerning land development, which facilitates the formulation and implementation of land development objectives to guide decision making on land development in the future.

The DFA has a Development Tribunal consisting of public and private sector members with experience in the planning and development fields which have been appointed to



make decisions on land development applications submitted to it in terms of the DFA process.

The DFA route may be the preferred choice for a developer as it provides a faster mechanism for township establishment than any other legislative procedure as it provides specific time frames in which local and external bodies must provide their comments. However, it is still considered highly controversial from an environmental perspective as is often used as a short-cut to circumvent the need to consider environmental and social issues in detail by bypassing both the town and regional planning and EIA processes. The DFA application is also more expensive compared to the other two procedures and requires a great deal of coordination and effort to try and get all the interested parties at the tribunal hearing. Town planners also tend to avoid the process as it is more confrontational in nature.

The Provincial Land Use Ordinance route has an advantage over the above mentioned legislative procedures as developers and local authorities are generally more familiar with how the process works making it more efficient and the fact those local authorities can be held accountable for projects following this route.

Although the ordinance route is most commonly used it is important to remember that the choice of legislation is very much dependant on the circumstances of the particular development such as underlying land issues, type of development, restrictive conditions of title and duplication of laws. These potential problems and circumstances must be considered prior to a decision being made regarding appropriate legislation to use.

## **2.3 CONCLUSION**

From the above it is evident that a wide spectrum of activities are required which involves a host of professionals and external governmental departments to obtain township establishment. It is therefore important to have a tool or guide line as to what the critical success factors are to successfully transform the acquired land into proclaimed land. A lack of understanding and knowledge in this regard can undermine the feasibility of a project.

### **3 METHODOLOGY**

#### **3.1 INTRODUCTION**

Research methodology is defined as the total strategy, from the identification of the problem, to the final plans for gathering data and analysis (Burns & Grove 2001:223). It necessitates a reflection on the planning, structuring and execution of the research in order to comply with the demands of truth, objectivity and validity (Brynard & Hanekom 2006:36).

This chapter describes the research design and methodology used in this study including population, data collection and testing thereof to ensure reliability of the data.

The purpose of the research is to explore and describe the critical success factors within the township establishment process.

#### **3.2 RESEARCH DESIGN**

Research design is defined as the blue print for conducting a study that has clearly defined structures within which the study is implemented (Burns & Grove 2001:223). The research design is predominantly determined by the research question and, as such the investigation will result in a complete comprehension of the topic being studied.

This research will be qualitative, descriptive and exploratory in design, attempting to capture both the complexity and the critical success factors within the township establishment process.

Through qualitative research the researcher is attempting to draw off the experience of various property developers, civil engineers and project managers during the township establishment process. According to Brynard & Hanekom (2006:37) qualitative research focuses on the real-life experiences of people. This approach will enable the researcher to engage the test subjects through in-depth and unstructured interviews to experience



through their eyes what the critical success factors are within the township establishment process.

Exploratory research is defined by Burns and Grove (2001:374) as research conducted to gain new insights and to increase knowledge regarding the topic investigated. This study attempts to explore the insights of property developers, civil engineers and project managers as to what the critical success factors are within the township establishment process through the process of the Town-planning and Township Ordinance 15 of 1986.

Descriptive research involves a detailed observation and analysis of the topic under investigation. Descriptive research is used to document the observations in real situations with the aim to understand how the various activities within the township establishment process relate to, and interact with on another. A descriptive research is interpretative resulting in an in-depth and complete understanding and description of respondent's experience in order to explain the critical success factors to the process of township establishment.

### **3.3 SAMPLING**

Qualitative research usually focuses on a small sample of people as stated by Brynard and Hanekom (2006:54) "Sampling is a technique employed to select a small group (the sample) with a view to determining the characteristics of a large group (the population)". The sample size is not as important as the analysis and the availability of sufficient information (Miles & Huberman 1994:27).

Therefore the sampling criteria for this study are based on the characteristics essential to the membership of the target population. For this study the inclusion criteria were:

- The participant must have completed at least two or more township developments
- The participants must have at least five or more years of experience within their professions to enable the researcher to extract the critical success factors from each discipline.
- The participants should have had exposure to the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986
- The participants must be willing to participate in this study



### **3.3.1 Target population**

According to Brynard and Hanekom (2006:55) a population refers to group in the universe as those who conform to a set of specifications. Welman and Kruger (1999: 18; 49) defines a population as a complete group of entities sharing some common characteristic. Therefore the population selected will consist of property developers, engineers, town planners and project managers who have more than five years of experience within the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986. The researcher is attempting to gather a collective view in terms of what the critical success factors are and whether a relationship exists among the different professions in terms of what these factors are and the impact thereof on the property development process.

### **3.3.2 Sampling method**

A sample is a subset of a population selected to participate in the study (Polit & Beck 2004:731). The sample is part of the target population that can be used to obtain the required data (Welman & Kruger 1999:46). A purposive sampling method is used which requires selecting participants who are knowledgeable about the topic in discussion, because of their involvement and experience within the process (Brink 1996:141). Therefore the purposive sampling method will best suite the researcher to understand the township establishment process and the research question.

The researcher will contact property developers, town planners, engineers and project managers within the Gauteng region.

### **3.3.3 Sample size**

The sample size selected for this study consist of five property developers, town planners, engineers and project managers who were selected based on their knowledge, experience and willingness to participate in this study.

### 3.4 DATA COLLECTION

Burns and Grove (2001:49) define data collection as “the precise systematic gathering of information relevant to specific research objectives or questions”. According to Burns and Grove (2001:50) data can be collected in several ways, but which ever instrument is selected, the research objectives must be accomplished by the instrument used.

Unstructured interviews with the aid of questionnaires will be used to gather information for this study.

#### 3.4.1 Instrument

The researcher has used unstructured, in-depth face-to-face interviews as the primary tool for gathering data for this study. This method of data collection allowed the participant with the opportunity to share their own experiences and perceptions regarding what they regard as the critical success factors within the township establishment process. The researcher is also of the opinion that interviews are the best way of exploring different avenues within the township establishment process to develop a deeper and richer understanding of the process.

According to Brynard and Hanekom (2006:46) interviews have the following advantage and disadvantages:

##### **Advantages:**

- Interviews allow the interviewer to explain matters that are unclear to the participant.
- Allows the researcher to clarify ambiguous answers by the participant.
- Allows for in-depth questions that results in a deeper and richer understanding of the topic researched.
- Allows for the exploration of different avenues within the process.
- Allows the participant to freely communicate his or her perceptions and experience to the researcher.

##### **Disadvantages:**

- Participant might fear to commit themselves to telling the truth.
- Time consuming.

- Geographical limitations.
- Response may be bias.

The questionnaire formulated was used to guide and facilitate the researcher within the interviewing process. The questionnaire was structured by the research problem and objectives and was ordered in a logical sequence which followed the township establishment process. This allowed for the meticulous documentation of the different critical success factors within each activity. The literature was analysed by the researcher to identify the preliminary critical success factors from which a specific set of questions were formulated that will best aid the researcher in answering the research question. This was to ensure content-related validity and to provide the researcher with a deeper understanding of the topic being investigated.

According to Brynard and Hanekom (2006:46) questionnaires have the following advantage and disadvantages:

**Advantages:**

- Can be posted, emailed or faxed prior to the interview process.
- Questionnaires provide the participant time to think about the answers to the open questions allowing for more in-depth interviewing.
- The researcher can reach a larger geographical area.

**Disadvantages:**

- The disadvantage is that the researcher is not on hand to explain any uncertainties which may result in distorted answers.
- Questionnaires do not allow the participant to freely communicate his perceptions and experiences.
- Historically have a low response rate.
- Incomplete questioners.

However, as the questionnaire formulated served as a basis for the interviewing process, the above mentioned disadvantages will be largely eliminated when the interview is conducted.

The questionnaire formulated was divided into the following sections:



Section A: Demographic data

Section B: Assessment of the critical success factors within the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986.

Section C: Conclusion which entailed general questions on the questionnaire.

Section D: Thank you

For this study unstructured interviews yielded rich data as participants were able to respond and raise their views based on their experience without the influence of the researcher. The participant did not show a fear of commitment and were very willing to assist within the study.

### **3.4.2 Preparation for the interview and the interview process**

The researcher made appointments with the identified property developers, town planners, engineers and project managers. Participants were contacted telephonically in advance in order to confirm a date, time and venue for the interview. The researcher reconfirmed a week prior to the appointment. The participants were introduced to the research topic telephonically prior to the meeting. The questionnaires were also forwarded to the participants prior to the appointment to allow the participants time to think about the answers to the questions which will allowed for more in-depth interviewing.

The interviews were open-ended as to encourage the participants to provide as much information as possible regarding the perceived critical success factors. Follow-up interviews were conducted with a selected few to verify or add more information. The interviews were digitally recorded with the permission of the participant.

### **3.4.3 Pre-testing**

According to Brink (1996:60) a pilot study is a small scale version of the major study. Before the actual interviews a pilot study was conducted with a participant who had experience within the township establishment process. The same questions and questionnaire planned for the actual interview were discussed with the participant to

ensure that both these instruments were relevant and effective in extracting the necessary information to conclude the research objectives.

### **3.5 ETHICAL CONSIDERATIONS**

Ethics refers to the quality of the research procedures. According to Burns and Grove (2001:191) it starts with the identification of the topic and continues through the publication of the study, which requires honesty, integrity and adherence to professional legal and social obligations to the research participant.

In this study, the ethical consideration of confidentiality and the right to self-determination was adhered to. Confidentiality was maintained by not revealing their identity or the name of the company they work for. Written approval for the use of the questionnaires was also obtained from the University of Pretoria to further ensure that the various ethical considerations were strictly upheld.

According to Burns and Grove (2001:196), the right to self-determination is based on the ethical principle of respect for a person. This meant that the participants must have adequate experience relating to the research topic, so that they are capable of comprehending the information. They should also have the choice to consent voluntarily to participate or to decline in the research study.

Due to specialized nature of this study participants were selected based on their knowledge of the research topic. The research objectives were communicated to the participants and their consent was obtained prior to the interview. The participants were also reminded that they could withdraw from the process at any time and that their participation was completely voluntary.

### **3.6 LIMITATIONS OF THE STUDY**

The research conducted will be limited to the South African residential, industrial and commercial industry within the Gauteng region.

Due to the specialized nature of the research the study will depend on the participant's perceptions and experiences within the township establishment process. Although limited information is available on the actual township establishment processes no literature is available on what the critical success factors are and what their impact is on the township establishment process.

### **3.7 CONCLUSION**

In this chapter the research methodology, design and framework were highlighted. The method of data collection was emphasized to ensure the credibility and validity of the research study.

Chapter 4 will discuss the findings of this research.



## **4 RESULTS**

### **4.1 INTRODUCTION**

This chapter describes the presentation and the analysis of the data. According to Brynard and Hanekom (2006:60) during the process of data collection the researcher is engaged in the preliminary analysis of the data to retain only the relevant data.

The purpose of this chapter is to ensure that through a process of data filtering; only the relevant data will be used in this study. This will enable the researcher to present data that is accurate and reliable to conclude the research question.

