

SCOPING REPORT

In terms of Section 24 and 24(D) of NEMA (Act No. 107 of 1998)

for:

THE PROPOSED CLEARANCE OF 32,38HA OF INDIGENOUS VEGETATION, OF WHICH 28,09 HECTARES IS LOCATED WITHIN A CRITICAL BIODIVERSITY AREA (CBA 1) IN ORDER TO ESTABLISH A TOWNSHIP, LOCATED ON A PORTION OF PORTION 24 (A PORTION OF PORTION 9), A PORTION OF PORTION 25 (A PORTION OF PORTION 9), PORTION 32 (A PORTION OF PORTION 9), A PORTION OF PORTION 8 (A PORTION OF PORTION 2) OF THE FARM NOOITGEDACHT NO. 429-IP AND A PORTION OF PORTION 100 (A PORTION OF PORTION 2) OF THE FARM NOOITGEDACHT NO. 434-IP, CITY OF MATLOSANA, NORTH WEST PROVINCE. BULK SERVICES ARE PROPOSED AND WILL INCLUDE THE CROSSING OF THE SCHOONSPRUIT IN TWO DIFFERENT LOCATIONS.

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EXECUTIVE SUMMARY

The land owner, the City of Matlosana Local Municipality has appointed AB Enviro Consult CC, an independent environmental consultancy, to undertake an Environmental Impact Assessment for the proposed clearance of 32,38ha of indigenous vegetation, of which 28,09 hectares is located within a critical biodiversity area (CBA 1) in order to establish a Township, located on a portion of Portion 24 (A Portion of Portion 9), a Portion of Portion 25 (A Portion of Portion 9), Portion 32 (A Portion of Portion 9), a Portion of Portion 8 (A Portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No. 434-IP, City of Matlosana, North West Province. Bulk services are proposed and will include the crossing of the Schoonspruit in two different locations.

As in the rest of South Africa, there is a housing shortage in the area. The Spatial Development Framework (SDF) addresses the scale or urban growth through planned extensions, infill and redevelopment strategies. The local municipality is aware of the need to integrate urban settlements, with a view to reduce travel distances to the areas of employment opportunities. It also addresses measures to promote compact and connected growth opportunities, such as the identification of revitalisation zones, densification and mixed land use zones. For any development to be sustainable and viable, land development and planning should ensure that communities are located close to job opportunities, social facilities and basic services.

The SDF and the Land Use Management system of the Local Municipality has identified certain areas that must address previously disadvantaged areas and historically disadvantaged residents. There is a definite need for the residents to have reasonable access to opportunities and facilities that supports living in the urban Settlement. It is the responsibility of the local municipality to ensure that the residents have reasonable access to community services and amenities, as well as employment opportunities and that the form of land development need to provide for basic needs in an affordable way.

The proposed development aims to address the need identified by the City of Matlosana Local Municipality, for the provision of additional residential erven together with the necessary non-residential facilities required for townships of this nature.

The new "Human Settlements Plan" promotes the achievement of a non-racial, integrated society through the development of sustainable human settlements and quality housing. Housing is to be utilized for the development of sustainable human settlements in support of spatial restructuring.

The aim is to move beyond the provision of basic shelter towards achieving the broader vision of sustainable human settlements and more efficient towns, cities and regions. The following factors will be taken into consideration in order to achieve this vision:

- Progressive Informal Settlement Eradication: These settlements must be integrated into the broader urban setup so as to overcome spatial, social and economic exclusion. The plan encourages the eradication of informal settlements through in-situ upgrading in desired locations coupled with the relocation of households where development is not possible or desirable.
- Promoting Densification and Integration: The aim is to integrate previously excluded groups into the city so as to enable them to enjoy the benefits it offers and to create more integrated, functional and environmentally sustainable human settlements, towns and cities.
- Enhancing Spatial Planning: Greater co-ordination and alignment of various planning instruments and economic policies lies at the heart of sustainable human settlements.

This requires more than mere co-ordination between departments but there needs to be a single overarching planning authority and/or instrument to provide macro-level guidance to support the development of sustainable human settlements.

- **Enhancing the location of New Housing Projects:** The location of past housing projects was said to reinforce apartheid spatial settlement patterns. Spatial restructuring aims to achieve a more decisive intervention in land markets. The following interventions are envisaged viz. accessing well located state-owned and parastatal land: acquisition of well-located private land for housing development, funding for land acquisition and fiscal incentives.
- **Supporting Urban Renewal and Inner City Regeneration:** Urban renewal and inner city regeneration often result in the current inhabitants being excluded as a result of the construction of dwelling units they cannot afford. Some municipalities are trying to avoid this by promoting affordable inner city housing. The "Human Settlements Plan" will support this by encouraging social housing.
- **Developing Social and Economic Infrastructure:** The need to move away from a housing-only approach towards a more holistic development of human settlements which includes the provision of social and economic infrastructure is emphasized.
- **Enhancing the Housing Product:** The aim is to develop more appropriate settlement layouts and housing products and to ensure appropriate housing quality.

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion"*, whilst ensuring that such growth is *"ecologically sustainable"*. In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably

The activity is listed in terms of the Regulations (in force since 4 December 2014) in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (NEMA) 1998 (Act 107 of 1998) as amended and published in Government Notice No. R 326 of 2017. The proposed development triggers the following regulations and listed activities:

Indicate the number and date of the relevant notice:	Activity No (s) and Activity Description (in terms of the relevant notice)	Describe each listed activity as per project description	Anticipated years to complete construction (From date of commencement)
GN.R. 325, 7 April 2017	15	Clearance of 32,38 ha of indigenous vegetation in order to establish a Township, located on a portion of Portion 24 (A Portion of Portion 9), a Portion of Portion 25 (A Portion of Portion 9), Portion 32 (A Portion of Portion 9), a Portion of Portion 8 (A Portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of	10 Years

		Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No. 434-IP, City of Matlosana, North West Province.	
GN.R. 324, 7 April 2017	12 (h)(iv)	The proposed clearance of 28,09 hectares of indigenous vegetation, located within a critical biodiversity area (located within a critical Biodiversity area 1 as identified in the North West Bioregional Plan) located on a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No. 434-IP.	10 Years
GN. R 327, 7 April 2017	19	The proposed infilling of 52 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 040 cubic metres from a watercourse in order to construct a bulk Water Pipeline and the proposed infilling of 16 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 320 cubic metres from a watercourse in order to construct a bulk Sewer Pipeline	10 Years
GN. R 324, 7 April 2017	14(ii)(a) c. (iii and iv)	The proposed infilling of 52 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 040 cubic metres from a watercourse in order to construct a bulk Water Pipeline and the proposed infilling of 16 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 320 cubic metres from a watercourse in order to construct a bulk Sewer Pipeline	10 Years

The purpose of the study is therefore to determine the impacts that the environment may have on the proposed activity, as well as the possible impacts that the activity may have on the environment.

The study is being conducted according to normal scientific practices. A theoretical background review was compiled for the different variables by using available information from the literature. Field verification was undertaken and visits paid to the site to gather further information and/or to verify information. It also includes the identification of *key interest groups*, both governmental and non-governmental, and to establish good lines of communication. Specialist studies were undertaken to determine the impacts on sensitive areas and to determine whether the proposed project can be sustainably implemented. The specialists will also advise on mitigation measures where applicable.

Although this is only the Scoping phase of the proposed development, no “fatal flaws” has been encountered as of yet. All the issues envisaged at this stage can be mitigated.

1. INTRODUCTION

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1.1 THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The purpose of this document is to adhere to the requirements for compilation of Environmental Impact Assessment Reports as amended and published in Government Notice R.326 of 7 April 2017, Appendix 2, and the National Environmental Management Act (Act 107 of 1998) (NEMA).

1.2 DESCRIPTION OF THE PROCESS FOLLOWED

In order to assess a proposed development it is important to take into consideration the principles of NEMA. These principles are outlined in Chapter 1 and DEDECT as follows:

- 1) *"The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—*
 - a. *shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;*
 - b. *serve as the general framework within which environmental management and implementation plans must be formulated:*

- c. *serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;*
 - d. *serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and*
 - e. *guide the interpretation administration and implementation of this Act, and any other law concerned with the protection or management of the environment.*
- 2) *Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*
 - 3) *Development must be socially, environmentally and economically sustainable.*
 - 4) (a) *Sustainable development requires the consideration of all relevant factors including the following:*
 - (i) *That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
 - (ii) *that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
 - (iii) *that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;*
 - (iv) *that waste is avoided. or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;*
 - (v) *that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;*
 - (vi) *that the development use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;*
 - (vii) *that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and*
 - (viii) *that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.*
 - (b) *Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.*
 - (c) *Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.*
 - (d) *Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.*
 - (e) *Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.*
 - (f) *The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the*

understanding, skills and capacity necessary for achieving equitable and effective participation and participation by vulnerable and disadvantaged persons must be ensured.

- (g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.*
- (h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.*
- (i) The social, economic and environmental impacts of activities, including disadvantages and benefits must be considered, assessed and evaluated and decisions must be appropriate in the light of such consideration and assessment.*
- (j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.*
- (k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.*
- (l) There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.*
- (m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.*
- (n) Global and international responsibilities relating to the environment must be discharged in the national interest.*
- (o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.*
- (p) The costs of remedying pollution, environmental degradation consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.*
- (q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.*
- (r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure."*

The above mentioned principals and the applicable legislation, Policies and Guidelines as described in Paragraph 5 of this Report were taken into account in the assessment of the Environmental Impacts for the proposed development. The process followed can be described as follows:

- 1) The EAP was contracted by the land owner, **City of Matlosana Local Municipality** as their Independent Environmental Assessment Practitioner.
- 2) A Geotechnical Engineer was appointed to determine whether the Geology and Soils of the site is suitable for the proposed development
- 3) The Civil Engineer has been appointed to determine the capability of existing infrastructure to be linked to proposed development and readily available bulk services. He will also design the proposed infrastructure.

- 4) The Surveyor in conjunction with the town and regional planner have designed the proposed layout of the development.
- 5) A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- 6) A Fauna and Flora specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- 7) A Wetland Specialist was appointed to assess the impact of the installation of bulk services on the stream.
- 8) An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- 9) Desk top studies were conducted and alternatives assessed.
- 10) Site inspections were carried out to verify the outcomes of the desktop studies, and the preferred alternative defined.
- 11) A full Public Participation Process is being followed to obtain inputs from interested and affected parties.
- 12) All the information obtained from the above mentioned processes is being used to assess the Environmental Impact that the proposed development may have on the Environment and vice versa.
- 13) The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP is being used to determine measures to avoid, mitigate and manage potential impacts. These measures are described in the Environmental Management Programme.

