DRAFT BASIC ASSESSMENT REPORT

THE PROPOSED RESIDENTIAL TOWNSHIP (BAHLANGENE EXTENSION)
ON THE REMAINING EXTENT OF PORTION 2 OF THE FARM LANGVERWACHT 293, ERMEO,
MPUMALANGA PROVINCE.

DEDET REF: 17/2/3/GS-220
WES REF NO: 13/30/07/17

JANUARY 2015
THE PROPOSED RESIDENTIAL TOWNSHIP (BAHLANGENE EXTENSION) 
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MPUMALANGA PROVINCE.

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WANDIMA ENVIRONMENTAL SERVICES
PROJECT INFORMATION

REPORT TITLE: Basic Assessment Report

REPORT STATUS: Draft

PROJECT TITLE: The Proposed Residential Township (Bahlangene Extension) on the Remaining Extent of Portion 2 of the Farm Langverwacht 293, Ermelo, Mpumalanga Province.

APPLICANT: Vipcon Property Developers & Project Management

ENVIRONMENTAL CONSULTANTS: Wandima Environmental Services

MDEDET REFERENCE NUMBER: 17/2/3/GS-220

WES REFERENCE NUMBER: 13/30/07/17

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EXECUTIVE SUMMARY

1. ACTIVITY INFORMATION

1.1 Background

There is an irreversible trend in South Africa where people migrate to urban areas in search of a better life and economic sustainability. This resulted in an ever growing need for residential development within South Africa. It is a known fact that the National Government, Provincial Government and Local Authorities must make an extra ordinary effort to ensure rapid delivery of housing. A lot has been done since 1994, but there is still a backlog that needs to be addressed urgently.

Terraplan Town Planner has been approached by the applicant VIPCON to investigate the potential of establishing a residential Township on the Remaining Extent of Portion 2 of the Farm Langverwacht 293 I.T, Ermelo, Msukaligwa Local Municipality in Mpumalanga Province, to be known as Bahlangene Extension. The objective of this study is to determine if a sustainable housing settlement can be established and what the development potential of the land is.

1.2 Project description

The proposed Bahlangene residential township will be approximately 205.4264ha: this will include residential erven, business area, schools, community facilities (e.g. Churches, crèches community hall etc.), public open spaces and 1 stand that will be used by the Municipality.

Table 1: The size and number of stands for each activity of the development

<table>
<thead>
<tr>
<th>Zoning</th>
<th>Number of erven</th>
<th>Size (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential 1 (400m²)</td>
<td>332</td>
<td></td>
</tr>
<tr>
<td>Residential 1 (300m²)</td>
<td>2492</td>
<td></td>
</tr>
<tr>
<td>Residential 3</td>
<td>6</td>
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</tr>
<tr>
<td>Business 1</td>
<td>2</td>
<td>2,4751</td>
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<tr>
<td>Educational</td>
<td>2</td>
<td>7,0153</td>
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<tr>
<td>Municipality</td>
<td>1</td>
<td>0,2570</td>
</tr>
<tr>
<td>Special</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Public open spaces</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Public roads</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total of development</strong></td>
<td></td>
<td><strong>205,4264</strong></td>
</tr>
</tbody>
</table>

The farm, RE/2 Langverwacht 293 I.T, is being held under Title Deed T15853/2002, and ownership vests with Mr. Pieter De Jager. However, an offer to purchase has already been signed making the land available for development. A water pipeline servitude is registered on the property. The servitude comprises a total of +/- 4.5 ha.

1.3 Listed activities according to EIA Regulation (2010), R543:

The proposed project will trigger the following listed activities according to the National Environmental Management Act 1998 (Act no, 107 of 1998) Regulation 2010, R545:
- **R545 of 18 June 2010 – 15 (iii):** Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational institutional use where the total area to be transformed is 20 hectares or more.

The Listing Notice requires the applicant to undertake S&IER. However, a downgrading application was lodged with the Competent Authority and duly accepted due to the fact that the environmental issues and concerns of the development can be addressed in a Basic Assessment Report.