### **4.2 PRESENTATION OF DATA**

The results of the study are summarized into a Gantt chart coupled with a communication diagram indicating the critical success factors as well as the internal and external bodies involved within the township establishment process. Refer to Appendix D for the Gantt chart and Appendix E for the communication diagram.

### **4.3 DATA ANALYSIS**

According to Streubert and Carpenter (1999:60) data analysis start with listening and reading of the data recorded. After each interview and questionnaire completed by the interviewee the data was analysed based on Tesch's method which included the following steps:

- The researcher listened to the audio tape recordings and re-read the answered questionnaires of each participant to filter out irrelevant data and to get a understating of the data presented.
- This process was repeated for every participant to get a holistic sense of the data presented.
- Similar topics indicating on a critical success factor were grouped together. Remaining elements which did not fit into any grouping were also grouped together.
- The complied lists were then compared to determine which factors were more critical than the rest

- The data was then analysed to determine the critical success factors within the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986.

## 4.4 FINDINGS

### 4.4.1 Demographic Data

The method of data collection allowed the participants to share their own experiences and perceptions regarding what they regard as the critical success factors within the township establishment process. This also enabled the researcher to explore different avenues within the township establishment process and whether a relationship exists among the different professions in terms of what the critical factors are.

The participants interviewed had extensive experience within their field of expertise, however, it emerged that the town planners had a deeper understanding of the overall township establishment process. This was expected as town planners have the academic background and are responsible for processing township applications for land-use rights.

Property developers interviewed shared a similar level of understanding although not as comprehensive but tend to focus more on the feasibility side of the project. However, it became evident from the interviews conducted that not all property developers share the same level of understanding especially those are new to the property development industry.

Civil engineers also showed a high level of understanding but electrical engineers to a lesser degree. Civil engineers are more involved in the overall process than electrical engineers so it is to be expected that civil engineers will have a better understanding of the process.

Although all professionals showed a high level of understanding of what was required in their respected field of expertise, the majority of the professionals involved had a general to limited understanding of the overall township application process.

#### **4.4.2 Analysis of the Township Establishment Process**

From the interviews conducted it was concluded that the majority of developments experienced some form delay and from this a collective view in terms of what the critical success factors are within the township establishment process were formulated.

- **Quality of the professional team**

The quality of the professional in terms of their understanding and knowledge of the township establishment process is essential to the lodging of a successful and complete township application.

Developers have very little control as local authorities have their own criteria by which the need and desirability of each township application is judged. The attitude of the local authority is also often to discourage rather than to encourage a new development. Therefore the input of the professionals involved is essential as the developer relies on their input and guidance to mitigate their risk in terms of projects delays and cost overruns throughout the process.

The relationship between the professionals involved and the local and external bodies are crucial to facilitate the approval process. The developer needs have an established network of professionals and specialised consultants to assist the developer to resolve any issues that might arise.

The process is dynamic and must be driven by the appointed project manager who in the majority of the cases is the town planner. The project manager must facilitate the communication process and integration between all parties involved for the lodging of a complete township application in order to minimize delays within the approval process. The professionals involved must also be willing to push themselves the extra mile if the need arises to try and speed up the process.



- **Preliminary investigation**

The preliminary investigation into the capacity and location of the existing engineering services are critical as it could have a serious cost and time implications on the proposed development. If there are no external services such as water, sanitation or electricity available to service the development, the project would in all probability be shelved depending on the type developed.

The legal and cadastral boundaries as well as what the future planning is for the broader area together with the scrutiny of the title deed, existing leases, possible mineral rights, and what existing restrictive conditions such as water rights and servitudes for roads, railway lines, water, sewer, gas and power lines are tied into the land must be investigated prior to the lodging of the township application. Where a restrictive condition of title is contained within the Deed of Transport the developer can apply for the removal of these conditions in terms of the Gauteng Removal of Restrictions Act 3 of 1996 in Gauteng. This process is time consuming and should be incorporated in the planning of the overall project.

The time frame in which the mineral rights holder consent may be obtained is dependent on the geographical location of the proposed development i.e. if the proposed development falls within a mineral rich geographical area obtaining the letter of consent will be more difficult as compared to a development where there are no minerals available. A period of anywhere between a week and two months should be allowed for within the planning of the project.

Accessibility to the development and the additional traffic generated by the development and the impact thereof on the existing road infrastructure must be investigated. The transport engineer must obtain written approval from the South African Roads Agency Limited (SANRAL) or Gauteng Provincial Government Department of Public Transport, Roads and Works (GAUTRANS) as required by virtue of the National Roads Act, 1998 (Act No. 7 of 1998) or GAUTRANS if the development requires access from provincial or national roads. Obtaining written approval can take between 6 to 12 months depending on the location, size and nature of the development.

The developer must also investigate whether the proposed development is aligned with the IDP's and LDO's of the local authorities. If the development falls outside the urban development boundary or urban edge of the local authority the development is considered to be an urban sprawl. This means that there might not be external bulk engineering services available to service the development. Local authorities tend to imply a strategy of compaction and densification and will therefore in all probability not approve a township application that falls outside the urban edge. Approval from the Department of Agriculture will also be required as stipulated by the Agricultural Land Act 70 of 1970 if land under investigation falls outside the urban edge. The main focus of the department is to preserve agricultural land which is considered to be a scarce, non-renewable natural resource. If the land is deemed to have any agricultural potential the developer will in all probability not obtain approval for township development.

The above mentioned activities are critical not only to the lodging of a successful township application but also to the overall feasibility of the project. Proper investigations will assist the developer in making an informed decision on whether to proceed with the development or not. A period of 2 to 3 months should be allocated to preliminary investigations.

- **Geotechnical investigation**

The geotechnical profiling of the site could impact on the proposed economic layout of the development as specific areas may be deemed unsafe for development. Cost implications could also arise in terms of founding of the proposed structures.

The existing soil conditions must be examined by a competent engineering geologist or geotechnical engineer and if the proposed development falls within a dolomitic geological area, approval from the Council for Geoscience (CGS) is required as stipulated by Tshwane and Ekurhuleni local authorities as well as the National Home Builders Registration Council (NHBRC). The NHBRC was established in terms of the Housing Consumer Protection Measures Act, 1998 (Act No. 95 of 1998), with the aim to ensure quality and good building practice, and to protect consumers and financial institutions providing credit in the home building industry through compulsory of home builders and developers.



This process is time consuming and requires a Record of Decision (RoD) issued by CGS which is based on the specific residential type, layout, density, foundation solution, risk management plan and proposed precautionary measures.

The RoD from CGS is required before the EIA process can be finalized. Depending on the geological area and the type of development proposed, it can take anywhere from 6 to 12 months to obtain written approval.

Flood lines must be investigated, if applicable, by a civil engineer as required in terms of Section 144 of the National Water Act, 1998 (Act 36 of 1998). The results of this investigation could further delay or impact on the economic layout as no development is allowed within the 1:100 year flood line level.

- **Environmental Impact Assessment (EIA)**

The EIA process is time consuming and can take several months or even years depending on the sensitivity of the proposed development on the immediate and surrounding environment. Based on the Environmental Impact Assessment (EIA) and in conjunction with the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (GDACEL) will either refuse the application or release a Record of Decision (RoD) that stipulates the terms and conditions to which the proposed development must adhere to. Any sensitive area's to the development must be identified and incorporated into the planning as it may have a detrimental effect on the feasibility of the project in terms of its economical layout or could even stop the proposed development. Obtaining approval can take anywhere from 6 months to 24 months depending on the location and the type of development proposed.

- **Approvals from local and external authorities**

The attitude of the local authority is often to discourage rather than to encourage a new development. Local authorities and external bodies are now also lacking the necessary expertise and workforce and as a result are overloaded and unable to facilitate and streamline the township application process. This can be attributed to political agenda's, skills shortages, unsustainable management practises, work ethic, lack of expertise and



forward planning. Property developers as well as the professional team involved are finding that to obtain even the simplest approval in terms of the ordinance takes weeks or even months. This presents major challenges for a property developer and his professional team to optimize the transformation process in order to minimize the risk of project delays, cost overruns and loss of income.

According to the Ordinance 15 of 1986 every township shall be provided with engineering services such as water, electricity, sewerage and roads necessary for the development of the township. Normally the developer will finance and install the internal services while the local authority will be required to install the external services and to maintain the internal services installed. However, due to the unsustainable management practises and the lack of forward planning, the availability and lack of capacity of the external services are becoming more evident resulting in developments being put on hold or even cancelled as a result of this. This not only impacts on the feasibility of a development but has a detrimental impact on the economy as whole. This can be ascribed to the skilled shortages, lack of expertise, work ethic, motivation and urgency experienced within our local authorities. However, even though the ordinance allows the property developer to appeal to the Townships Board if the developer is experiencing unreasonable delays the Townships Board is becoming bombarded with appeals which are causing significant project delays.

There are various external governmental bodies involved from which written approval is required for the establishment of a township. Without these approvals the establishment of the township can not continue. These external bodies are mainly governed by legislation (acts) which takes precedence over the Town planning and Township Ordinance 15 of 1986. The following bodies were deemed to have a significant impact on the successful establishment of a township:

- The Local Authority responsible for processing the township application
- Department of Minerals and Energy (DME) to obtain mineral rights holder consent.
- Gauteng Provincial Government Department of Public Transport, Roads and Works (GAUTRANS) who is responsible
- South African Roads Agency Limited (SANRAL)
- Department of Water Affairs and Forestry (DWAF)

- Department of Agriculture
- Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (GDACEL)
- Council for Geoscience (CGS) and the National Home Builders Registration Council (NHBRC)
- ESKOM who is the electricity supplier.
- Rand Water who is bulk water supplier to the Gauteng region.
- The Commission on Restitution of Land Rights where the Regional Land Claims Commission Office provides written approval that there is no land claims on the existing land.

The approval from the above mentioned bodies are of the utmost importance to ensure the successful establishment of the township. Failure to obtain this will result in project delays or the cancellation of the development.

#### **4.5 CONCLUSION**

Based on the interviews conducted most of the problems relate to obtaining statutory approvals in support of the ordinance such as geotechnical and environmental RoD's, finalizing service agreements etc. This can be ascribed to the lack of understanding of what the process entails by all parties involved. Local authorities lack the necessary expertise and enthusiasm to facilitate the application process resulting in project delays which relates to cost overruns and loss of income.

Where professional teams are involved they in general have a good understanding of what milestones needs to be achieved within each of their professions but lack the overall understanding of how the application process works in terms of the ordinance and how all the different activities/inputs are integrated and coordinated to form a successful township application.

As a result the majority of township applications are delayed and can take anywhere from 6 months to years to be approved. This makes the effective project management of the

proposed development very difficult as most of the activities fall outside the scope of control of the property developer.

Chapter 5 will discuss the recommendations and conclusion to this study.



## **5 RECOMMENDATION AND IMPLEMENTATION**

### **5.1 CONCLUSION ON RESEARCH RESULTS**

There are a number of critical success factors identified and discussed in chapter 4 which is critical to the township establishment process. However, these don't stand in isolation and from the interviews conducted it became evident that the process in itself is in dire need of an overhaul. The majority of the participants recommended that the process be simplified and become more transparent. Developers, together with their professional teams would like to see more of a consultative approach to reduce the risk of project delays: Currently the external bodies in its own, act purely as a final referee with no consultation allowed which places the developer in a difficult position as he can not interact with these bodies which inevitably leads to delays.