1.3 SCOPING PHASE

The Scoping phase includes the necessary investigations to assess the suitability of the identified site and its surrounding environment, for the development proposal. The scoping exercise describes the “status quo” of the bio-physical, social, economical and cultural environment, and identifies the anticipated environmental aspects associated with the proposed development. Scoping includes the identification of key interest groups, (both government and non-government), and to establish efficient and effective communication. Identifying and informing Interested and affected parties of the proposed development may have an impact on the focus of the EIA. (S. Cliff, 2015)

The purpose of the Scoping Report is to document the outcome of the Scoping Phase of the project.

This report fulfils the requirement of the EIA Regulations (2014) for the documentation of the scoping phase. The Scoping Report is compiled in accordance with Section 21(3) of NEMA’s 2014 EIA Regulation (GN R. 982) as amended and published in Government Notice R. 326 of 7 April 2017. Table 1 below provides a summary of the legislative requirements in terms of a Scoping Report as stipulated in Section 21(3) of the EIA Regulations of December 2014 as amended and published in Government Notice R. 326 of 7 April 2017. Cross-references are provided in terms of the relevant section within this Scoping Report where the NEMA and Scoping Report requirements have been addressed.

Table 1: Scoping Report content as per Section 21(3) of NEMA’s 2014 EIA Regulations of December 2014 as amended and published in Government Notice R. 326 of 7 April 2017 Appendix 2

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Scoping Reports	Location in this Scoping report
Appendix 2, section 2 (1)(a)	Details of - (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;	Paragraph 2
Appendix 2, section 2 (1)(b)	The location of the activity, including – (i) The 21 digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name;	Paragraph 4 Paragraph 4

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Scoping Reports	Location in this Scoping report
	(iii) Where the required information in items (i) and (ii) is not available, coordinates of the boundary of the property or properties	Paragraph 4
Appendix 2, section 2 (1)(c)	<p>A plan which locates the proposed activity or activities applied for, at an appropriate scale, or, if it is –</p> <p>(i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or</p> <p>(ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken; or</p> <p>(iii) On land where the property has not been defined, the coordinates</p>	Figure 1 and Figure 2 and 3
Appendix 2, section 2 (1)(d)	<p>A description of the scope of the proposed activity, including –</p> <p>(i) All listed and specified activities triggered;</p> <p>(ii) A description of the activities to be undertaken, including associated structures and infrastructure.</p>	Paragraph 3 Paragraph 3
Appendix 2, section 2 (1)(e)	A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.	Paragraph 5
Appendix 2, section 2 (1)(f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Paragraph 6
Appendix 2, section 2 (1)(g)	<p>A full description of the process followed to reach the proposed preferred activity, site and location within the site, including-</p> <p>(i) Details of all alternatives considered;</p> <p>(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;</p> <p>(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;</p> <p>(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</p> <p>(v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which the impacts-</p> <p>(aa) can be reversed;</p> <p>(bb) may cause irreplaceable loss of resources; and</p> <p>(cc) can be avoided, managed, or mitigated.</p> <p>(vi) The methodology used in deterring and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;</p> <p>(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographic, physical, biological, social, economic, heritage and cultural aspects;</p> <p>(viii) The possible mitigation measures that could be applied and level of residual risk;</p>	Paragraph 7 Paragraph 10 Paragraph 10 Paragraph 8 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9 Paragraph 9

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Scoping Reports	Location in this Scoping report
	(ix) The outcome of the site selection matrix;	Not Applicable
	(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and;	Not Applicable
	(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity.	Paragraph 11
Appendix 2, section 2 (1)(h)	A plan of study for undertaking the environmental impact assessment process to be undertaken including- (i) A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; (ii) A description of the aspects to be assessed as part of the environmental impact assessment process; (iii) Aspects to be assessed by specialists; (iv) A description of the proposed method of assessing the environmental aspects, including aspects to be assessed by specialists; (v) A description of the proposed method of assessing duration and significance; (vi) An indication of the stages at which the competent authority will be consulted; (vii) Particulars of the public participation process that will be conducted during the environmental impact assessment process; (viii) A description of the tasks that will be undertaken as part of the environmental impact assessment process; (ix) Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.	Paragraph 12 Paragraph 12.1 Paragraph 12.2 Paragraph 12.3 Paragraph 12.4 Paragraph 12.5 Paragraph 12.6 Paragraph 12.7 Paragraph 12.8 Paragraph 12.9
Appendix 2, section 2 (1)(i)	An undertaking under oath or affirmation by the EAP in relation to- (i) The correctness of the information provided in the report; (ii) The inclusion of the comments and inputs from stakeholders and interested and affected parties; and (iii) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	Paragraph 13 Paragraph 13 Paragraph 13
Appendix 2, section 2 (1)(j)	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment.	Paragraph 13
Appendix 2, section 2 (1)(k)	Where applicable, any specific information required by the competent authority.	To be included in final Scoping Report
Appendix 2, section 2 (1)(l)	Any other matter required in terms of section 24(4) (a) and (b) of the Act.	Not Applicable

2. DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

AB Enviro Consult (CC) is a registered consultancy, owned and operated as an independent unit by the registered owner and consultant: **Prof. A.B. de Villiers**

- Mr J.P. De Villiers joined the consultancy during 2004
- Mrs J.E. du Plooy is a consultant since 2001

PERSONAL PARTICULARS AND CAREER HISTORY OF PROF DE VILLIERS

Name : ABRAHAM BAREND (BRAAM) DE VILLIERS

Date of birth : 1944/01/26

Telephone : (018) 294-5005

Fax : (018) 293-0671

Electronic mail : brama@abenviro.co.za

Address : 7 LOUIS LEIPOLDT STREET

POTCHEFSTROOM

2531

Lecturer & Professor – Potchefstroom University 1969- 2004

ACADEMIC AND PROFESSIONAL QUALIFICATIONS

Post-Matric Qualifications

YEAR	Qualification	Institution	Field of Study
1968	B.Sc.	PU FOR CHE	Geography, Geology
1970	HONNS. B.Sc.	PU FOR CHE	Soil Science
1974	M.Sc.	PU FOR CHE	Geography
1981	Ph.D.	UOFS	Geography

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution	Field of Study
1986	Professional Natural Scientist	S.A. Council for Natural Scientific Professions	Environmental Science
1994	Quality Auditor	ESKOM	Auditing
1998	Personnel & Verifying Auditor	SAATCA	Environmental Auditing
2006-2017	Environmental Assessment Practitioner	Interim Certification Board EAPSA	Environmental Science

MEMBERSHIP AND PARTICIPATION IN SOCIETIES, COUNCILS, ETC.

Name of professional societies	YEAR	Capacity
S.A. Geographical Society.	1967-1996	Board Member
Society for Geography	1968-2004	Member
SAGS Western Transvaal	1985-1989 1987-1989 1996	Chairman
Africa Geographical Association	1993-1995	Vice-President.
Society for the Vaal River Catchment	1980-1999	Member
S.A. Society for Photogrammetry, Remote Sensing and Cartography	1984-1996	Member
Dendrological Society	1986-2005	Member
BirdLife South Africa	2003-present	Member
British Geomorphological Research Group	1985-1997	Member
Int Com on Water Resource Systems	1985-1997	Member
Int Com on Continental Erosion	1986-1990	Member
Int Com on Remote Sensing and Data Transmission	1986-1991	Member

Society for S.A. Geographers	1995-2005	Member
SA Photogrammetrical and Geo. Info.	1995-2003	Member
S.A. Association of Geomorphologists	1994-1999	Board Member and member
SADC Mine Dump Study Group	1996-2005	Member

***Chairman of the Committee for Interested and Affected Parties (CIP) (2004-2008)** for International Accreditation by the influential accrediting body of **Price, Waterhouse Coopers- International Environmental Auditors in Southern Africa.**

Member of Price Waterhouse Coopers CIP (2004-2010)

2.1. ACADEMIC COURSES TAUGHT AT POST-MATRIC LEVEL

- 1.1 The Geography of Economic Activities and Regional Geography (3rd year and honours students)
- 1.2 Weather and Climate (1st, 2nd, and 3rd year students)
- 1.3 Geomorphology (1st year up to PhD level)
- 1.4 Remote Sensing and the Environment (3rd year and Honours)
- 1.5 Quantitative Geography (3rd year up to Masters Level)
- 1.6 Environmental Management (2nd year, up to PhD level)
- 1.7 Environmental Analysis (3rd year and up to Masters Level)
- 1.8 Geography of Soil (3rd year and Honours)
- 1.9 Cartography (1st year to Honours)
- 1.10 As professor, 26 Masters & 4 PhD D students completed their studies in environmentally related subjects under his tutor- and co-tutorship.

2.2 INVOLVEMENT IN COURSES AND WORKSHOPS

2.2.1 ENVIRONMENTAL COURSES: Partially responsible for course development and taught various courses for environmental officers employed by the North West Province over a period of 3 years (1998-2001). These courses were aimed at improving their knowledge of the environment as well as their understanding of the environmental interactions specifically related to the North West province.

2.2.2 STATE OF THE ENVIRONMENT REPORT (SOE) Involved in the first SOE prepared by the North West Province and was responsible for most of the physical geographical aspects (1999).

2.3 ENVIRONMENTAL PROJECTS

The following projects are typical examples, of such projects which he co-ordinated and managed:

2.3.1 MOOI RIVER CATCHMENT STUDIES: This was a study on the impacts of the mining activities on the quality and quantity of water in the Mooi River catchments and was done for the North West Province. He co-ordinated and managed this project. The team consisted of a PhD student as well as two teams of local and international students; one responsible for the biophysical variables, and the other for socio-cultural aspects.

2.3.2 SADC MINE DUMPS STUDY GROUP: Acted as co-ordinator for the formulation of tools to assess the effects of mine dumps on the environment in the SADC region. One group was involved in the

Zimbabwean copper belt region, and the other in the Tanzanian gold mining area. The studies were undertaken for the Carl Duisburg Gesellschaft (Germany). The research team consisted of geographers, ecologists and mining experts. From this study, a pilot program, the “South African Environmental Management System” (SEMS) developed, which was applied successfully by a team of researchers in a pilot study in the Carletonville region.

2.3.3 SADC DEVELOPMENT OF TRAINING MODULES FOR ENVIRONMENTAL STUDIES USING GIS: Member of the three-person team who developed these training modules. It was applied at the Copperbelt University, the University of Dar Es Salaam as well as at the Potchefstroom University as an introduction to the integration of environmental data (both biophysical and socio-economic) for the interpretation of geographical regions.

2.3.4 ENVIRONMENTAL DEGRADATION - THE RESULT OF INDISCRIMINATE LOCATION OF SLIME DAMS IN THE SADC REGION: Co-ordinated this study in the Far West Rand Area; conducted case studies in Zambia and South Africa. The team consisted of researchers from the Netherlands, Germany, Zambia and Tanzania.