2. **PROPERTY DESCRIPTION**

2.1 **Location and Particulars of Property**

The proposed development site is located on the Remainder of Portion 2 of the Farm Langverwatcht 293-IT, 3.25km South East of Ermelo CBD and 0.8km East of the N11 National road to Amersfoort. The site is under the jurisdiction of the Msukaligwa Local Municipality at co-ordinates 26° 33'46.03"S and 29° 59'33.47"E.

2.2 **Current Land Use**

According to the Msukaligwa Local Municipality the site is zoned as “Agricultural”. Generally the land use of the site is farming and livestock grazing. Land uses for the neighbouring areas are Agriculture, Residential and Coal Mining.

2.3 **Description of the Environment**

The **climate** of the area is humid. Rainfall occurs mainly in early summer, from 620mm in the west to 830mm in the east (Mean Annual Precipitation 694 mm). Mean Annual Temperature of 14°C prevails, with temperatures higher in the west than in the east. Winters are cold and summers are mild. Incidence of frost is very high.

The **topography** of the study region is slightly moderately undulating grassland plains, with occasional low hills and pan depressions. The altitude (elevation) of the region is high and tends to vary mostly between 1420 -1625 m. There is no rocky ridges or outcrops present.

**Geology and Soils:** the site is underlain by sandstone, shale and siltstone with coal beds at the bottom of the sedimentary succession of the Vryheid Formation belonging to the Karoo Sequence. Dolerite in the form of dykes and sills has intruded into the host rock along planes of weakness and are often encountered within the sedimentary succession. The site is covered with recent deposits in the form of silty and sandy colluvium and/or gullywash. Ferricrete, classed as pedogenic material, was encountered as abundant concretions and cobbles within the site soils or as a fairly well developed layer at the base of the colluvium or gullywash.

A pebble marker horizon was encountered sporadically across the site and no rock outcrop was observed on site although several large dolerite boulders were noted on surface within the central eastern portion of the site. Ferricrete is present on surface within the farm road along the eastern boundary of the site and also exposed in some of the larger drainage/erosion gullies.
**Flora:** According to the Terrestrial Ecology report, the vegetation units of Mucina & Rutherford (2006) were used as reference. The combination of the available literature with the survey results made stratification of vegetation communities possible.

The site was also intensively searched for important species and the potential for Red Data Book (RDB) and other important species. The objective of this exercise was to identify distinct vegetation types and to establish their integrity and representation in the study area.

The Vegetation of the site is comprised of undulating grassland places plains, with small scattered patches of dolerite outcrops in areas. Short closed grassland cover, largely dominated by a dense *Themeda triandra* sward, often severely grazed to form a short lawn.

The **faunal** investigation was based on desktop study verified by cross referencing with available habitats of the study area, so as to establish the faunal potential of site. Reptiles, amphibians, mammals and birds were observed during field trip and recorded, including floral surveys. Also recorded was any characteristic evidence of presence or activity such as droppings, spoors, diggings, burrows etc. Within certain habitats such as rocky outcrops, the area was actively searched for reptile species characteristic of these areas or species of conservation concern which were identified beforehand as potentially occurring at the site. By method of elimination (based on available habitats and the taxon’s biology and known distribution), lists of faunal representation for the study area was assembled. Literature references used to support findings and to assist in arriving at conclusions are listed.

**Surface and Ground Water:** According to the Wetland Assessment Report, the study region has several small streams, depression pans and rivers. The region has a relatively high rainfall regime and during the summer rain season these streams and rivers fill up quickly. The sandy soils and undulating landscape facilitate seepage and subsurface water flow, which very often allow for continued water seepage and movement into these water bodies long after rainy seasons and even into the dry, winter months in some cases where the catchment areas are large. No large perennial rivers were observed in the study area, only few small streams, wetland, farm dam and drainage lines were observed. A man made impoundment (farm dam) is present in the north part of the farm. During field investigations these watercourses were identified and are considered to be sensitive (No-Go) zones.

This area is a farming community comprising of agricultural activities and residential areas, the **air quality** is considered good. The proposed development will not have a negative impact on the air quality except during the construction phase. Heavy motor vehicles will be transporting material to and from the site and dust will be generated since the road leading to the site is a gravel road. The impact will be insignificant and for a short period.