The skill shortage experienced within local and external governmental bodies has further negatively impact on the facilitation of township applications. Incompetence, lack of enthusiasm and accountability, and corruption all contributes to the further frustration of developers. The interviewees suggested remedies such as performance appraisals, disciplinary action against corrupt and incompetent officials and skills development programs to enable the authorities to better facilitate the application process.

### **5.2 CONCLUSION ON RESEARCH OBJECTIVES**

The research objectives stated in chapter 1 aimed to:

- Provide a thorough understanding of the township establishment process available to property developers, civil engineers and project managers.
- Describe the impact of the Town-Planning and Township Ordinance 15 of 1986 legislative procedure on the township establishment process.
- Describe the alternative legislative procedures available to township establishment
- Describe the impact of the National Environmental Management Act (NEMA) on the township development process.
- Describe the critical success factors within the township establishment process to minimize the risk of project delays and cost overruns.

- Provide a project plan that will enable property developers to better plan, estimate costs and to identify milestones to facilitate the streamlining of the overall process of township establishment within the overall township development process.

All of the above factors have been analysed and explained within the study and are concluded in a communication and project indicating all of the different activities and role players involved in establishing a township.

### **5.3 CONCLUSION ON RESEARCH PROBLEM**

The research problem stated that various residential development projects never realize or suffer economically as a result of a lack of understanding of how to plan and facilitate the rezoning of agricultural land for residential, commercial or industrial land use.

The researcher is of the opinion that the study of this document together with the communication and chart provided will suffice in providing developers with the necessary information and understanding to facilitate them in the establish of a new township. The document provides background information to the Town-planning and Township Ordinance 15 of 1986 and identifies the various critical success factors within the process enabling the developer to manage these influences which are critical to the feasibility and implementation of a project.

### **5.4 RECOMMENDATION AND IMPLEMENTATION**

The Town-planning and Township Ordinance 15 of 1986 require a wide spectrum of activities which involves a host of professionals and external governmental departments to obtain township establishment. The following recommendations can be concluded from the interviews conducted to successfully transform the acquired land into proclaimed land.

- **Professional Team**

It is the responsibility of the developer to appoint the professional team that is required to lodge a complete township application. The selection of the team should be based on their



understanding and knowledge of the township establishment process which is essential to lodge a complete township application. However, the professionals involved must also be committed, driven and willing to go the extra mile. This is a necessity as developers are dealing with local and external authorities who lack the necessary expertise, capacity and enthusiasm to facilitate the township application process. Developers rely on the input of the professionals involved to drive the application process in order to mitigate their risk in terms of project delays.

Dependent on the location, type and scale of the development the following professionals must be appointed at the start of the project to facilitate the township application process:

- **Town-planner** who can act as the coordinator of the planning project and who is responsible for processing township applications for land-use rights. His ability to manage (not only planning but even more importantly co-ordination, execution and control of all the inputs required) is paramount to the success of the project. In fact, if he lacks these attributes some one else should be obtained to manage the lodging of the complete township application.
- **Civil engineer** who is responsible for determining the location and availability of existing services to the new township. The civil engineer is also responsible for the drafting of a services report and the design and supervision of the township services such as water, sewer, stormwater and internal roads.
- **Electrical engineer** who is responsible for the determining the location and availability of existing electrical services. The electrical engineer is also responsible for the design and supervision of the electrical reticulation system.
- **Engineering geologist** who is competent to undertake a dolomitic or any other type of geotechnical investigation for the new township.
- **Transportation engineer** who is mainly concerned with the compilation of a Traffic Impact Assessment report, indicating how the surrounding roads and other transportation systems are affected by the new township and what needs to be done to accommodate the additional flow of traffic generated.
- **Attorney** who draw up all legal documentation, agreements and contract. He is responsible to assist in scrutiny of the title deed of the land.
- **Environmental Assessment Practitioner (EAP)** who is responsible to conduct a Environmental Impact Assessment report.



The above-mentioned professionals will assist in the preliminary, legal and cadastral investigations as well as the geotechnical, transport and environmental studies.

- **Preliminary Investigations**

The availability and location of existing engineering services such electricity, water and sanitation which is essential to services the proposed development must be investigated prior to the lodging of the township application. This will assist the developer in determining what time and cost implications can arise and whether the project would still be feasible. If there are no services available, depending on the type of development, the proposed residential, commercial or industrial development will in all probability be shelved.

- **Legal and Cadastral Investigations**

This includes the scrutiny of the title deed, existing leases, possible mineral rights and what restrictive conditions are tied to the land. This is essential as the outcome of these studies could stop the proposed develop or may result in cost and time implications impacting on the feasibility of the proposed development.

The location of the proposed development must be investigated to determine whether the development falls within the urban development area of the local authority and whether the proposed development is aligned with the IDP's and LDO's. This could have a significant impact on type and scale of the proposed development. If the development is considered an urban sprawl, the application will in all probability be declined or delayed.

- **Traffic Impact Assessment (TIA)**

Depending on the scale of the development a TIA will have to be conducted by a transport engineer to investigate possible access points and what the impact of the proposed development will have on the surrounding transportation infrastructure. The results of this study could add a significant cost to the development.

- **Geotechnical Investigation**

The result of geotechnical study can have a significant impact on the economic layout of the site. Unsafe geotechnical conditions can alter the development as a whole or stop it. The developer must do a geotechnical investigation prior to the lodging of the application to ensure that the type and layout proposed coincide with the geotechnical conditions.

If the development falls within a dolomitic geological area the investigation and approval phase will have cost and time implications as a more furrow and extended investigation will be required and approval from external governing bodies.

It is recommended by the researcher that a furrow investigation be done prior to the lodging of the township application and that the investigation is launched as soon as possible.

Good operational planning and the integration and coordination of the various professional inputs are a necessity to a successful township establishment. The management and proactive management of this process by the developer, town planner or project manger through workshops and progress meeting will enable the team to best facilitate the management of activities that can only be managed passively and not actively.

- **Environmental Impact Assessment**

Obtaining approval from the various external governing bodies is the most time consuming process off al depending on the type, scale and location of the proposed development and the impact thereof on the immediate and surrounding area. Careful consideration should be given to the sensitivity of the area as this approval process can result in major project delays and resultant loss of income.

The researcher proposed that the developer conduct an EIA study as soon as possible and to align the proposed development to the expected results.



The above-mentioned activities are depended on the development location, scale, layout and type as all of these factors impact differently on each activity. It is recommended that the activities be concluded within the initial phase of the project prior to the lodging of the township application in order to mitigate the risk of project delays, cost overruns and potential loss of income.

Refer to Appendix D for a typical project plan indicating the flow of activities to be concluded within the township development process. Appendix E contains a communication diagram illustrating the flow of communication between all parties involved. It should be noted that the time frame indicated within the project plan and the involvement of the different parties as indicated in the communication diagram is dependent on the nature and scope of the proposed development.

## **5.5 RECOMMENDATION FOR FUTURE RESEARCH**

There is a new process being formulated for township establishment which will in all replace the Town-planning and Township Ordinance 15 of 1986. The Gauteng Planning and Development Bill, is intended to provide for a single system of development, planning and land use management and set out principles for planning and development within the province that will create linkages and synergy between the plans and implementation programmes of local, provincial and national government.

The hope is that this new planning bill will result in decision-making structures at municipal and provincial level that will ensure development processes are expedited and development application backlogs eliminated.

Further research into the new Gauteng Planning and Development Bill as to how it facilitates the developer in obtaining township development is recommended. There are various phases as stipulated in chapter 1 within the township development process such as the construction phase which is in its own right a critical success factor to the overall township development process. These phases should also be investigated as this will inevitably assist the developer to optimise the transformation process.



It is also evident from the study that careful consideration and further research be done to identify the managerial skills and activities required to manage the township establishment process successfully within the present environment of an uncoordinated approach, acute shortage of skills, lack of knowledge and even corruption as a new simplified bill will not necessarily remove all the present short comings.

This study should also include the structures required to build the capacities within all participating bodies to enhance the process. It should also spell out the participation models (i.e. progress measurements and meetings) necessary to keep the process on track. We simply have to manage our way through all the adverse realities impacting the process at this stage.

## 6 REFERENCES

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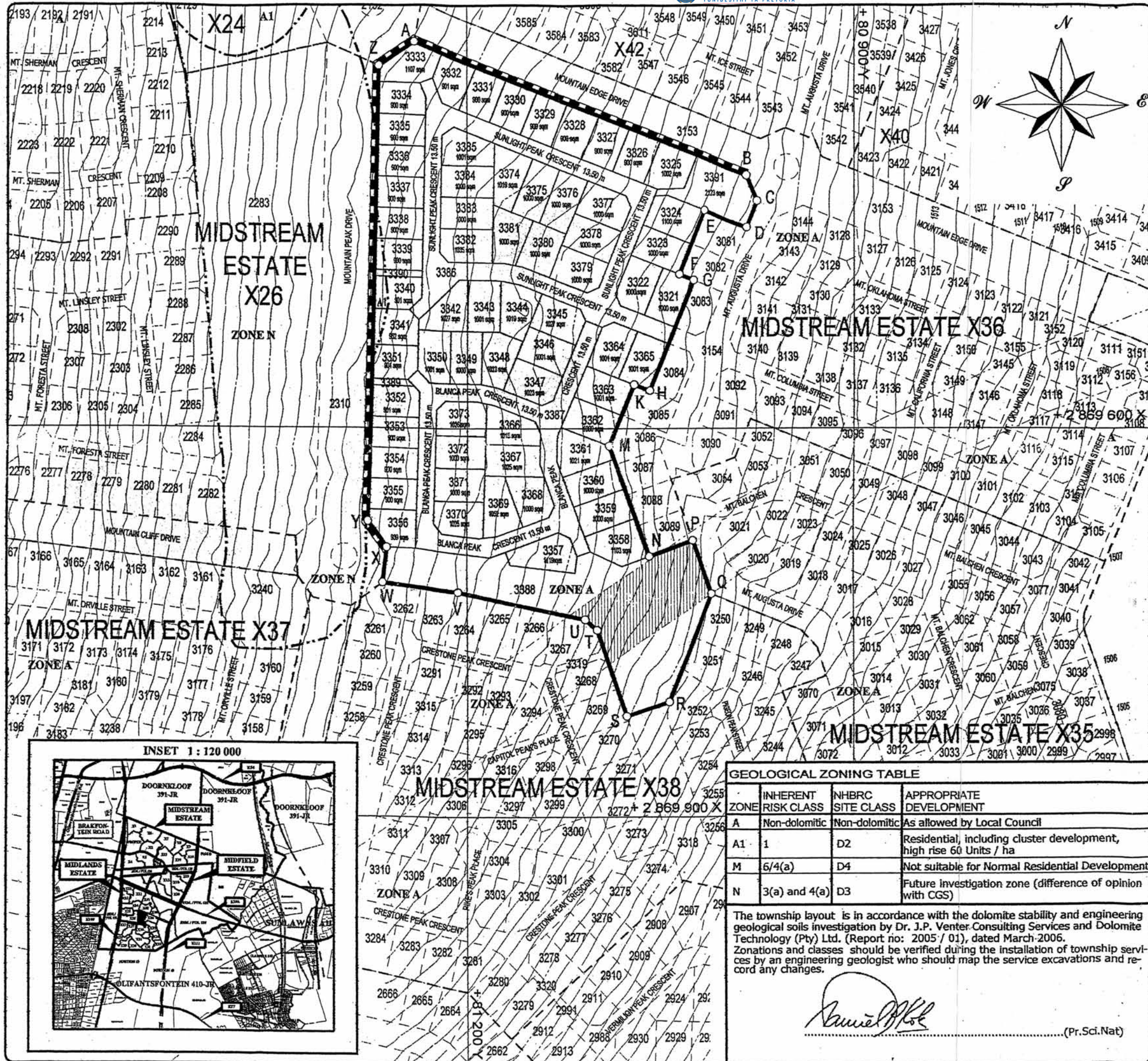
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# **APPENDIX A**

## Township Layout Plan





## PROPOSED TOWNSHIP MIDSTREAM ESTATE X39

SITUATED ON A PART OF THE REMAIN-  
DER OF PORTION 128 OF THE FARM  
OLIFANTSFONTEIN 410-J.R.