2.3.5 LAND USE CHANGES IN THE NORTH WEST PROVINCE: An Environmental Management Support System for SOE North-West University Team leader. This project was undertaken for DACE (NWP) and various students participated – each involved in a specific aspect of the environment. This data was co-ordinated and eventually incorporated into the SOE report.

2.4 RESEARCH PUBLICATIONS AND CONFERENCES

He published 11 environmentally related articles in peer-reviewed magazines, and appeared professionally at 30 conferences with a direct bearing on environmental work.

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MR J.P. DE VILLIERS

YEAR	Qualification	Institution	Field of Study
1993	BA	PU FOR CHE	Geography, Economics
1994	HED	PU FOR CHE	Geography Economics
2006	B.Sc.(Honns) Cum Laude	North-West University	Environmental Management
2007	M.Sc.	North-West University	Geography

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution	Field of Study
2008	Basic Principles of Ecological Rehabilitation and Mine Closure	Centre for Environmental Management (North West University)	Ecological Rehabilitation
2019	Registered as Environmental assessment Practitioner	EAPASA Registration number: 2019/808	

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MRS J.E. DU PLOOY

YEAR	Qualification	Institution	Field of Study
1999	BA	PU FOR CHE	Geography, Tourism

2000	BA (Honns) Cum Laude	PU FOR CHE	Geography
2003	Masters degree in Environmental Management	PU FOR CHE	Environmental Management
2019	Registered as Environmental assessment Practitioner	EAPASA Registration number: 2019/1573	
2001	Aquabase Intro	AQUABASE	Hydrology
2001	Geomedia Professional	INTERTECH	GIS
2001	Map Info	SPATIAL TECHNOLOGY	GIS

EXPERIENCE OF THE CONSULTANCY

Over a period of 25 years (1996-2021) this consultancy has successfully applied for, and obtained positive ROD's and EA's for more than 380 projects. Environmental Control Officer's duties are also performed on various projects.

The company was involved (from 1992-1994) in evaluation of 114 applications for the subdivision of land, 23 applications for resort developments, and 54 applications for business rights for the Department of Agriculture, Conservation and the Environment - North West Province.

The consultancy is qualified to undertake professional studies in waste management and is still involved in the development of waste disposal- (solid and liquid effluent), and emission studies. These studies are conducted both academically and practically. This work relates to mine waste, domestic waste and effluent as well as to the monitoring of waste disposal. Environmental audits in this respect are undertaken on a regular basis.

3. DESCRIPTION OF THE ACTIVITY

The proposed clearance of 32,38ha of indigenous vegetation, of which 28,09 hectares is located within a critical biodiversity area (CBA 1) in order to establish a Township, located on a portion of Portion 24 (A Portion of Portion 9), a Portion of Portion 25 (A Portion of Portion 9), Portion 32 (A Portion of Portion 9), a Portion of Portion 8 (A Portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No. 434-IP, City of Matlosana, North West Province. Please see figure 1 for a layout plan.

Informal settlement has already taken place on 140,6949 hectares of the site.

The proposed township will comprise the following:

JOUBERTON EXTENSION 31:		
Proposed Zoning	No of Erven	Area in Ha
Residential 1:	3 000	106.0656ha
Business 1:	3	0.5904ha
Secondary School	1	6.1326ha
Institutional:		
Primary School	1	4.8211ha
Creche	8	1.2245ha
Church	11	1.4590ha
Municipal/Special		
Community Facility	2	0.5145ha
Road widening	2	057134ha
Parking	2	0.0920ha
Public Open Space	6	8.1208ha
Recreational		
Sportsfield	1	1.8778ha
Streets		41.6048ha
TOTAL:		173.0749ha

Services will connect to Municipal infrastructure that is available in the area and a new bulk water and sewer line is proposed to cross the Schoonspruit in two different locations as indicated in Figure 2. The pipelines are located within an urban area and is therefore not listed, however, this application also deals with the proposed infilling of 52 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 040 cubic metres from a watercourse in order to construct a bulk Water Pipeline (See Stream crossing 1) and the proposed infilling of 16 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 320 cubic metres from a watercourse in order to construct a bulk Sewer Pipeline (See Stream crossing 2).

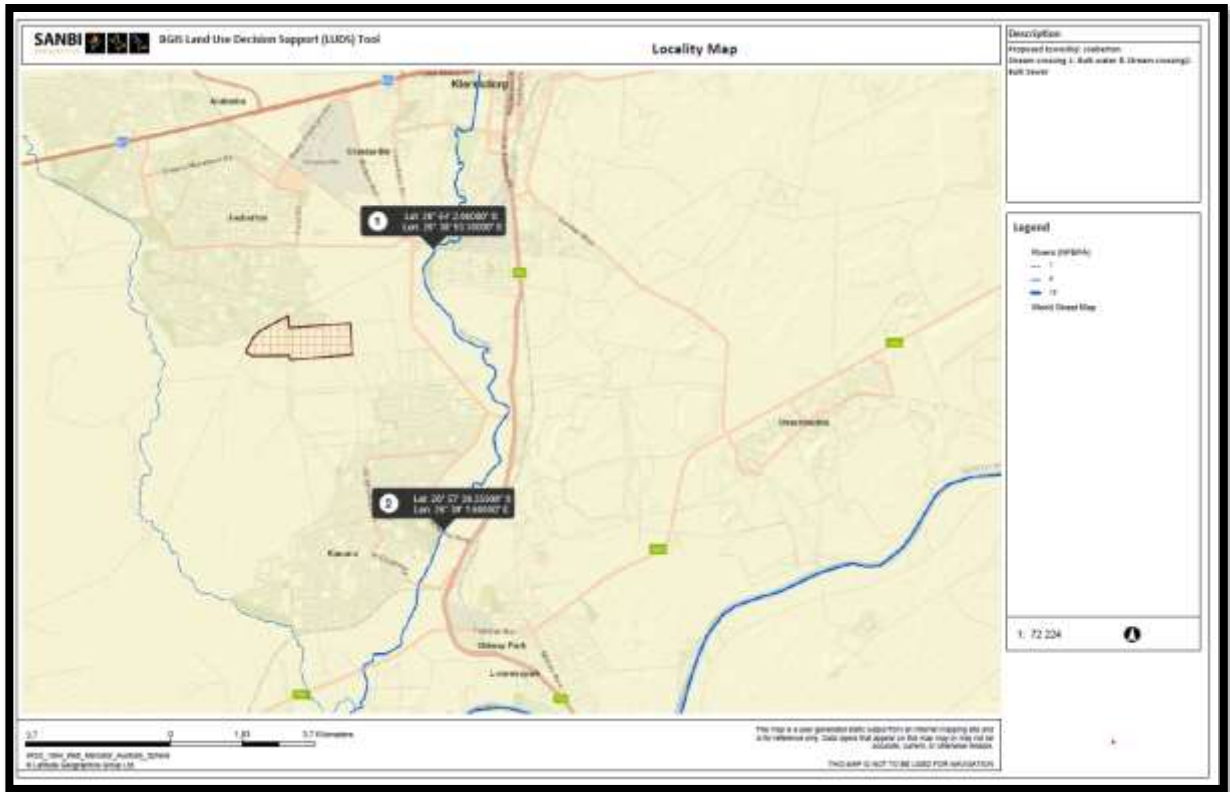


FIGURE 2: BULK WATER AND SEWER INFRASTRUCTURE PROPOSED STREAM CROSSINGS. CONSTRUCTION OF NEW INTERNAL WATER AND SEWER PIPELINES

The pipes will be encased in 200 mm mass concrete and the area on top of the concrete will be soilcrete that will be compacted in 150mm layers to natural ground level.

In the planning for the design phase of the pipelines, cognisance is taken of the following reference documents;

- Red Book – Guidelines for Human Settlement Planning and Design
- SABS 1200 – Standardized Specification for Civil Engineering Construction
- Local Municipal standards

When planning or designing the pipelines, a holistic approach that adheres to all the tenets of the reference or policy documents listed above will be adopted. The environmental sensitivity of wetland areas is acknowledged, and designs undertaken will take full cognisance of the proposed impact to these areas.

The approach to design and construction will encompass the following:

- Appropriate and adequate protection of the river/stream/wetland banks in the vicinity of the pipeline will be incorporated into the design.
- The existing river/stream bank structure will be maintained to reduce disturbance to the river/stream flow.
- Where crossing or running alongside river or stream courses, the existing river/stream bank structure will be maintained to reduce disturbance to the river flow.

- Where the pipeline crosses storm water channels these will be designed to have no impact on normal storm water flow in that all pipes and concrete casing will be buried at least 1.0m below natural channel level in the case of soft material, and level with the natural channel in the case of hard rock material.
- In the case of sewer pipelines, man holes will be provided at all changes in grade and direction and at intervals not exceeding 80m to facilitate maintenance during the lifetime of the pipelines.
- The pipe crossing has been designed to have no impact on normal river/stream flow
- Where pipes are laid through a flood plain (1:100-year flood line), a minimum cover level of 1.0m will be maintained.

Construction Methodology

- Conduct a competent site investigation to build up an informed picture of the task
- Conduct a topographical survey of the pipeline route
- Adequate design of all the stages of construction
- All environmental and Health and Safety requirements and good practice to be adhered to.
- Remove topsoil and stockpile for later use
- Excavate trench for pipeline to the design level
- If the material is firm, normal excavation techniques will apply. In soft material shoring of the trench sides may be required. In hard rock material trench excavation may require the use of pneumatic breakers or blasting
- Install temporary dewatering pumps to keep the excavation dry (if required due to ground water ingress)
- Construct stormwater diversion berms where required
- Place concrete to encasement if required. The top level will be determined by the stormwater channel level
- Place bedding, lay pipe, place and compact selected fill over the pipeline
- Construct manholes where required. Manholes will be constructed along the pipeline route at changes in grade and direction
- Backfill to specification of drawings.
- Dress backfill, topsoil and revegetate all exposed areas.

. See Figure 3 below.