Current **noise** levels of the area are typical of farming activity noise i.e. livestock, traffic noise and household noise, etc. Noise levels will not be affected from what they are at present, the noise from construction activities will only last for the duration of the construction phase. Construction will take place during working hours (8:00-17:00) and therefore the impact will be insignificant and for a short period during construction phase.
The area where the proposed activities will take place is largely agricultural lands with cultivation and livestock no negative impacts on the visual aesthetics are anticipated. The planting of indigenous trees can mitigate possible negative visual impacts for neighbouring owners.

According to the Heritage Impact Assessment report, three unmarked graves were identified on the remaining extent of portion 2 of the farm Langverwacht 293 IT, Ermelo. The graves were identified by a former worker Mr. Joseph Madonsela (resided on the farm from 1971 – 1988). The graves are his family (father, son and daughter).

The graves are situated in the established wattle plantation in the central section of the farm. These graves belong to the Madonsela Family. The three graves are regularly visited by family members. After consultation with the family members, the developer may apply for a permit from SAHRA to relocate the graves by a professional grave relocates, to a site as agreed upon by the family.

Socio Economic Environment: It is anticipated that the proposed Township Establishment will have far reaching positive impacts to the local society and community of Msukaligwa at large. The project will create temporal employment opportunities for the locals during the construction phase, provide affordable housing and access to social services and economic opportunities that will be within reasonable distance from the development.

2.4. Bulk Services

Sewer Management: It is therefore a requirement to pump the sewage generated by the development to the existing Municipal sewer system. A sewer pumping station will be provided. An alternative to the sewer pumping system would be the construction of a new WWTW for the Ermelo Drainage area south of the watershed.

Water supply: Ermelo Town Area is serviced by 4 balancing reservoirs with a combined capacity of 19.47Ml/day. The Bahlangene Extension falls within the existing Ermelo bulk water supply service area and water to the development will be provided from the southern reservoir cluster north west of the proposed development. Raw water is currently supplied to the town of Ermelo via a raw water supply scheme with DWAS being the services provider for raw water. The Ermelo Water Treatment Works, located at the reservoir cluster, has a capacity of 14 Mld. Water will be pumped from the WWTW command reservoir site and piped up to a dedicated reservoir for the proposed Bahlangene development.

Electrical supply: The bulk electrical supply for this development will be taken from the Municipal 88/11kV Eskom supply point on the southern side of Ermelo, next to the railway line.
Access Roads: The proposed access into the development will be obtained from the existing N11 National Road and the secondary will be from the D260 gravel road. The D260 is currently a rural road and will be formalized and surfaced to meet the requirements of the Bahlangene Township development. The proposed development will be serviced by one access. The access will be located on the southern boundary of the development and will link directly onto Road D260.

3. PUBLIC PARTICIPATION PROCESS

3.1 Approach

A Public Participation Process (PPP) is being followed in accordance with the 2010, EIA regulations, GNR543, Section 54. This process is executed as follows:

All possible Interested & Affected Parties (I&AP’s) were contacted to register and given an opportunity to meaningfully participate in the process from 05/12/13 to 27/01/2014. Contact was made with nearby property owners and key I&AP by handing out notices and fixed site notice boards were placed along the property access from the Ermelo-Amersfoort N11 National Road. A PPP meeting was held on 11 February 2014 and all issues are recorded in the PPP report (See attached Appendix E for the PPP Report).

All issues raised in the meeting were responded to and properly addressed. This report will be subjected to public review for 30 days for scrutiny and comments thereof. This will give the I&AP’s an opportunity to voice their concerns regarding the proposed project. The registered Government Departments will have 40 days to comment on the draft BAR. The draft BAR will also be available on the Wandima Environmental Services (WES) website for download to review.

3.2 Further Participation

After the 30 days for I&AP commenting period, all issues raised will be recorded and included in the Final BAR. The Final BAR will be submitted to the Competent Authority for final review and decision making. After the decision has been made and an Environmental Authorization (EA) issued, the decision will be communicated to all registered I&AP’s and will be afforded the opportunity to appeal against any decision.