REFERENCE:

USES	ERF NO.	AMOUNT	AREA	%
Residential 1	3321 to 3385	65	66 556 sqm	69.50
Special for Private Streets	3386 and 3387	2	15 580 sqm	16.26
Special for Private Open Spaces	3388 to 3391	4	13 670 sqm	14.24
<b>TOTAL</b>		<b>71</b>	<b>95 806 sqm</b>	<b>100.00</b>

Min. Gradient of Streets: 1 : 51  
 Max. Gradient of Streets: 1 : 12  
 Total length of Streets: 1 255 m  
 Date: AUGUST 2007 | Last Amendment: AUGUST 2007

- NOTES:
- 1.) The figure A to Z, A denotes the township boundary.
  - 2.) All measurements are approximate.
  - 3.) The line denotes a line of no access.
  - 4.) The average size of "Residential 1" erven is 1 008 sqm.
  - 5.) The hatched figure denotes existing Road K109 to be delisted.

PLAN NUMBER: D1488 / 04 / S

LOCAL COUNCIL: EKURHULENI METROPOLITAN MUNICIPALITY

**FLOOD LINE:**  
 In terms of the Regulations of Article 144 (Act 36 of 1998), is hereby stated that this township is not affected by a flood with an expected frequency of one every 50 years and one every 100 years in the public stream.

**APPROVED LAYOUT PLAN**  
 Plan No: 15/3/7/M6/K37/1  
 Date: 30/5/2007  
 Signed: AREA MANAGER

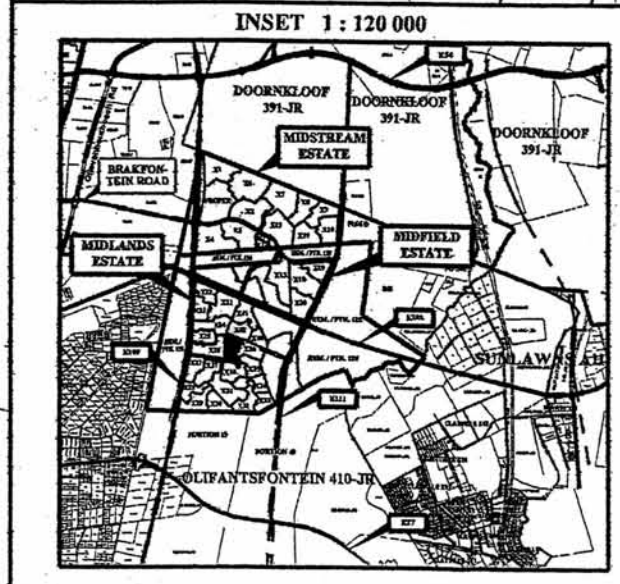
**CONTOURS:**  
 The contours on this plan are in accordance with Regulation 18 (1) (a) (1) of the Town Planning- and Townships Ordinance, Ord. 15 of 1986. The contours on this plan were obtained from E.G. Swart Land Surveyors.

Plandev House  
 Highveld Office Park  
 Charles de Gaulle Crescent  
 Highveld  
 CENTURION  
 021 7710, Centurion, 0046  
 Tel: (012) 665-2330/1/2  
 Fax: (012) 665-2333  
 e-mail: plandev@iafrica.com

PLANDEV

Stads- en Streekbeplanners  
 Town- and Regional Planners

SCALE: 1 : 3 000 | DATE: AUGUST 2007



**GEOLOGICAL ZONING TABLE**

ZONE	INHERENT RISK CLASS	NHBRC SITE CLASS	APPROPRIATE DEVELOPMENT
A	Non-dolomitic	Non-dolomitic	As allowed by Local Council
A1	1	D2	Residential, including cluster development, high rise 60 Units / ha
M	5/4(a)	D4	Not suitable for Normal Residential Development
N	3(a) and 4(a)	D3	Future investigation zone (difference of opinion with CGS)

The township layout is in accordance with the dolomite stability and engineering geological soils investigation by Dr. J.P. Venter Consulting Services and Dolomite Technology (Pty) Ltd. (Report no: 2005 / 01), dated March-2006. Zonations and classes should be verified during the installation of township services by an engineering geologist who should map the service excavations and record any changes.

(Pr.Sci.Nat)



## **APPENDIX B**

General Plan



# GENERAL PLAN

(CONSISTING OF 2 SHEETS)

OF THE TOWNSHIP OF

## MIDSTREAM ESTATE EXTENSION 24



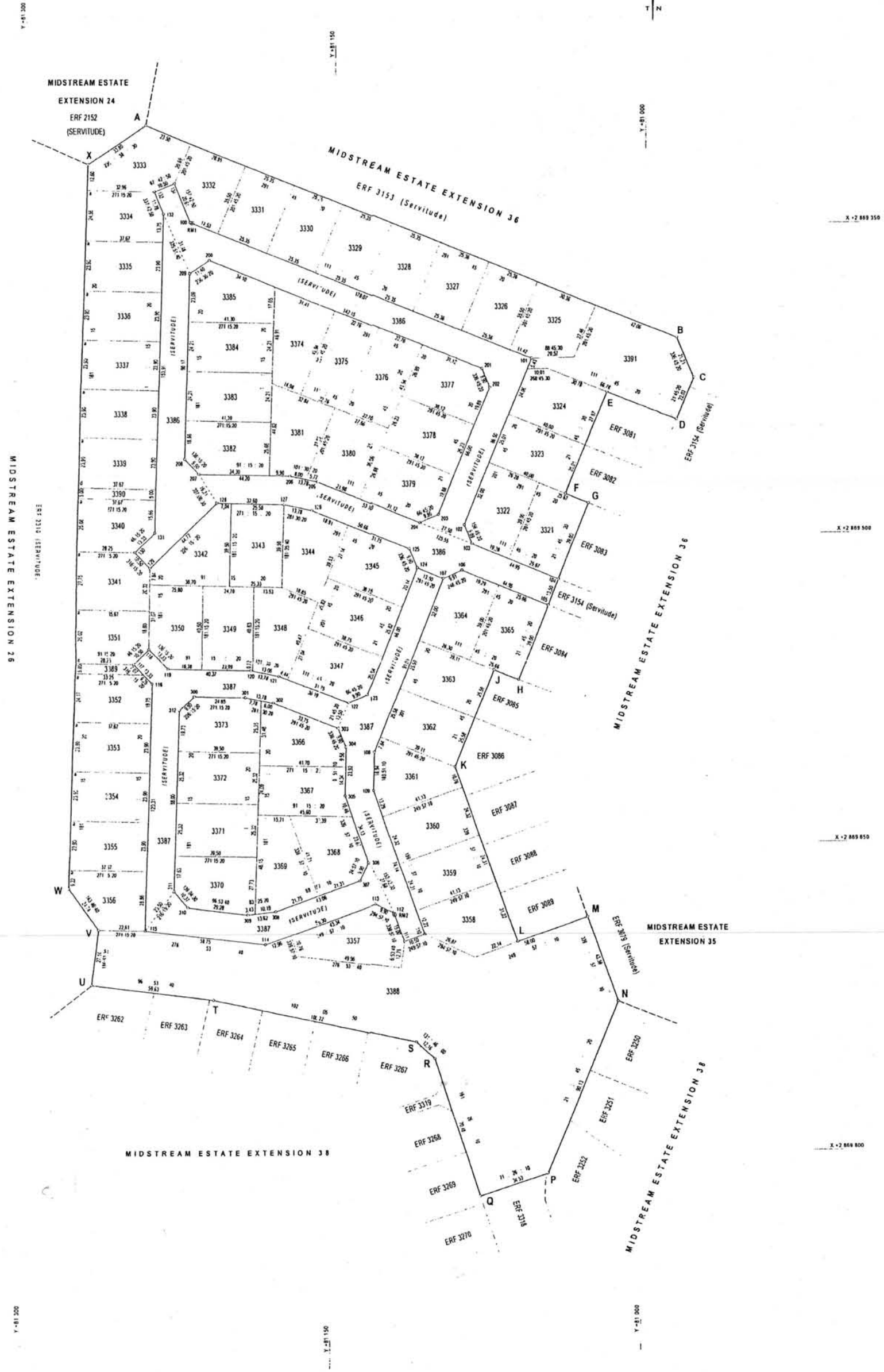
UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

PROVINCE OF GAUTENG

### SCALE 1 : 750



S.G. No. 14,061/2007
SHEET 2
Approved: <i>[Signature]</i>
for SURVEYOR-GENERAL date 2008-03-17
Surveyed in September to November 2007 by me
<i>[Signature]</i> E.G. SWART (PLS 0998) Professional Land Surveyor