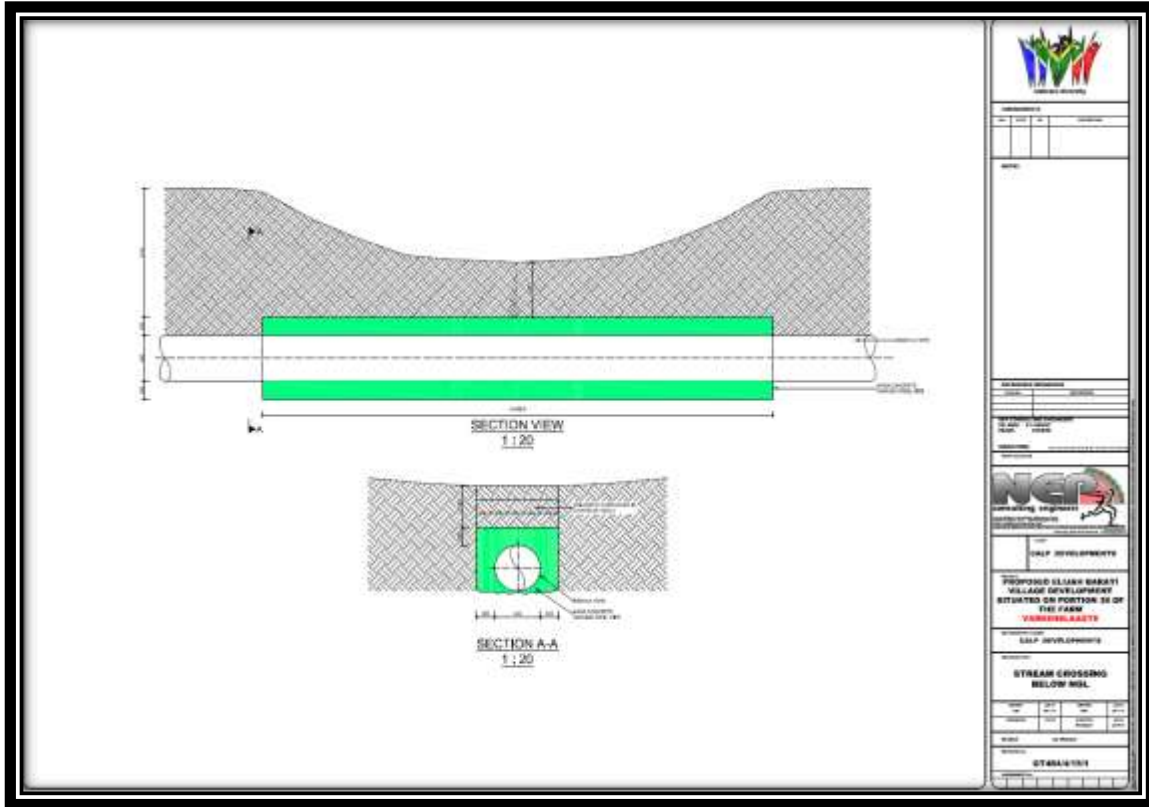


FIGURE 3: PIPELINE INSTALLATION DESIGN

4. DESCRIPTION OF THE PROPERTY

The proposed development is situated a portion of Portion 24 (A Portion of Portion 9), a Portion of Portion 25 (A Portion of Portion 9), Portion 32 (A Portion of Portion 9), a Portion of Portion 8 (A Portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No. 434-IP, City of Matlosana, North West Province.

Informal settlement has already taken place on 140,6949 hectares of the site and as a result, only 32,38 hectares of indigenous vegetation will be removed. Figure 4 and Figure 5 below indicates the area that this Application deals with.

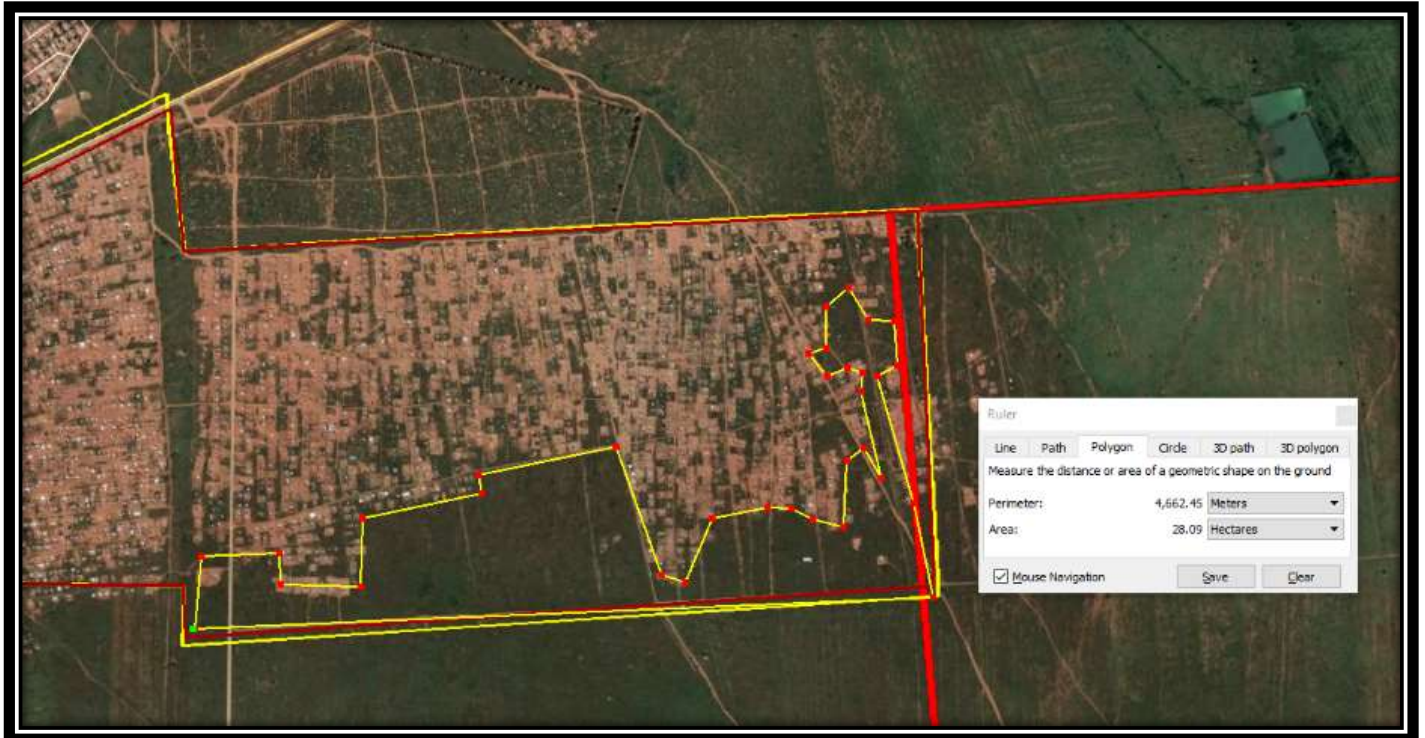


Figure 4: Eradication of indigenous vegetation at the eastern portion of the development. Total area of 28,09 hectares will be eradicated on this portion.



Figure 5: Eradication of indigenous vegetation at the western portion of the development. Total area of 4,29 hectares will be eradicated on this portion.

The development is located towards the south and south-east of the existing Township of Jouberton and towards the north of Kanana while a large part of the site area is already covered by informal settlement; 99 hectares are located within a critical biodiversity area (CBA 1). The proposed stream crossing of the bulk water supply line (Stream crossing 1) will be 2,5 kilometers north-east of the site, adjacent to a existing bridge over the Schoonspruit on Inge Avenue while the proposed stream crossing of the bulk sewer pipeline (Stream crossing 2) is located 4,5 kilometers south-east of the site, also crossing the Schoonspruit.

Photograph 1 and 2 are illustrations of the general view of the site proposed for the Township establishment while Photograph 3 (Stream crossing 1) and Photograph 4 (Stream crossing 2) are are of the stream crossings. Informal settlements cover a large area of the site (See Photograph 5). Informal dumping, trampling, tracks, likely overgrazing by free roaming cattle and clearings are widespread human induced impacts at the site. Soil compaction is noticeable at many places at the site. Pylons run through the site (See Photograph 6). Vegetation at the site appears to be degraded, modified and at the larger part of the site, transformed. Various alien invasive weed species are widespread at the site.



Photograph 1. General view of the site (Note the informal dumping in the fore ground and the informal settelement in the back ground)



Photograph 2. General view of the site. (Note the informal road on the left hand side, the informal settlements in the back ground and the informal dumping in the fore ground).



Photograph 3. View of stream crossing 1



Photograph 4 View of stream crossing 2



Photograph 5. Informal settlements cover a large area of the site



Photograph 6. Pylons and informal roads run through the site

Landowner:	City of Matlosana Local Municipality		
Contact person:	Mr TSR Nkhumise		
Postal address:	PO Box 99, Klerksdorp		
Postal code:	2570	Cell	N/A
Telephone:	018 487 8009	Fax	018 487 1652
E-mail:	dnkosi@klerksdorp.org		
Local authority in whose jurisdiction the proposed activity will fall:	City of Matlosana Local Municipality		
Municipal Ward No:	36 and 23		
Nearest town or districts:	Jouberton and Kanana		
Contact person:	The councilors of wards 36 and 232		

Postal address:

PO Box 99 Klerksdorp		
Postal code:	2570	Cell: NA
Telephone:	018 487 8009	Fax: 018 487 1652
E-mail:		

Site Co-ordinates

Latitude (S):

Longitude (E):

Alternative S1 (preferred or only site alternative)

26°	55'	10.68"	26°	37'	09.71"
26°	54'	02.06"	26°	38'	53.30"
26°	57'	28.35"	26°	39'	01.60"

Alternative Stream crossing 1 (bulk water pipeline)

Alternative Stream crossing 2 (bulk sewer pipeline)