4. IMPACT ASSESSMENT

Potential impacts of the activities on the biophysical and socio-economic components of the environment will be analysed which includes the design/preconstruction, construction, operational and decommissioning phases. Both negative and positive impacts will be assessed, negative for mitigation of impacts and positive for enhancement of the environment. The assessment also covered five (5) areas of specialization this includes Wetland Assessment, Terrestrial Biodiversity Assessment, Heritage Impact Assessment, Services Engineering Assessment and Geotechnical Assessment. The findings of the five (5) specialists’ assessments will be included in the impact assessment and all impacts described in detail in the reports.
4.2 Summary of Impact Assessment

According to the findings of the specialists, the nature of predicted impacts, their extent, duration, intensity, probability and significance are summarized in the Table below.

Table: Summary of Impact Assessment

<table>
<thead>
<tr>
<th>Phase</th>
<th>Nature of Impact</th>
<th>Extent</th>
<th>Duration</th>
<th>Intensity/Severity</th>
<th>Probability/Certainty</th>
<th>Significance Before</th>
<th>Significance After mitigation</th>
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<tr>
<td>Planning</td>
<td>Topography</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Definitely</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Land use</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Definitely</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Geology</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Probable</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Locality</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Definitely</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Geology - Topography</td>
<td>Local</td>
<td>Short term</td>
<td>Medium</td>
<td>Probable</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Surface &amp; groundwater</td>
<td>Local</td>
<td>Short term</td>
<td>Medium</td>
<td>Definite</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Construction</td>
<td>Generation of spoil material and general waste</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Definitely</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Loss of Fauna &amp; Flora</td>
<td>Site</td>
<td>Long term</td>
<td>Medium</td>
<td>Definite</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Workforce management</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Definitely</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Erosion</td>
<td>Site</td>
<td>Short term</td>
<td>Low</td>
<td>Probable</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Visual impacts</td>
<td>Local</td>
<td>Short term</td>
<td>High</td>
<td>Definite</td>
<td>Medium</td>
<td>Low</td>
</tr>
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<td></td>
<td>Traffic and Neighbourhood disruptions</td>
<td>Local</td>
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<td>Medium</td>
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<td>Visual impacts</td>
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<td>Definite</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td></td>
<td>Availability of services and waste management</td>
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<td>Long term</td>
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<td>Positive Socio-Economic Impacts</td>
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<td></td>
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</table>
5. CONCLUSIONS AND RECOMMENDATIONS
A basic environmental impact assessment, underpinned by Public Participation Process, was conducted. As per the DEAT Guidelines (2006), all relevant Interested and/or Affected Parties (I&APs) were identified, notified and every effort was made to ensure their involvement and participation in the process. Also, all relevant Authorities, notably the Local Municipality, non-governmental organizations, service providers as well as key stakeholders, were notified and invited to participate in the process.

All possible impacts were assessed and the assessment has revealed that the project will have **positive socio-economic impacts** and **possible negative biophysical impacts**. It is however recommended that the mitigation measures presented in the Environmental Management Program (EMPt) be fully implemented. If there is vagueness in the wording and actions to be undertaken, clarifications must be sought from the environmental consultant and specialists involved in the compilation of the reports and the contact details are presented within the main report.
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Definition of Terms

"Activity" means an activity identified in Government Notice No. R. 544 and No. R. 545 of 2010 as a listed activity
"Alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to property, activity, design or technology.
"Associated Infrastructure" means any building or infrastructure that is necessary for the functioning of a facility or activity or that is used for an ancillary service or use from the facility.
"Cumulative Impact", in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.
"Environmental Impact Assessment", means the process of collecting, organizing, analyzing, interpreting and communicating information that is relevant to the consideration of that application.
"Environmental Management Programme" means a detailed plan of action prepared to ensure that recommendations for enhancing positive environmental impacts and/or limiting or preventing negative environmental impacts are implemented during the life-cycle of a project.
"Interested and Affected Party" means any person, group of persons or organization interested in or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity;
"Public Participation Process" means a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters;
"Significant Impact" means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment;
Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
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<td>BA</td>
<td>Basic Assessment</td>
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<tr>
<td>BID</td>
<td>Background Information Document</td>
</tr>
<tr>
<td>DAFF</td>
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</tr>
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<td>SABS</td>
<td>South African Bureau of Standards</td>
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Assumptions & Limitations

For the purpose of this report it has been assumed that all information received from the client has been correct.