DATA BLOCK		CO-ORDINATES		AREAS	
		System: WGS 2011		ERF No.	SQUARE METRES
		Constants: ± 0.00			
<b>MAIN FIGURE</b>					
AB	276.89	291.45.20	A	+ 81 241.76	+ 2 869 302.35
BC	21.21	136.45.20	B	+ 80 884.59	+ 2 869 495.58
CD	22.02	21.45.20	C	+ 80 875.22	+ 2 869 425.06
DE	36.00	111.45.20	D	+ 80 884.28	+ 2 869 445.53
EF	52.98	21.45.20	E	+ 81 817.82	+ 2 869 432.18
FG	11.95	231.45.20	F	+ 81 837.45	+ 2 869 481.29
GH	91.50	21.45.20	G	+ 81 025.25	+ 2 869 485.22
HJ	12.85	111.45.20	H	+ 81 060.26	+ 2 869 570.80
JK	51.17	21.45.20	J	+ 81 072.20	+ 2 869 568.04
KL	90.81	339.57.10	K	+ 81 091.16	+ 2 869 813.57
LM	35.86	248.57.10	L	+ 81 060.10	+ 2 869 898.58
MN	43.59	339.57.10	M	+ 81 026.41	+ 2 869 686.29
NP	90.12	21.45.20	N	+ 81 011.47	+ 2 869 727.34
PQ	34.53	71.26.10	P	+ 81 044.88	+ 2 869 811.05
QR	79.48	161.20.10	Q	+ 81 077.81	+ 2 869 822.95
RS	12.16	131.46.10	R	+ 81 100.05	+ 2 869 738.23
ST	100.22	102.05.50	S	+ 81 109.12	+ 2 869 747.13
TU	59.83	96.53.40	T	+ 81 207.11	+ 2 869 726.12
UV	27.14	186.53.30	U	+ 81 206.32	+ 2 869 718.97
VW	24.74	143.46.40	V	+ 81 263.96	+ 2 869 692.22
WX	350.80	181.15.20	W	+ 81 277.58	+ 2 869 672.06
XA	33.81	236.38.30	X	+ 81 270.00	+ 2 869 321.54
<b>REFERENCE MARKS</b>					
RM1	+ 81 218.86	+ 2 869 350.32			
RM2	+ 81 119.92	+ 2 869 645.29			
<b>TRIGONOMETRICAL BEACONS</b>					
BRAKFONTEIN PRE 2	TR 9	+ 83 826.50	+ 2 868 482.32		
	TR 194	+ 79 185.54	+ 2 868 697.74		
<b>INTERNAL BEACONS</b>					
100	+ 81 218.79	+ 2 869 348.85			
101	+ 81 054.40	+ 2 869 415.85			
102	+ 81 086.46	+ 2 869 496.29			
103	+ 81 082.56	+ 2 869 505.37			
104	+ 81 040.81	+ 2 869 522.04			
105	+ 81 045.81	+ 2 869 534.56			
106	+ 81 047.55	+ 2 869 517.92			
107	+ 81 096.86	+ 2 869 521.83			
108	+ 81 136.29	+ 2 869 606.25			
109	+ 81 130.87	+ 2 869 525.28			
110	+ 81 105.26	+ 2 869 694.94			
111	+ 81 115.12	+ 2 869 698.54			
112	+ 81 120.26	+ 2 869 684.45			
113	+ 81 128.24	+ 2 869 580.27			
114	+ 81 182.13	+ 2 869 698.27			
115	+ 81 240.45	+ 2 869 692.52			
116	+ 81 237.81	+ 2 869 572.24			
117	+ 81 247.83	+ 2 869 362.81			
118	+ 81 239.44	+ 2 869 156.36			
119	+ 81 230.23	+ 2 869 564.98			
120	+ 81 189.87	+ 2 869 565.87			
121	+ 81 176.27	+ 2 869 568.81			
122	+ 81 142.75	+ 2 869 582.23			
123	+ 81 133.66	+ 2 869 578.12			
124	+ 81 109.20	+ 2 869 516.82			
125	+ 81 113.10	+ 2 869 507.73			
126	+ 81 106.15	+ 2 869 488.95			
127	+ 81 173.85	+ 2 869 486.20			
128	+ 81 206.25	+ 2 869 485.49			
129	+ 81 238.59	+ 2 869 516.44			
130	+ 81 245.85	+ 2 869 506.86			
131	+ 81 236.22	+ 2 869 499.84			
132	+ 81 232.85	+ 2 869 345.76			
133	+ 81 237.32	+ 2 869 334.86			
134	+ 81 227.60	+ 2 869 330.88			
200	+ 81 210.47	+ 2 869 364.20			
201	+ 81 078.45	+ 2 869 420.39			
202	+ 81 074.54	+ 2 869 420.96			
203	+ 81 099.00	+ 2 869 481.28			
204	+ 81 106.19	+ 2 869 459.19			
205	+ 81 157.42	+ 2 869 475.51			
206	+ 81 176.82	+ 2 869 472.76			
207	+ 81 215.11	+ 2 869 471.79			
208	+ 211.95	+ 2 869 466.94			
209	+ 81 219.99	+ 2 869 374.49			
300	+ 81 217.45	+ 2 869 578.76			
301	+ 81 192.81	+ 2 869 579.31			
302	+ 81 178.11	+ 2 869 582.96			
303	+ 81 147.76	+ 2 869 594.37			
304	+ 81 143.89	+ 2 869 603.66			
305	+ 81 144.21	+ 2 869 627.58			
306	+ 81 132.51	+ 2 869 659.84			
307	+ 81 136.89	+ 2 869 688.82			
308	+ 81 177.14	+ 2 869 683.38			
309	+ 81 190.87	+ 2 869 684.94			
310	+ 81 219.74	+ 2 869 681.43			
311	+ 81 226.53	+ 2 869 673.59			
312	+ 81 224.60	+ 2 869 585.81			

## GENERAL PLAN

(CONSISTING OF 2 SHEETS)

OF THE TOWNSHIP OF

### MIDSTREAM ESTATE EXTENSION 39

COMPRISING 71 ERVEN, NUMBERED 3321 TO 3391

SITUATED ON PORTION 161 OF THE FARM OLIFANTSFONTEIN No. 410-JR

VIDE DIAGRAM S.G.No. 14060/2007 DEED OF TRANSFER No.T

PROVINCE OF GAUTENG

S.G. No. 14061/2007
SHEET 1
Approved: <i>E. G. Swart</i>
for SURVEYOR-GENERAL date: 2008-03-17
Surveyed in September to November 2007 by me <i>E. G. Swart</i>
E. G. SWART (PLS 0998) Professional Land Surveyor

#### BEACON DESCRIPTION:

A, U, V, W, X, 3324a, 3325a, 3326a, 3327a, 3328a, 3329a, 3330a, 3340a, 3341a, 3351a, 3351a, 3352a, 3353a, 3354a, 3355a, 3356a : Hole on Wall

All the other beacons : 12mm Iron Peg

#### REFERENCE MARKS:

RM1, RM2 : 12mm Iron Peg In concrete underground

#### SERVITUDE NOTES:

- THE WHOLE OF ERVEN 3386 AND 3387 ARE SUBJECT TO A SERVITUDE FOR MUNICIPAL PURPOSES.
- THE WHOLE OF ERVEN 3386 AND 3387 ARE SUBJECT TO A RIGHT OF WAY SERVITUDE.
- THE WHOLE OF ERVEN 3386 AND 3387 ARE SUBJECT TO A SERVITUDE FOR ELECTRICITY, TELECOMMUNICATION AND STREET LIGHTING PURPOSES.

## **APPENDIX C**

### Service Agreement





**SERVICE DELIVERY DEPARTMENT  
WATER AND SANITATION DIVISION**

**Agreement between the**

**CITY OF TSHWANE METROPOLITAN MUNICIPALITY**

**and**

**JACOB'S PLACE (PTY) LTD**

**For the sewer reticulation of the proposed township**

**ANNLIN Extension 107**

**(Internal services installed and maintained by a Section 21 company)**

Compiled by: Jurie Gründlingh

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## GENERAL INFORMATION

Description of the property on which the township is situated:

### A PORTION OF PORTION 37 (A PORTION OF PORTION 34) OF THE FARM WONDERBOOM 302 JR

**APPLICANT:** JACOB'S PLACE (PTY) LTD

Postal address: P.O.Box 95128  
Grantpark  
2051

Physical address: 121 Boshoff Street  
Nieuw Muckleneuk  
Pretoria  
"Domicilium citandi et executandi"  
(Physical address for the service of the legal process)

Telephone number: (011) 728 1319

Facsimile number: (011) 483 2089

E-mail address:

**CONSULTING CIVIL ENGINEER:** Claude Joubert

Practice number: 900008

Firm: VNJ INCORPORATED

Address: P O Box 9320  
CENTURION  
0046

Telephone number: (012) 665 0598


Facsimile number: (012) 665 0398

E-mail address:

This agreement is compiled in accordance with the conditions of Town Planning and Township Ordinance of 1986 (Ordinance 15 of 1986)

**REFERENCE:** W10/1/2/1 - A4/107

**Deputy Manager:**  
**System Development**

 19/01/2007

**General Manager:**  
**Legal Services**

(This agreement has been scrutinized by me and is legally correct)





## AGREEMENT

Supply of sewerage to new townships:

Memorandum of agreement entered into by and between the CITY OF TSHWANE METROPOLITAN MUNICIPALITY (hereinafter referred to as the CTMM) herein represented by

**FAZEL ISMAIL SHERRIF**

in his capacity as General Manager: Water and Sanitation (hereinafter referred to as the General Manager) duly authorised thereto.

and

**JACOB'S PLACE (PTY) LTD**

(hereinafter referred to as the Applicant) herein represented by consulting engineer's firm

**VNJ INCORPORATED**

duly authorised thereto by virtue of a resolution passed by the applicant on \_\_\_\_\_ and attached hereto as Annexure F.

WHEREAS the Applicant has applied for permission to establish a township to be known as

**ANNLIN Extension 107**

(hereinafter referred to as the Township) on

**A PORTION OF PORTION 37 (A PORTION OF PORTION 34) OF THE FARM WONDERBOOM  
302 JR**

AND WHEREAS the CTMM is willing to approve the sewerage reticulation scheme in respect of the Township subject to specific conditions

THEREFORE the parties agree as follows:

## CONDITIONS OF AGREEMENT

The proposed Sewerage Scheme (hereinafter called the "Scheme") for this township, as designed and submitted by the Consulting Engineer(s), who has (have) to be registered as a Professional Engineer(s) under the provision of the Engineer's Profession Act of South Africa (Act 114 of 1990), is hereby approved, subject to the following conditions:

1. Responsibility for executing the Scheme

Notwithstanding any contrary provisions, the Applicant is responsible for the installation of the proposed Scheme to the satisfaction of the General Manager within the period as stated in Annexure C.

2. Plans/Drawings

2.1 Layout plan

The Applicant must submit a general layout plan on which all civil and electrical services that have to be provided must be shown. All deviations from the prescribed service positions as shown on the "Placing of Services within Street Reserves"-plan must be indicated on the layout plan and must be approved by the General Manager and the General Manager: Electricity.

2.2 Design drawings

The Applicant shall submit to the General Manager completed drawings, specifications and calculations in accordance with the CTMM's standards, as well as other relevant documents regarding the execution of the Scheme of the Township in its final layout, indicating in what way the Scheme forms part of the joint scheme for the surrounding area and shall obtain his permission to continue before tenders may be called for, with a view to the execution of the work.

3. Tenders

The General Manager shall be consulted prior to the recommendation for the provision of materials and/or the construction of any part of the Scheme.

4. The Applicant shall comply with the following conditions prior to the proposed Township being declared an approved Township:

4.1 Guarantees

The CTMM shall be provided with an acceptable guarantee to the satisfaction of the Strategic Executive Officer: Corporate Services and the Chief Financial Officer, in respect of (1) the estimated cost of the proposed Scheme and/or (2) any amount owing to the CTMM after approval of the Township and/or (3) maintenance of the Scheme after take over (whichever is applicable), to the amount which appears in Annexure C. The guarantee amount shall increase by 20% per year, compounded, as from the first day of the month in which the General Manager approves the Scheme in principle. The guarantee will serve as security for the fulfillment of the Applicant's obligation to install the Scheme.