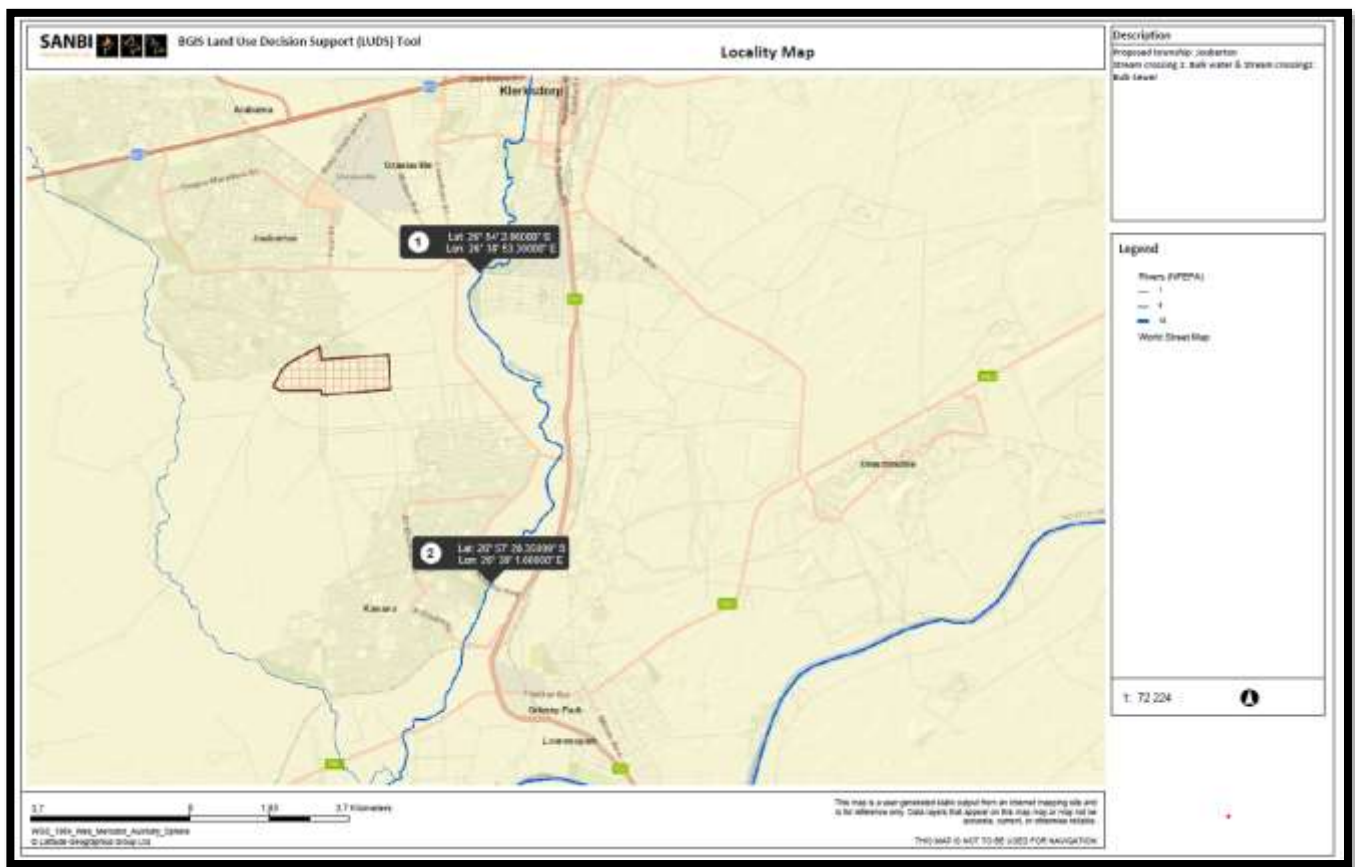


FIGURE 6. LOCALITY MAP:

5. LEGAL AND OTHER REQUIREMENTS

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act No. 107 of 1998 as amended.	NEMA is the guiding legislation that has been considered during the Environmental Impact Assessment process and the compilation of this Scoping Report.	National & Provincial (DEA And DEDECT)	27 November 1998
The Bill of Rights, Constitution of South Africa, Section 27 (1)(b)	<p>The Constitution of the Republic of South Africa is the legal source of all law, including environmental law, in South Africa. The Bill of Rights is fundamental to the Constitution of South Africa and in, section 24 of the Act, it is stated that:</p> <p>Everyone has the right (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</p> <p>Given that environmental management is founded partly on the principles of public participation, Section 195 of the Constitution is of primary relevance:</p> <p>(1) Public administration must be governed by the democratic values and principles enshrined in the constitution, including the following principles: (a) (b) (c) (d) (e) Peoples needs must be responded to, and the public must be encouraged to participate in policymaking. (f) Public administration must be accountable. (g) Transparency must be fostered by providing the public with timely, accessible and accurate information (Government Gazette, 1996).</p>	National Government	1994
New Regulations 2014 in terms of NEMA	Legislation consulted during the environmental impact assessment process to determine whether any listed activities would be triggered. The Regulations were also consulted to determine inter alia the requirements regarding the contents of Scoping reports and the public participation process that should be followed.	National & Provincial (DEA And DEDECT)	7 April 2017
National Water Act (36 OF 1998)	National Water Act (NWA), 1998 (Act 36 of 1998) is the primary statute providing the legal basis for water management in South Africa and has to ensure ecological	Department of water and sanitation	1998

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<p>integrity, economic growth and social equity when managing and using water.</p> <p>The major objectives of the National Water Act are to:</p> <ul style="list-style-type: none"> •Aid in providing basic human needs; •Meet the growing demand of water in a sustainable manner; •Ensure equal access to water and use of water resources; •Protect the quality of water of natural resources; •Ensure integrated management of water resources; •Foster social and economic development; and •Conserve aquatic and related ecosystems. <p>Section 19 of the National Water Act states that the person responsible for land upon which any activity is or was performed which causes, has caused or is likely to cause, pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.</p>		
<p>National Environmental Management: Biodiversity Act (NEMBA) (ACT NO. 10 OF 2004)</p>	<p>The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004), provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.</p> <p>In terms of Chapter 4 of the Above Act:</p> <p>52. (1) (a) The Minister may, by notice in the Gazette, publish a national list of ecosystems that are threatened and in need of protection.</p> <p>(b) An MEC for environmental affairs in a province may, by notice in the Gazette, publish a provincial list of ecosystems in the province that are threatened and in need of protection.</p> <p>(2) The following categories of ecosystems may be listed in terms of subsection:</p>	<p>National & Provincial (DEA And DEDECT)</p>	<p>2004</p>

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<p>(a) critically endangered ecosystems, being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation;</p> <p>(b) endangered ecosystems, being ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems;</p> <p>(c) vulnerable ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems; and</p> <p>(d) protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed in terms of paragraphs (a), (b) or (c).</p> <p>(3) A list referred to in subsection (1) must describe in sufficient detail the location of each ecosystem on the list.</p> <p>53 (1) The Minister may, by notice in the Gazette, identify any process or activity in a listed ecosystem as a threatening process.</p> <p>(2) A threatening process, identified in terms of subsection (1) must be regarded as a specified activity contemplated in section 24(2)(b) of the National Environmental Management Act (1998) and a listed ecosystem must be regarded as an area identified for the purpose of that section.</p>		
National Environmental Management: Protected Areas Act (ACT NO. 57 OF 2003)	This Act aims to provide for a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity. The Protected Areas Act tries to ensure the protection of the entire range of biodiversity, referring to natural landscapes and seascapes. The Act makes express reference to the need to move towards Community Based natural Resource Management (CBNRM) as its objectives include promoting the participation of local communities in the	National & Provincial	2003

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<p>management of protected areas. The purpose of the Act is:</p> <ul style="list-style-type: none"> •To protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes and their ecological integrity. •To conserve biodiversity in those areas; •To protect South Africa's rare species; •To protect vulnerable or ecologically sensitive areas; •To assist in ensuring the sustained supply of environmental goods and services; •To provide for the sustainable use of natural and biological resources; •To create or augment destinations for nature-based tourism; •To manage the interrelationship between natural environmental biodiversity, human settlement and economic development; •To contribute to human, social, cultural, spiritual and economic development; •To rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species. <p>This Act further stipulates various criteria which must be met before an area can be declared as a special nature reserve, national park, nature reserve and protected environment. It also prescribes a range of procedures, including consultation and public participation procedures which must be followed before any of the kinds of protected areas are declared.</p>		
National Heritage Resources Act, Act No. 25 of 1999	Legislation consulted during the impact assessment process, to determine the legal requirements relating to the management of heritage resources that are present in and around the site.	SAHRA	1999
National Environmental Management: Waste Act, Act No. 59 of 2008, DEDECT together with the List of Waste Activities that Have, or are Likely to Have, a Detrimental Effect on the Environment, GN No. 921 of 29 November 2013	Legislation consulted to determine whether a waste licence will have to be obtained for the development.	National & Provincial (DEA And DEDECT)	2008
<i>Mineral and Petroleum Resources Development Act (MPRDA), Act 28 of 2002</i>	<p>The Act distinguishes between mining permits and mining rights as follows:</p> <p>Mining Permit: Required where the activity will last less than two years and affects an area of less than 1.5ha in extent (valid for 3 years). In terms of the Act a mining permit requires a submission of an Environmental</p>	Relevant Provincial Authorities.	2002

Title of legislation, policy or guideline	Applicability to the project	Administering authority		Date
	<p>Management Plan (EMP to DME for approval prior to the onset of activities).</p> <p>Mining Right: Required for larger mining operations (renewable and valid for 30 years). In terms of the Act a mining right requires the submission of an Environmental Management Programme (EMProg) to DME for approval prior to the onset of activities.</p> <p>In light of their limited spatio-temporal extent, borrow pits (for the provision of construction material) and quarry operations would typically require a mining permit.</p> <p>The closure of borrow pits requires the submission of a closure application; this must be submitted within 180 days after ceasing operations. It is important to recognise that the mining right/permit holder's liability persists until such time as a Closure Certificate has been issued by DME.</p>			
<i>National Environmental Management: Air Quality Act (Act 39 of 2004)</i>	To protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social Development. Construction activities may cause some air pollution.	Relevant Authorities.	Provincial	2004
<i>The Conservation of Agricultural Resources Act (Act 43 of 1983)</i>	This Act regulates the flow pattern of runoff water, control of weeds and invader plants.	Relevant Authorities.	Provincial	1983
<i>National Veldt and Forest Fire Act (Act 101 of 1998)</i>	Chapter 4 places a duty on owners to prepare and maintain firebreaks.	Relevant Authorities.	Provincial	1998
<i>National Forests Act, Act 84 of 1998 (NFA) DEDECT with GN1602 of December 2016.</i>	During the construction phase of the development certain protected trees may be affected. Licences will have to be obtained from the Minister before the affected trees may be cut, disturbed, damaged or destroyed. GN1602 of December 2016 contains the list of protected trees.	National and Provincial authorities.		1998
<i>Occupational Health and Safety Act (Act 85 of 1993)</i>	To provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery and the protection of persons other than persons at work against hazards to health.	Relevant Authorities.	Provincial	1993

The study is conducted in such a way as to comply with the instructions regarding such studies and reports (as contained within the above-mentioned documents).

**The following aspects will be dealt with:
SCHEDULE**

Actions	Timeframe
1. Project Initiation and Scoping Phase	
1.1 Communication with authorities and source and analyse relevant baseline information and undertake site inspections	5 days
1.2 Identify key interested and affected parties (I&APs)	1 day
1.3 Compilation of terms of reference for specialist studies	2 days
1.4 Commission specialist studies	1 day
1.5 Compile Environmental Application Form for the project and submit to the authorities	Once the Environmental Application form has been submitted, the scoping report which has been subject to public participation (30 days) needs to be submitted within 44 days
1.6 Compile draft Scoping Report (SR) and make available to the public for a 30 day commenting period	5 days for compilation and 30 days for commenting period
1.7 Prepare an Information Sheet (summary of the draft SR) and distribute to I&APs	1 day
1.8 Compile and publish media notices (for the EIA) in relevant newspapers	7 days
1.9 Compile and place poster/s along the boundary of the site	1 day
1.10 Receive and address first round of comments from public	3 days
1.11 Should the draft SR require substantial changes, these changes will be incorporated into the final SR and distributed	The competent authority must within 43 days of receipt of the scoping report accept / refuse the report with our without conditions
1.12 Address comments received on the SR, finalise Scoping Report and submit to authorities	As above
1.13 Compile a Plan of Study for the assessment phase and submit to authorities for approval	As above
The total time allowed for the Scoping phase of the application	87 days
2. Assessment Phase	
2.1 Undertake assessment phase by assessing and evaluating potential impacts identified in the Scoping phase.	5 days
2.2 Review and manage specialist studies required.	Ongoing
2.3 Compile a draft Environmental Impact Report (EIR).	5 days
2.4 Compile a draft Environmental Management Plan for the Construction phase.	Included above
2.5 Compile an Information Sheet (summary of EIR) and distribute to identified I&APs	1 day
2.6 Distribute DEIR to I&APs	1 day
2.7 Allow the identified public to provide comment within a 30 day period on above report.	3 days for compilation and 30 days for commenting period
2.8 Address comments received and finalise EIR	3 days
2.9 Should the draft EIR require substantial changes, these changes will be incorporated into the final EIR and distributed for a 21 day commenting	3 days plus 21 day commenting period
2.10 Finalise EIR and update comments and response table for submission to authorities	5 days
2.11 Submit EIR to authorities for a final decision	1 day (The department requires the submission of the Final EIR within 106 days of the approval of the Scoping report), therefore all information from the client's side must be provided within this

	timeframe to ensure the application is not withdrawn)
2.12 Once the decision is issued, all I&Ps must be formally informed of the decision	The Competent Authority has 107 days from the date of receipt of the EIR and EMPr to determine the application
Total number of days allowed for the compilation and consideration of the EIR	213 (may require additional 50 days public participation and consideration)
TOTAL AMOUNT OF DAYS:	300-350 days

6. NEED AND DESIRABILITY

As in the rest of South Africa, there is a housing shortage in the area. The Spatial Development Framework (SDF) addresses the scale of urban growth through planned extensions, infill and redevelopment strategies. The local municipality is aware of the need to integrate urban settlements, with a view to reduce travel distances to the areas of employment opportunities. It also addresses measures to promote compact and connected growth opportunities, such as the identification of revitalisation zones, densification and mixed land use zones. For any development to be sustainable and viable, land development and planning should ensure that communities are located close to job opportunities, social facilities and basic services.

The SDF and the Land Use Management system of the Local Municipality has identified certain areas that must address previously disadvantaged areas and historically disadvantaged residents. There is a definite need for the residents to have reasonable access to opportunities and facilities that supports living in the urban Settlement. It is the responsibility of the local municipality to ensure that the residents have reasonable access to community services and amenities, as well as employment opportunities and that the form of land development need to provide for basic needs in an affordable way.

The proposed development aims to address the need identified by the City of Matlosana Local Municipality, for the provision of additional residential erven together with the necessary non-residential facilities required for townships of this nature.

The new "Human Settlements Plan" promotes the achievement of a non-racial, integrated society through the development of sustainable human settlements and quality housing. Housing is to be utilized for the development of sustainable human settlements in support of spatial restructuring.

The aim is to move beyond the provision of basic shelter towards achieving the broader vision of sustainable human settlements and more efficient towns, cities and regions. The following factors will be taken into consideration in order to achieve this vision:

- **Progressive Informal Settlement Eradication:** These settlements must be integrated into the broader urban setup so as to overcome spatial, social and economic exclusion. The plan encourages the eradication of informal settlements through in-situ upgrading in desired locations coupled with the relocation of households where development is not possible or desirable.
- **Promoting Densification and Integration:** The aim is to integrate previously excluded groups into the city so as to enable them to enjoy the benefits it offers and to create more integrated, functional and environmentally sustainable human settlements, towns and cities.
- **Enhancing Spatial Planning:** Greater co-ordination and alignment of various planning instruments and economic policies lies at the heart of sustainable human settlements. This requires more than mere co-ordination between departments but there needs to be a single overarching planning authority and/or instrument to provide macro-level guidance to support the development of sustainable human settlements.
- **Enhancing the location of New Housing Projects:** The location of past housing projects was said to reinforce apartheid spatial settlement patterns. Spatial restructuring aims to achieve a more decisive intervention in land markets. The following interventions are envisaged viz. accessing well located state-owned and parastatal land: acquisition of well-located private land for housing development, funding for land acquisition and fiscal incentives.

- Supporting Urban Renewal and Inner City Regeneration: Urban renewal and inner city regeneration often result in the current inhabitants being excluded as a result of the construction of dwelling units they cannot afford. Some municipalities are trying to avoid this by promoting affordable inner city housing. The "Human Settlements Plan" will support this by encouraging social housing.
- Developing Social and Economic Infrastructure: The need to move away from a housing-only approach towards a more holistic development of human settlements which includes the provision of social and economic infrastructure is emphasized.
- Enhancing the Housing Product: The aim is to develop more appropriate settlement layouts and housing products and to ensure appropriate housing quality.

This project from the onset aimed at providing a proper integrated human settlement that ascribes to the BNG Principles set out above. This was achieved as follows:

- This project makes provision for a variety of erven that can be utilized for various housing typologies. The largest proportion of the township areas will however be aimed at the subsidized housing sector through the implementation of one of Government's subsidized housing programmes as well as the need that exists for people that do not qualify for a Government subsidy, due to either already owning other property or earning in excess of the threshold household income prescribed in respect of the various housing subsidy programmes, but who still wishes to acquire an affordable stand where they can construct their own home.
- The proposed development focusses on promoting densification through the creation of smaller economical erven to optimise the provision of services to this area.
- The proposed township also provides social, educational and commercial support facilities and infrastructure in close proximity to the inhabitants to create a vibrant, sustainable settlement.

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion"*, whilst ensuring that such growth is *"ecologically sustainable"*. In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably

The proposed development addresses the need identified by the City of Matlosana Local Municipality, for the provision of additional mixed land use and social mix, such as the availability of housing for the people of the City.

During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the site will be created due to economic spin-offs that will result.

7. ALTERNATIVES

One of the objectives of an EIA is to investigate alternatives to the proposed project. The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, a number of possible proposals or alternatives for accomplishing the same objectives should be identified and investigated. In order to ensure that the proposed development enables sustainable development, feasible alternatives must be explored (S. Cliff, 2015).

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental scoping process. Alternatives should be considered as a norm within the Environmental Process (S. Cliff, 2015).

The alternatives considered for the proposed development includes land use alternatives (including the No-go option). The various alternatives will be assessed in the EIAR, in terms of environmental, social and technical feasibility.

7.1 Land Use Alternatives

7.1.1 Mixed land use township (Alternative 1)

Alternative Site layout have been developed for the proposed development.

The appointed Town and Regional planner have produced the proposed layout plan.

The proposed township will comprise the following:

JOUBERTON EXTENSION 31:		
Proposed Zoning	No of Erven	Area in Ha
Residential 1:	3 000	106.0656ha
Business 1:	3	0.5904ha
Secondary School	1	6.1326ha
Institutional:		
Primary School	1	4.8211ha
Creche	8	1.2245ha
Church	11	1.4590ha
Municipal/Special		
Community Facility	2	0.5145ha
Road widening	2	057134ha
Parking	2	0.0920ha
Public Open Space	6	8.1208ha
Recreational		
Sportsfield	1	1.8778ha
Streets		41.6048ha
TOTAL:		173.0749ha

Although the emphasis is on housing, complimentary land uses have been included in the township. People want easy access to job opportunities, shops, schools, banking facilities, clinics, etc. and want their living environment to be placed at strategic positions with good access routes in close proximity to these amenities.

A mixed land use development is *socially responsible* based on the following:

- It covers the mixed and lower income bracket by providing a higher density housing option;
- The development will inevitably support the use of public transport;
- The development will include supporting social infrastructure as well as retail and commercial activities;
- The layout of the development must respond to the future road planning for the area, to facilitate and maximise pedestrianisation and public transport.
- Commercial erven can accommodate a shopping centre, to service the existing formalised settlements in the area. The commercial node will:
 - Promote entrepreneurial services and products;
 - Be within walking distance to places of refreshment and trade for residents;
 - Provide Job opportunities; and
 - Improve neighbourhood quality.

7.1.2 Single land use: Housing only (Alternative 2)

By providing only one land use type (i.e., housing), mixed income development and social integration across race and income levels, cannot be achieved.

The business, and institutional uses (schools, church and creche) on site serves as a range of essential services that can be obtained by people living in its vicinity. In turn, the business, commercial/light industrial nodes act as a pool of human and physical resources from which the inputs necessary for development can be distributed efficiently, and from which a community can draw to promote their development.

By restricting a township to one land use only, the above benefits to the local community, and subsequent council area, cannot be realised, and hence, is not a preferred land use option.

7.1.3 No-go Alternative

The only other alternative that exists for the proposed development is the “no-go” option which will imply that the status quo will prevail. This is unacceptable, as other land parcels will have to be sourced to provide for this need within the community. This will imply that the development will not take place and will result in urban sprawl.

8. DESCRIPTION OF THE ENVIRONMENT THAT MAY BE AFFECTED BY THE PROJECT

8.1 BIO-PHYSICAL ASPECTS

8.1.1 GEOLOGY AND SOIL

The site is underlain by amygdaloidal lava agglomerate, agglomerate & tuff of the Rietgat Formation Platberg Group, of the Ventersdorp Supergroup. Surficial deposits include quaternary ferrycrete and colluvium. No dolomite occur in the study area therefore no stability investigations are needed.

Some problems are foreseen regarding the excavatability to 1,5m depth almost across the site. Zoning of the site revealed zones with constraints regarding the **compressibility, as well as the expansive properties** of the soil, and **nodular and hard pan ferricrete or shallow rock lava and core stones** may hamper the placement of services

The engineering geological site classification indicating special development was as follows

Normal Development with Risk:

Site Class HR/2C2F:

Slightly to medium expansive soil with estimated total heave of less than 7,5mm measured at surface, with the risk that it is underlain by a competent pebble marker comprising nodular ferricrete or hard pan ferricrete or shallow rock lava or lava core stones with normal foundation techniques to enable proper development. The use of pneumatic tools and a competent TLB or even blasting to reach required depths for the placement of services may increase the development cost to slightly above normal. It was classified as HR in terms of the NHBRC guidelines (1995) or the SAICE Code of practice (1995) and 2C2F according to the classification for urban development (Partridge, Wood & Brink), and normal compaction within standard strip foundations and drainage provision will be sufficient.

Suitable for development with precaution

Site Class PQ:

Areas where small quarries or filling or dumping of spoil were identified must be rehabilitated before any construction can be allowed, and backfilling with an engineer's material may improve the developability of these zones, but these operations will dramatically increase the development cost in this zone.

8.1.2 TOPOGRAPHY

The site is located on a plain surface dipping from west to east. The higher lying area in the west is at approximately 1349 m above sea level and the lower ground in the east is at 1325 m above sea level. The maximum elevation difference is approximately 24 m over a distance of 2400m. The gradient is therefore less than 1%.

A detailed site survey have been carried out to establish levels. The Engineering report and the Layout plan will address issues regarding drainage of the site.

8.1.3. CLIMATE

The climate of the area is typical of the South African interior. In the discussion of this variable, certain aspects of rainfall, temperature and wind that can influence the project will be highlighted.