The first mentioned guarantee shall remain in full force and effect until the date on which the CTMM takes over the Scheme, after which date the amount of the guarantee may be reduced at the General Manager's discretion. The reduced guarantee shall further remain in effect until the end of a maintenance period of twelve months and until the Applicant has fulfilled all his obligations. The Water and Sanitation Division will undertake the necessary maintenance at the expense of the Applicant, who shall be obliged to pay the amount on demand, to the CTMM.



#### 4.2 Discounted cash amount

Subject to the Main Service Agreement, the net bulk services contribution set out in Annexure C shall be paid to the CTMM.

Where the CTMM owes the Applicant a net cash contribution, this will be paid not later than during the financial year following the take over of the Scheme.

The net estimated cash amount is subject to amendment in accordance with the unit price and contribution structure, which is usually amended annually and is therefore only valid until the day before the next annual amendment.

Should the Applicant decide to pay the amount after this date, the amount will be revised and the Applicant is obliged to pay the revised amount.

Should the Applicant wish to pay the CTMM the net cash amount before the work has been completed, the estimated amount as calculated in Annexure C will be applicable. After the work has been completed, the actual cost thereof will be calculated and in the case of an underpayment the Applicant shall pay the difference, before the Scheme is taken over. Regarding the work for which the CTMM has to pay (see 4.2.4 and 4.2.5) the actual cost will include contract price adjustment, from the date on which the work has commenced up to the date on which it is completed. No further price adjustments or interest applicable to the period after this completion date, up to the actual date of payment by the CTMM, will be payable to the Applicant. In the case of an over-payment by the Applicant, the CTMM will pay the Applicant the difference not later than during the financial year following the take over of the Scheme (see clause 14).

This net cash amount is fixed by setting off the following amounts:

4.2.1 The CTMM shall be paid a contribution towards the provision of main sewers and water care works. This amount is subject to adjustment if the general plan of the Township differs from the Township layout plan used for the calculation of the amount, and/or to provide for cost increases. The amount appears in Annexure A.

4.2.2 The CTMM shall pay the Applicant a contribution towards the cost of the internal sewer reticulation as set out in Annexure A and calculated in accordance with the new contribution policy approved on 28 October 2004.

#### 4.2.3 Use of existing pipelines

Should any of the erven in the proposed Township have to be provided with connections to existing pipelines, the Applicant shall pay a contribution to the CTMM for the use of the length of the existing pipeline that is required. This contribution will be 50% of the replacement costs of the existing pipeline or required pipeline to serve the Applicant's Township (whichever may be the smallest in diameter) depending whether the pipeline serves an adjacent Township or a future Township as decided by the General Manager (see Annexure B).

#### 4.2.4 New boundary pipelines

Should new pipelines, that will in the opinion of the General Manager also serve erven in future bordering townships be laid along boundaries, the CTMM may, depending on the circumstances and at the entire discretion of the CTMM, pay the Applicant one half of the cost of the said pipelines. In cases where the CTMM does decide to pay the said costs, the pipe diameter used in the calculation of the cost shall neither be larger than what is sufficient to serve the relevant erven on both sides, nor smaller than the minimum required diameter (see Annexure B).

The contract document shall be supplemented with a separate list of quantities with respect to the work applicable to this clause.



#### 4.2.5 Pipe enlarging/extension

Should the unit prices be acceptable to the General Manager he may in his discretion construct as part of the Scheme of the Township any pipeline between an existing municipal pipeline and the boundary of the proposed Township as well as any extension and/or enlargement of sewers in the Township that may be necessary to serve an area outside the boundaries of the Township. In this respect the CTMM will credit the Applicant with the additional cost (see Annexure B and C).

#### 5. Work to be done by CTMM

The Applicant's contractor will not be allowed to work on the CTMM's pipelines, except for the provision of Township and erf connections.

The Water and Sanitation Division will do any other work on existing pipelines that may be necessary as a result of the establishment of the Township, at the expense of the Applicant (see Annexure B).

Should provision for this work not have been made in this agreement, it will not be done before the Applicant has paid the CTMM the required amount.

#### 6. Public liability policy

Prior to the commencement of construction of the proposed Scheme, the Applicant shall at his own cost and to the satisfaction of the Chief Financial Officer take out and maintain, for the full work and maintenance period, a public liability policy in terms of which the CTMM, the Applicant and the contractor are fully covered for their respective rights and interests.

Before the commencement date a copy of the policy document, together with documentary proof that the full premium has been paid, shall be submitted to the Chief Financial Officer for approval.

When this policy is renewed for a further term, the Chief Financial Officer shall once more be provided with written proof thereof.

The policy shall provide for claims of at least R5 million per event, with the number of events unlimited during the insurance period.

The Chief Financial Officer reserves the right to insist on increased insurance coverage if necessary.

#### 7. Requirements of authorities

All pipelines and ancillary structures within the road reserve or building restriction area of a national, provincial or municipal road, or within any servitude or public property, shall be laid in accordance with the requirements of and as approved by the relevant authority.

#### 8. Servitudes

Should the General Manager so require, in which case it will have been set out in Annexure B, the Applicant shall in respect of sewers being laid or already existing inside and/or outside the boundaries of the Township or proposed road reserves, register satisfactory servitudes in favour of the CTMM at the Applicant's cost. Before any sewer pipeline may be laid over private property, the owner of the property shall give his written acceptance of the basic conditions of servitude determined by the CTMM.

#### 9. Professional responsibility

A Professional Civil Engineer shall sufficiently and effectively supervise all stages of the construction work. At the completion of the work this engineer shall certify that -

9.1 all materials used for the construction of the Scheme complies with the CTMM's specification;

9.2 the Scheme has successfully undergone the prescribed pressure tests under his/her supervision;

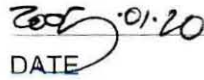
- 9.3 he/she and the firm of Consulting Engineers with which he/she is associated assume professional responsibility for the engineering work.
10. Starting date  
The General Manager shall be notified in writing when the work commences with and when it has been completed.
11. Works inspector  
The General Manager shall be notified in writing of the name and telephone number of the representative of the Consulting Engineer (works inspector) and the person who will accept responsibility for the works after normal working hours. The works inspector shall at all times be present while work is in progress and more than one works inspector shall be appointed should the General Manager so require.
12. Unfit persons  
Any person whom the General Manager regards as unfit at the works shall be replaced should he so require and the General Manager reserves the right to refuse such person entrance to the work site.
13. Suspension of the work  
The General Manager reserves the right to suspend the work if it is not being executed satisfactorily in his opinion, until circumstances have in his opinion changed in such a way that the work will indeed be executed satisfactorily.
14. Taking over the Scheme  
The General Manager will take over the Scheme in the CTMM's name after it has been completed to his satisfaction and as soon as the work in respect of the essential services has been completed. This take over will only take place after proclamation of the Township.  
  
The taking over of the Scheme by the CTMM shall not affect any of the conditions of contract for the installation of the Scheme.
15. Connecting other areas  
The CTMM reserves the right to connect to the Scheme, any area outside the Township.
16. Tariffs  
The tariffs as laid down in the CTMM's bylaws will be levied as soon as the CTMM takes over the Scheme.
17. Commissioning  
The General Manager reserves the right should he so wish, to commission, immediately and without any cost to the CTMM, the Scheme or a portion thereof when it has been completed satisfactorily and can be fully commissioned.
18. Water for construction  
Water which the Township owner or his contractors require for construction purposes, shall be bought from the CTMM at the appropriate price, should it be available. The water will be supplied at a point to be indicated by the General Manager, and the Applicant shall be responsible for the supply and installation at his own cost of all temporary pipelines, pumping equipment, storage facilities etc, that will be necessary to bring the water to the point where it will be used.
19. "As-built" drawings  
On completion of the work the General Manager shall be supplied with the final "as built" drawings, on translucent film sheets and in digital format, certified as correct by a Professional Civil Engineer, before the completion inspection and take over of the Scheme will be considered.
20. Building approval  
No building plans will be approved by the CTMM before the Scheme is taken over (see clause 14) and before the erf in respect of which they are submitted can in the opinion of the General Manager be connected to the Scheme.

Additional conditions:

Approved in accordance with the powers delegated to me by the CITY OF TSHWANE METROPOLITAN MUNICIPALITY

on behalf of

  
GENERAL MANAGER  
WATER AND SANITATION

  
DATE





# ANNEXURE A

Proposed township of **ANNLIN Extension 107**

## Zoning of properties and Contributions to Bulk Services and Pipe Networks

ITEM and ZONING*	MEASURING UNIT/DAY	TOTAL NUMBER OF UNITS	SEWAGE OUTFLOW	TOTAL DEMAND (kl/day)	** TOTAL CONTRIBUTION
Cluster housing up to 40 units per hectare	kl per day	34.00	0.6	20.400	30894.37
<b>Totals</b>				20.400	30894.37
TOTAL CONTRIBUTION BY APPLICANT TO CTMM AT R1514.43 per kilolitre per day					30894.37
CONTRIBUTION TO NETWORK PIPES, BY CTMM TO APPLICANT AT R27.00 per kilolitre per day					550.80

\* Zoning and/or density are/is subject to revision if Conditions of Establishment are altered. (All excluding VAT)



# ANNEXURE C

## Proposed township of ANNLIN Extension 107

### Summary of contributions and costs

ITEM	CONTRIBUTION BY						REFERENCE
	CTMM TO APPLICANT			APPLICANT TO CTMM			
	NETT TOTAL	V.A.T.	Sub-total	Nett total	V.A.T.	Sub-total	
Bulk services				30894.37	4325.21	35219.58	Annexure A
Network services	550.80	77.11	627.91				Annexure A
Boundary services							Annexure B (Table 1)
Enlargements/extensions							Annexure B (Table 2)
Other							Annexure B (Table 3)
<b>TOTALS</b>	<b>550.80</b>	<b>77.11</b>	<b>627.91</b>	<b>30894.37</b>	<b>4325.21</b>	<b>35219.58</b>	
			(a)			(b)	

#### Pre-proclamation requirements

1. Service contribution by applicant to CTMM: (b)-(a): R34591.67
2. Cost of scheme as per Annexure B (Table 4):
 

R0.00	VAT:	R0.00	Total:	R0.00
Maintenance guarantee amount (see Condition 4.1):		R0.00		
3. The period allowed for the completion of the scheme is three (3) months from the date on which this agreement was signed for the General Manager on behalf of the CTMM, or such extended period as allowed by the General Manager in writing (See condition 1)
4. The Township Register may not be opened, the township may not be proclaimed and the Section 82 certificates may not be issued without the written consent of the relevant Departments or Divisions of the CTMM
5. The Conditions of Establishment must be forwarded to the CTMM for comment before the final approval thereof.