It must be noted that the climatic data are recorded in the Department of Environmental Affairs (1988) climatic data records. Data for Klerksdorp weather station (0436/292) is available. This records were only taken between 1903-1952.

8.1.3.1. Rainfall

The average annual rainfall for the area is 625mm per annum. The highest annual rainfall recorded during the period for which the record is available is 980 mm (1976), while a yearly low of 365mm was recorded in 1903. Of note is the maximum-recorded daily rainfall of 140mm that was recorded during December 1943. Of importance is the fact that monthly minima of zero rainfall have been recorded for 6 months of the year. More recent data (last 10 years' average rainfall) is indicated below for Klerksdorp:



Source: www.worldweatheronline.com/klersdorp-weather-averages/north-west/za.aspx
(Visited: 14/10/2020)

The variability of rainfall as well as the high intensity events will definitely influence the project. On average however, the impact of rainfall can be considered as positive, as sufficient water is generally available for sustaining vegetation. Extreme dry conditions during dry spells will negatively affect the project due to the secondary effects on vegetation as well as the possibility of fire hazards. Extreme maximum events can also have a negative effect on the project during all its phases.

The overall impact can therefore be considered to be “variable” during the construction and operational phases (local in extent and long term in duration). The likelihood that these impacts may occur is probable, medium in intensity and significance. Steps to mitigate negative effects will be described in various sections of the Management Plan.

Due to the scale of the operation, the rainfall of the area cannot be affected by the project and is therefore “Not Applicable”.

8.1.3.2. Temperature

The average daily maximum temperature for the winter months for the area is approximately 20° C. The average daily minimum for that time of the year is in the order of 2,0° C.

During the summer months, the average daily maximum is in the order of 28° C and the daily average minimum approximately 14°C. The highest daily maximum recorded was 39,2°C while the lowest recorded temperature was -10,2°C.



Source: www.worldweatheronline.com/klersdorp-weather-averages/north-west/za.aspx
(Visited: 14/10/2020)

In combination with a dry spell, such hot temperatures may be favourable for the spreading of veldfires.

The general impact of this variable on the project can be considered as positive during the construction and operational phases. The impacts can however be considered as having low intensity impacts of low significance. The extent is local and short term in duration.

Due to the scale of the project, it is clear that it will have no impact on the environment”.

8.1.3.3. Wind

The average wind direction for the area during the summer months is from the north-to-north easterly quadrant, while during the early spring the direction is more north westerly. Southerly winds generally occur during the winter, but are not frequent. Normally very little wind is experienced during the winter due to the presence of the high-pressure cell situated over the country during that time of the year.

The wind speeds are normally fairly low, but high wind speeds may occur during early spring and during of thundershowers.

Wind can be considered as having a low intensity, and a low significance negative impact on the construction and operational phases of the project. The probability is probable and the impacts are local but short in duration. The project can have no influence on the wind and is therefore “not applicable.

Climate Change

According to: WIREs Climate Change 2014, 5605-620. Doi:10.1002/wcc.295: “Climate change is a key concern within South Africa. Mean annual temperatures have increased by at least 1.5 times the observed global average of 0.65°C over the past five decades and extreme rainfall events have increased in frequency. These changes are likely to continue. Climate change poses a significant threat to South Africa’s water resources, food security, health, infrastructure, as well as its ecosystem services and biodiversity. Considering South Africa’s high levels of poverty and inequality, these impacts pose critical challenges for national development. In relation to water, impact studies for the water resources sector have begun to look beyond changes in streamflow to changes in the timing of flows and the partitioning of streamflow into base flows and stormflows, reservoir yields, and extreme hydrological events. Spatially the eastern seaboard and central interior of the country

are likely to experience increases in water runoff. Higher frequencies of flooding and drought events are projected for the future. Complexities of the hydrological cycle, influences of land use and management and the linkages to society, health, and the economy indicate far higher levels of complexity in the water resources sector than in other sectors. What has emerged is that land uses that currently have significant impacts on catchment water resources will place proportionally greater demands on the catchment's water resources if the climate were to become drier. The influence of climate change on water quality is an emerging research field in South Africa, with assessments limited to water temperature and non-point source nitrogen and phosphorus movement. A critical interaction that has not been explored is between changes in water quality and quantity and the combined impacts, such changes might have impact on various types of water use, e.g., irrigation, domestic consumption, or aquatic ecosystems support".

Water availability and demand has been calculated by the consulting Civil Engineers, to enable a sustainable waterborne sewage system as well as potable water supply for both the existing and future developments in the area.

8.1.4. SURFACE DRAINAGE

The area lies within the drainage basin of the Schoonspruit. The site is located on a shallow slope towards the Schoonspruit. Plate flow is the dominant drainage pattern on the sites. Drainage occurs in a eastern direction towards the Schoonspruit, which is approximately 1 800 m away from the coner of the site.

Surface drainage will have an influence on the project on a local scale and long in duration. The influence is positive in the sense that no major ground works are necessary to overcome possible erosion by sheet flow. The intensity and significance is low and of a probable probability.

The project will have a negative influence on the environment during the construction phase as the natural overland flow will be disturbed during this phase. If the prescribed management plan for the operational phase is adhered to, no undue stress will be placed on the environment - a positive impact can be expected. The likelihood of these impacts occurring is probable, but the intensity and significance, are judged low. The extent is local and the duration long.

8.1.5. GROUND WATER

The permanent or perched water table on site is deeper than 1,5 m below ground surface. The underground water table in the area is normally deep because of the geology of the area. The likelihood of problems arising from it is not very large if proper steps are taken to prevent possible pollution infiltration into the groundwater. Slow percolation of water within the clay is expected.

The impact and significance of this variable is considered low, probable but with a low significance.

The project could adversely affect ground water if proper steps are not implemented in order to prevent pollution from reaching the groundwater. If proper mitigation and pollution prevention steps are taken during the planning, implementation and post-construction phases it is highly unlikely that the groundwater will be affected. The eventual influence should therefore be one of low significance, probability and intensity.

Possible infiltration into the groundwater have been taken into account. During the construction phase, no spills of lubricants or construction worker sewage should be allowed to pollute the ground water. Special care must be taken to ensure adequate surface drainage to prevent the accumulation of water next to structures, especially within these relative flat areas.

8.1.6. WETLANDS AND RIPARIAN ZONES

No wetlands have been found at the proposed township and are likely to be absent. The installation of services associated with the development will however involve the crossing of the Schoonspruit in two different locations, of which the impact of the proposal will be assessed by a wetland specialist.

8.1.7. FLORA

The site is situated at the Grassland Biome which is represented by the Vaal-Vet Sandy Grassland vegetation type (Mucina & Rutherford, 2006). A brief overview of the vegetation type, which serves as an outline of the ecological context of the site, follows.

Gh 10 Vaal-Vet Sandy Grassland

Distribution: In South Africa the Vaal-Vet Sandy Grassland is present in the North-West Province and Free State Province. Vaal-Vet Sandy Grassland ranges from south of Lichtenburg and Ventersdorp to Klerksdorp, Leeudoringstad, Bothaville and to the Brandfort areas north of Bloemfontein. Altitude ranges from 1 220 – 1560 m for the entire vegetation type (Mucina & Rutherford 2006).

Vegetation and landscape features: Plains-dominated landscape with some scattered, slightly undulating plains and hills. Mainly low-tussock grasslands with an abundant karroid element are present. Dominance of *Themeda triandra* is an important feature of this vegetation unit. Locally low cover of *Themeda triandra* and the associated increase in *Elionurus muticus*, *Cymbopogon pospischilii* and *Aristida congesta* is attributed to heavy grazing and/or erratic rainfall. Geology and soils: Aeolian and colluvial sand overlying sandstone, mudstone, and shale of the Karoo Supergroup (mostly the Ecga group) as well as older Ventersdorp Supergroup and basement gneiss in the north (Mucina & Rutherford 2006).

Important taxa of the Vaal-Vet Sandy Grassland listed by Mucina & Rutherford (2006): Graminoids: *Antheophora pubescens*, *Aristida congesta*, *Chloris virgata*, *Cymbopogon caesius*, *Cynodon dactylon*, *Digitaria argyrograpta*, *Elionurus muticus*, *Eragrostis chloromelas*, *Eragrostis lehmanniana*, *Eragrostis plana*, *Eragrostis trichophora*, *Heteropogon contortus*, *Panicum gilvum*, *Setaria sphacelata*, *Themeda triandra*, *Tragus berteronianus*, *Brachiaria serrata*, *Cymbopogon pospischilii*, *Digitaria eriantha*, *Eragrostis curvula*, *Eragrostis obtusa*, *Eragrostis superba*, *Panicum coloratum*, *Pogonarthria squarrosa*, *Trichoneura grandiglumis*, *Triraphis andropogonoides*. Herbs: *Stachys spathulata*, *Barleria macrostegia*, *Berkheya onopordifolia* var. *onopordifolia*, *Chamaesyce inaequilatera*, *Geigeria aspera* var. *aspera*, *Helichrysum caespititium*, *Hermannia depressa*, *Hibiscus pusillus*, *Monsonia burkeana*, *Rhynchosia adenodes*, *Selago densiflora*, *Vernonia oligocephala*. Geophytic Herbs: *Bulbine narcissifolia*, *Ledebouria marginata*. Succulent Herb: *Tripteris aghillana* var. *integrifolia*. Low shrubs: *Felicia muricata*, *Pentzia globosa*, *Anthospermum rigidum* subsp. *pumilum*, *Helichrysum dregeanum*, *Helichrysum paronychioides*, *Ziziphus zeyheriana*.

Note: Not all of the above listed plant species for the vegetation types occur at the site in the study area.

Vegetation is transformed by informal developments at most of the site. Remaining vegetation appears to be degraded or modified. Plant cover at many areas is visibly poor which lead to soil compaction and lower rainfall efficiency. Patches of degraded grassland with some indigenous grass species, herbaceous species and few trees remain at the site. Indigenous tree species that remain are *Vachellia karroo*, *Ziziphus mucronata* and shrub-height *Grewia flava*. The shrub *Asparagus laricinus* is conspicuous at some of the remaining grassland patches. Indigenous grass species include *Eragrostis lehmanniana*, *Panicum coloratum*, *Aristida congesta*, *Aristida adscensionis*, *Chloris virgata*, *Eragrostis superba*, *Hyparrhenia hirta*, *Tragus berteronianus*, *Melinis repens* and *Themeda triandra*. Indigenous forbs and dwarf shrubs include *Hilliardiella*




oligocephala, *Tripteris aghillana*, *Bulbine narcissifolia*, *Barleria macrostegia*, *Chamaesyce inaequalata*, *Felicia muricata*, *Ziziphus zeyheriana* and *Pentzia globosa*.