# ANNEXURE D

## Proposed township of ANNLIN Extension 107

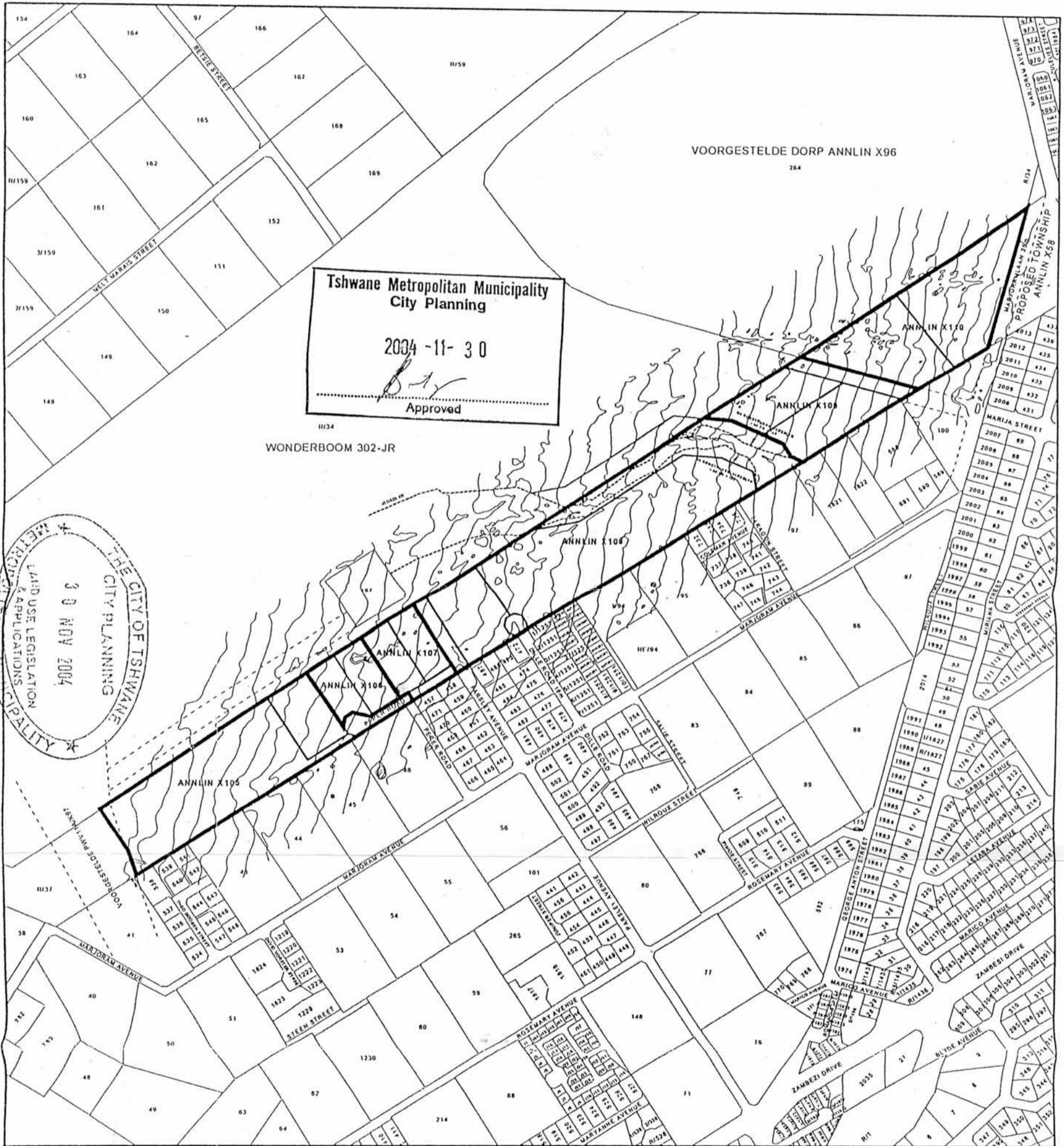
Annexure D: Locality of the township





# VERDELINGSPLAN : ANNLIN X49

## RESTANT VAN GEDEELTE 37 VAN DIF PLAAS WONDERBOOM 302-JR



UITBREIDING	OPPERVLAKTE	UITBREIDING	OPPERVLAKTE
Annlin x105	5,8117ha	Annlin x108	9,6033ha
Annlin x106	1,2423ha	Annlin x109	3,1362ha
Annlin x107	1,4255ha	Annlin x110	4,7526ha

**JOHAN VAN DER MERWE**  
STADS- EN STREEKSBEPLANNER:

POSBUS 56444  
ARCADIA  
0007  
TEL: (012) 342-3181/8  
FAKS: (012) 342-1574  
SCHOEMANSTRAAT 957



SKAAL 1:7500

## **APPENDIX D**

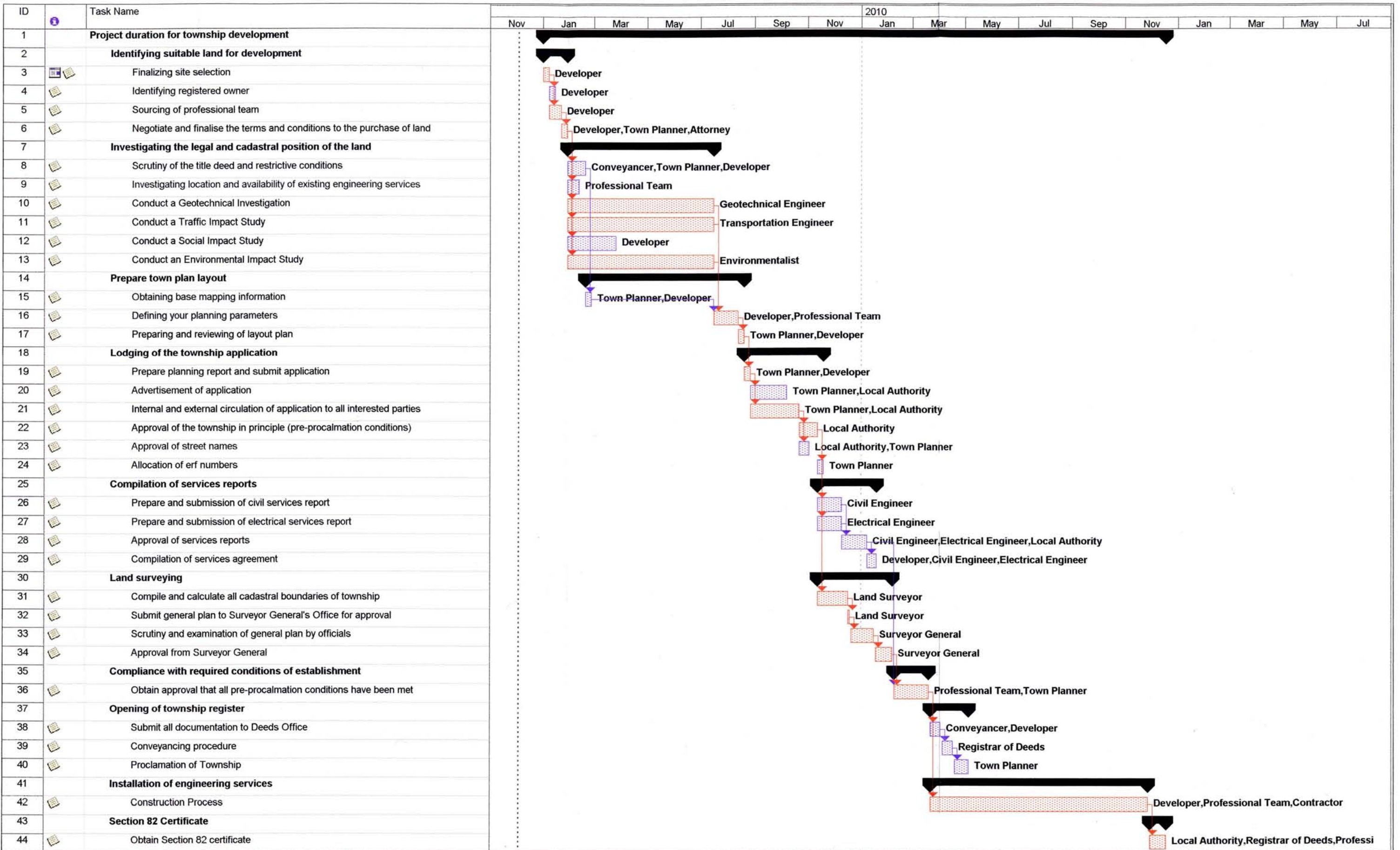
### Project Plan

Note: The time frame indicated is for illustration purposes only









Project: Project Plan.mpp  
Date: Thu 08/12/04

Task		Split		Milestone		Project Summary		External Milestone	
Project Guide: Critical Task		Progress		Summary		External Tasks		Deadline	

**3 Finalizing site selection**

- Identify whether the land is suitable for the proposed development.
- Investigate the local authority's development plans, guide plans and structure plans.
- Test whether the proposed development is suitable with the local authority.

**4 Identifying registered owner**

- Obtain title deed and test initial suitability to proposed development.

**5 Sourcing of professional team**

- Appoint a project manager if deemed necessary.
- Appoint a town planner to assist in the township establishment process.
- Appoint an attorney (conveyancer).
- Appoint an electrical, geotechnical, transportation and civil engineer.
- Appointment of an environmentalist.

The appointment of the above-mentioned professionals is dependent on the nature and scope of the proposed development.

**6 Negotiate and finalise the terms and conditions to the purchase of land**

- Negotiate with registered owner the agreement to purchase.
- Finalise the terms and conditions subject to the purchase of land.

**8 Scrutiny of the title deed and restrictive conditions**

The following must be analysed to assess the potential developable area:

- Title deed's)
- Possible existing leases and mineral rights
- Restrictive conditions such as water rights, servitudes for railway lines and municipal services that may impede the proposed development.

**9 Investigating location and availability of existing engineering services**

The study will include:

- An investigate of the availability (capacity) and location of existing engineering services to determine what costs and time implications could arise.

These services may include water, sanitation, stormwater, electrical and access to service the proposed development.

**10 Conduct a Geotechnical Investigation**

Conducting a geotechnical investigation will allow you to determine what soil conditions to expect and whether these conditions can accommodate the proposed development. The investigation will include the following:

- Site analysis consisting of geotechnical profiling of the soil conditions.
- Geotechnical report.

The geological conditions can have a cost and time implication to the establishment of the township. If the development falls within a dolomitic area then approval must be obtained from the NHBRC and GEOSCIENCE prior to the lodging of the township application. This process can take anywhere from 6 to 12 months or longer depending on the sensitivity of the immediate and surrounding area.

**11 Conduct a Traffic Impact Study**

The Traffic Impact Study is dependent on the number of additional trips generated by the proposed development.

Approval may be required from external bodies such as GAUTRANS or SANRAL.

**12 Conduct a Social Impact Study**

The social impact study will include the following:

- An investigation of the surrounding land use and development to assess the potential impact on the proposed development.
- To determine whether the social economic climate is favorable.
- Factors such as demographics, urban growth patterns, property tendencies, income and expenditure factors, micro and macro economic factors

**13 Conduct an Environmental Impact Study**

The study is critical to the establishment of the township and will include the following:

- Approval plan of study for scoping.
- Public meeting.
- Submission of draft scoping report.
- Submission of final scoping report.
- Record of Decision from authority.

The external bodies may include DWAF, GDACEL and Department of Agriculture.

**15 Obtaining base mapping information**

The following must be obtained from either the local authority or Provincial Government:

- Contour plan of a suitable scale.
- Cadastral maps of the area under investigation and the surrounding area.
- Planning information from local authority and Provincial Government.
- Obtain future road planning for the area.



**31 Compile and calculate all cadastral boundaries of township**

This entails a complete cadastral survey of the land by a land surveyor indicating and defining the cadastral boundaries of the new township.

**32 Submit general plan to Surveyor General's Office for approval**

The Surveyor General ensures that the General Plan submitted conform to the current standards and also act as the keeper of the plan to register any future changes to the cadastral of the township.

**33 Scrutiny and examination of general plan by officials**

The Surveyor General scrutinize the general plan.

**34 Approval from Surveyor General**

The Surveyor General's office approve the general plan and make a copy of the plan available.

**36 Obtain approval that all pre-proclamation conditions have been met**

As developer apply to all affected parties and get restrictive conditions removed. If necessary advertise the application to get the restrictive conditions removed.  
Compilation and approval of Section 125 of the Township Amendment Scheme must be obtained.

**38 Submit all documentation to Deeds Office**

The following documents must be sent to the Deeds Office:

- Documentary evidence that the conditions of establishment has been met.
- Approved general plan.
- All other relevant documents necessary for the opening of the township register.

This include a Section 101 certificate issued by the local authority once all the conditions have been met by the responsible party.

**39 Conveyancing procedure**

Deeds office examine all documents and advise that the register is opened.

**40 Proclamation of Township**

The township is proclaimed and the developer will be liable for rates and taxes to the land.

**42 Construction Process**

The services may be installed as soon as the following has been complied with:

- Compliance with the pre-proclamation conditions.
- Approved General Plan.
- Signed Services agreement.
- Approved civil and electrical construction drawings.

**44 Obtain Section 82 certificate**

The Section 82 certificate can only be obtained if the following conditions have been met:

- Complete installation of engineering services.
- Approved installed services by the local authority
- Payment of bulk and boundary conditions as stipulated by service agreement.
- 10% Maintenance guarantee issued by developer valid for 1 year.

If all of the above has been met then only can the transfer of erven take place.

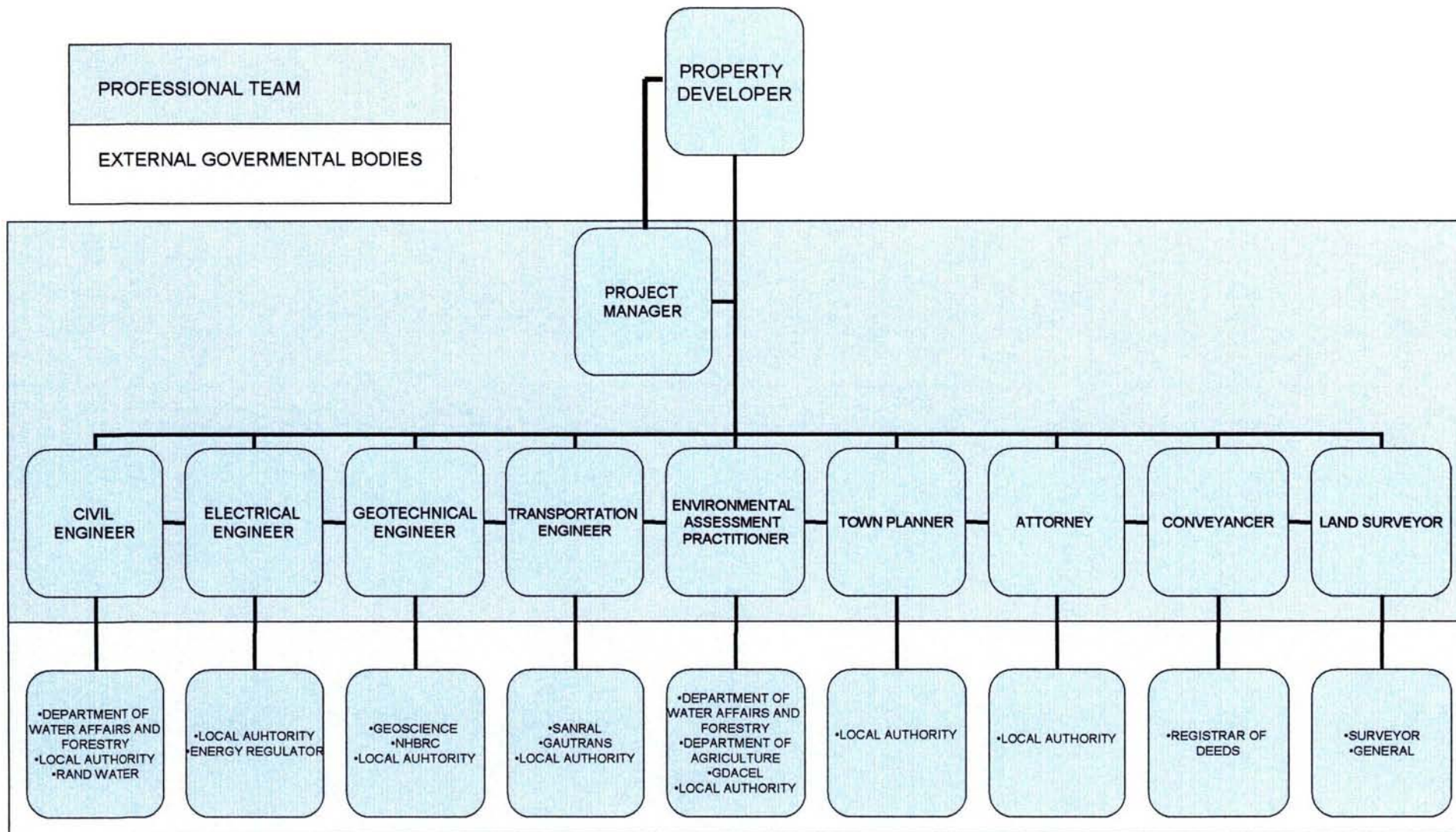


## **APPENDIX E**

### Communication Diagram

Note: The involvement of the professional team and external bodies are depended on the nature of the development.

# COMMUNICATION DIAGRAM



## **APPENDIX F**

Letter of Consent and Questionnaire





University of Pretoria

Pretoria 0002 Republic of South Africa  
<http://www.qsmup.ac.za>  
Tel: 012 420 5062 Fax 012 4202106

2008-08-25

Graduate School of Management

**Consent for participation in an academic research study  
GSM  
University of Pretoria**

**The critical success factors in township establishment through the process of the Provincial  
Land Use Ordinance 15 of 1986.**

Research conducted by:  
Morné Henderson  
Cell: +27 82 871 9692

Dear respondent

You are kindly invited to participate in an academic research study conducted by Morné Henderson for the partial fulfillment of the requirements for the degree, Masters of Business Administration, from the Graduate School of Management at the University of Pretoria, South Africa. Your participation will be highly appreciated.

The objective of this study is to identify the critical success factors in township establishment in terms of the provisions contained in the Town-planning and Township Ordinance 15 of 1986 to minimize risk and to optimize the conversion of raw land into proclaimed land.

The study will entail the following:

- An in-depth face to face interview, based on a set of questions (attached). The interview will be recorded with the permission of the respondent.
- The attached questionnaire can be completed prior to the interview or during the interview.
- Your voluntary response will remain confidential and you may withdraw at any time from the interview.
- The results of the study will be made available to you at your request.
- The results of the study will be used for academic purposes only.

Please feel free to contact me or my study leader Mr. C J Pretorius at 083 283 7160 should you have any questions regarding this request.

Yours Sincerely

Morné Henderson

Should you be prepared to participate please sign the attached form indicating that:

- you have read and understand the information set out above, and
- you have given your consent voluntarily to participate in the study.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

# **RESEARCH ON THE CRITICAL SUCCESS FACTORS IN TOWNSHIP ESTABLISHMENT THROUGH THE PROCESS OF THE PROVINCIAL LAND USE ORDINANCE 15 OF 1986**

## **QUESTIONNAIRE**

by

Morné Henderson  
98044215

Submitted in partial fulfilment of the requirements for the degree  
Masters of Business Administration

in the

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

at the

UNIVERSITY OF PRETORIA

Study leader: Mr. C J Pretorius

Date of submission

17 October 2008



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2	SECTION B: ANALYSIS OF TOWNSHIP ESTABLISHMENT PROCESS .....	4
3	SECTION C: CONCLUSION .....	6
4	SECTION D: THANK YOU .....	7

# **THE CRITICAL SUCCESS FACTORS IN TOWNSHIP ESTABLISHMENT IN ORDER TO MINIMIZE THE RISK OF PROJECT DELAYS AND COST OVER RUNS THROUGH THE PROCESS OF THE PROVINCIAL LAND USE ORDINANCE 15 OF 1986**

## **ABSTRACT**

Township development within South Africa has grown significantly over the last few years as a result of urbanization and continued economic development.

The township establishment process is applicable to all types of township developments and is done in terms of the provisions contained in the Town-Planning and Township Ordinances of the various provinces within South Africa. The township establishment process is generally defined as the conversion of raw land (usually farm land) into proclaimed land which can be subdivided into plots and sold to buyers. The process is complex and time consuming as it is regulated by legislation and relies on the input of a variety of professionals of a multi-disciplinary team and various governmental officials which can affect and control the use of land and also impact seriously on the timing of the process.

The questionnaire formulated is based on the various activities that occur within the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986. The purpose of the questionnaire is to determine which of these activities fundamentally influence the township establishment process to minimize the risk of cost overruns and project delays.

# 1 SECTION A: DEMOGRAPHIC DATA

This section refers to the general profiling of the candidate.

1. What is your current occupation and how many years of experience do you have in this position?

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2. Which positions did you occupied since 2000?

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3. How actively involved are you in the township development industry and what is your involvement to related services, i.e. town planning, architecture, engineering, environmental, local and provincial government and community requirements?

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4. How many years of experience do you have with the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986?

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5. How many township developments have you been involved with or have you completed in terms of the Town-planning and Township Ordinance 15 of 1986?

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6. Based on your knowledge and experience, how many projects have been delayed as a result of a lack of understanding of the various activities within the township establishment process and what was the magnitude of these delays in terms of time and cost over runs?

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7. In your opinion, what is the level of understanding that the various role players, i.e. engineers, town planners and project managers, have of the township establishment process in terms of the Town-planning and Township Ordinance 15 of 1986.

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### 3 SECTION C: CONCLUSION

This section refers to the questionnaire in general.

13. Would you like to add anything to the questionnaire?

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14. Did you find the questionnaire stimulating and informative?

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15. Would you be interested in the results of the study? If so, how would you prefer it to be send to you?

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16. Would you be available for future interviews regarding the township establishment process?

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17. Was the time required to complete the questionnaire reasonable and acceptable?

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## 4 SECTION C: THANK YOU

Thank you for participating in the study. If you are interested in the results, it will be forwarded to you in due course.

*Your participation in this questionnaire is voluntary, once off, and will require no follow-up activities or contact. Any information provided to the researcher will be kept strictly confidential. Participants may withdraw, or ask to have the data collected from them withdrawn at any time, without negative consequences. Any communication with the researcher regarding this particular interaction can be sent directly to the researcher in writing at [henderson.morne@gmail.com](mailto:henderson.morne@gmail.com). Any person who completes this questionnaire does so without waiving any of their own legal rights. Participants accept that they have read and understood these items above and agree to all items. By sending their reply electronically or manually, participants grant informed consent of participation to the researcher and institution.*