A number of alien invasive weed species are conspicuous and widespread at disturbed areas at the site. These alien invasive weeds include *Chenopodium album* (White Goosefoot), *Datura ferox* (Large Thorn-apple), *Datura stramonium* (Common Thorn Apple), *Argemone ochroleuca* (Mexican Poppy), *Gomphrena celosioides* (Globe Amaranth), *Schkuhria pinnata* (Dwarf Marigold), *Tagetes minuta* (Khaki Weed), *Conyza bonariensis* (Flea Bane), *Verbena aristigera* (Fine-leaved Verbena), *Plantago lanceolata* (Buckhorn Plantain), *Physalis viscosa* (Sticky Gooseberry), *Xanthium spinosum* (Spiny Cocklebur) and *Salsola kali* (Tumbleweed).

No Threatened or Near Threatened plant species appear to be resident at the site. No other plant or animal species of particular conservation concern appear to be present at the site. The scope for the site to be part of a corridor of particular conservation importance is small. Ecological sensitivity at the site is medium-low and for the larger part, low. See Figure 8 below.



Figure 8: Indications of ecological sensitivity at the site.

- | | | |
|---|----------------------------------|------------------------|
|  | Red outline | Boundaries of the site |
|  | Light yellow outline and shading | Low Sensitivity |
|  | Orange outline and shading | Medium-low Sensitivity |

8.1.8. FAUNA

Mammals

The following Tables list the possible presence or absence of threatened mammal species, and mammal species of which the status is uncertain, respectively, at the site. Literature sources that were used are Friedman & Daly (2004), Skinner & Chimimba (2005) and Wilson & Reeder (2005). Since the site falls outside reserves, threatened species such as the black rhinoceros (*Diceros bicornis*) and the African wild dog (*Lycaon pictus*) are obviously not present. No smaller mammals of particular high conservation significance are likely to be found on the site as well.

Mammals of particular conservation concern

Threatened mammal species of the North West Province. Literature sources: Friedman & Daly, (2004), Skinner & Chimimba (2005), Wilson & Reeder (2005). With mammal species which normally needs a large range their residential status does not implicate that they are exclusively dependent on the site or use the site as important shelter or for reproduction. No = Not recorded at site/ Unlikely to be resident at the site. Yes: Recorded at the site/ Likely to be resident at the site

Species	Threatened Status	Recorded at site during survey	Likely to be found based on habitat assessment
<i>Chrysoxalax villosus</i> Rough-haired golden mole	Vulnerable	No	No
<i>Clootis percivali</i> Short-eared Trident Bat	Vulnerable/ Near-threatened	No	No
<i>Diceros bicornis</i> Black rhinoceros	Critically Endangered	No	No
<i>Lycaon pictus</i> African wild dog	Endangered	No	No
<i>Loxodonta africana</i> African elephant	Vulnerable	No	No
<i>Mystromys albicaudatus</i> White-tailed mouse	Endangered	No	No
<i>Neamblysomus julianae</i> Juliana's Golden Mole	Critically Endangered	No	No
<i>Panthera leo</i> Lion	Vulnerable	No	No
<i>Rhinolophus blasii</i> Blasi's Horseshoe Bat	Vulnerable	No	No
<i>Smutsia temminckii</i> Ground Pangolin	Vulnerable	No	No

Near Threatened mammal species of the North West Province. Main source: Skinner & Chimimba (2005 with updates by several authors per species. With mammal species which normally needs a large range their residential status does not implicate that they are exclusively dependent on the site or use the site as important shelter or for reproduction. No = Not recorded at site/ Unlikely to be resident at the site. Yes: Recorded at the site/ Likely to be resident at the site.

Species	Threatened Status	Recorded at site during survey	Likely to be found based on habitat assessment
<i>Ceratotherium simum</i> White Rhinoceros	Near threatened	No	No

Data deficient (or uncertain) mammal species of the North West Province. Literature sources: Skinner & Chimimba (2005). No = Not recorded at site/ unlikely to be resident at the site. Yes: Recorded at the site/ Likely to be resident at the site.

Species	Threatened Status	Recorded at site during survey	Likely be a resident at the site
<i>Myosorex varius</i> Forest shrew	Uncertain	No	No

Bird species of particular conservation concern

The following tables list the possible presence or absence of threatened bird species and near threatened bird species at the site. With bird species, which often have a large distributional range, their presence does not imply that they are particularly dependent on a site as breeding location. Therefore, the emphasis in the right hand columns of Table 4.12 and Table 4.13 are on the particular likely dependance or not of bird species on the site. Literature sources that were mainly consulted are Barnes (2000), Hockey, Dean & Ryan, P.G. (2005) and Chittenden (2007). No threat to any threatened bird species or any bird species of particular conservation importance are foreseen.

Threatened bird species of the North West Province. Literature sources Barnes (2000), Hockey, Dean & Ryan, P.G. (2005) and Chittenden (2007). No = Not recorded at site/ Unlikely to use site as breeding area or particular habitat on which the species depends. Yes = Recorded at site/ Likely to use site as breeding area or particular habitat on which the species depends.

Species	Common name	Threatened Status	Recorded at site during survey	Likely to use site as breeding area or habitat
<i>Aegypius tracheliotos</i>	Lappet-faced Vulture	Vulnerable	No	No
<i>Anthropoides paradiseus</i>	Blue Crane	Vulnerable	No	No
<i>Aquila rapax</i>	Tawny Eagle	Vulnerable	No	No
<i>Ardeotis kori</i>	Kori Bustard	Vulnerable	No	No

<i>Balearica regulorum</i>	Grey Crowned Crane (Mahem)	Vulnerable	No	No
<i>Botaurus stellaris</i>	Eurasian Bittern	Critically Endangered	No	No
<i>Circus ranivorus</i>	African Marsh- Harrier	Vulnerable	No	No
<i>Crex crex</i>	Corn Crane	Vulnerable	No	No
<i>Eupodotis senegalensis</i>	White-bellied Korhaan	Vulnerable	No	No
<i>Falco naumanni</i>	Lesser Kestrel	Vulnerable	No	No
<i>Geronticus calvus</i>	Southern Bald Ibis	Vulnerable	No	No
<i>Gorsachius leuconotus</i>	White-backed Night-heron	Vulnerable	No	No
<i>Gypaetus barbatus</i>	Bearded Vulture	Endangered	No	No
<i>Gyps africanus</i>	White-backed Vulture	Vulnerable	No	No
<i>Gyps coprotheres</i>	Cape Vulture	Vulnerable	No	No
<i>Pelecanus rufescens</i>	Pink-backed Pelican	Vulnerable	No	No
<i>Polemaetus bellicosus</i>	Martial Eagle	Vulnerable	No	No
<i>Rhynchops flavirostris</i>	African Skimmer	Endangered	No	No
<i>Sagittarius serpentarius</i>	Secretarybird	Vulnerable	No	No
<i>Sarothrura ayresi</i>	White-winged Flufftail	Critically Endangered	No	No
<i>Tyto capensis</i>	African Grass-Owl	Vulnerable	No	No

* Though some of the above bird species that roams over large areas may occasionally be found at the site, the site does not appear to be a habitat of particular importance to these birds, and these birds also do not use the site as particular breeding area.

Near threatened bird species of the North West Province. Literature sources Barnes (2000), Hockey, Dean & Ryan, P.G. (2005) and Chittenden (2007). No = Not recorded at site/ Unlikely to be particularly dependent on the site as breeding area or habitat. Yes = Recorded at site/ Likely to be particularly dependant on the site as breeding area or habitat.

Species	Common name	Threatened Status	Recorded at site during survey	Likely to use site breeding area or habitat
<i>Certhilauda chuana</i>	Short-clawed Lark	Near threatened	No	No
<i>Charadrius pallidus</i>	Chestnut-banded Plover	Near threatened	No	No
<i>Ciconia nigra</i>	Black Stork	Near threatened	No	No
<i>Circus macrourus</i>	Pallid Harrier	Near threatened	No	No

<i>Eupodotis caerulescens</i>	Blue Korhaan	Near threatened	No	No
<i>Falco biarmicus</i>	Lanner Falcon	Near threatened	No	No
<i>Falco peregrinus</i>	Peregrine Falcon	Near threatened	No	No
<i>Glareola nordmanni</i>	Black-winged Pratincole	Near threatened	No	No
<i>Leptoptilos crumeniferus</i>	Marabou Stork	Near threatened	No	No
<i>Mirafra cheniana</i>	Melodious lark	Near threatened	No	No
<i>Mycteria ibis</i>	Yellow-billed Stork	Near threatened	No	No
<i>Phoenicopterus minor</i>	Lesser Flamingo	Near threatened	No	No
<i>Phoenicopterus ruber</i>	Greater Flamingo	Near threatened	No	No
<i>Rostratula benghalensis</i>	Greater Painted-snipe	Near threatened	No	No
<i>Sagittarius serpentarius</i>	Secretarybird	Near threatened*	No	No
<i>Sterna caspia</i>	Caspian Tern	Near threatened	No	No

* Most recent extinction risk assessment for the secretary bird is vulnerable.

** Though some of the above bird species that roams over large areas may occasionally be found at the site, the site does not appear to be a habitat of particular importance to these birds, and these birds also do not use the site as breeding area.

Reptiles of particular conservation concern

The following tables list possible presence or absence of threatened reptile or near threatened reptile species in the study area. The Southern African Reptile Conservation Assessment (SARCA) was launched in May 2005 (Branch, Tolley, Cunningham, Bauer, Alexander, Harrison, Turner & Bates, 2006). Its primary aim is to produce a conservation assessment for reptiles of South Africa, Lesotho and Swaziland within a four year period, ending 2009 (Branch *et al.*, 2006). Therefore a full up-dated conservation assessment of reptiles, taking into account the recent IUCN (2001) criteria, will only be available in the near future. While the conservation statuses of reptile species are under revision Alexander & Marais (2007) as well as Tolley & Burger 2007) give useful indications of possible red listings in the near future. There appears to be no threat to any reptile species of particular high conservation importance if the site is developed. The Atlas and Red List of Reptiles of South Africa, Lesotho and South Africa (Bates, Branch, Bauer, Burger, Marais, Alexander & de Villiers, 2014) has been used as the main source to compile the list for assessment.

Threatened reptile species in North West Province. Main Source: (Bates, Branch, Bauer, Burger, Marais, Alexander & de Villiers, 2014). No = Reptile species is not a resident on the site; Yes = Reptile species is found to be resident on the site.

Species	Threatened Status	Resident at site	Recorded at site during survey	Likely to be found based on habitat assessment
<i>Crocodylus niloticus</i>	Vulnerable	No	No	No

Nile Crocodile

Near threatened reptile species in North West Province. Main Source: Bates, Branch, Bauer, Burger, Marais, Alexander & de Villiers (2014). Though *Homoroselaps dorsalis* has not yet been recorded from the North West Province, its presence in some areas or the Province is anticipated. No = Reptile species is not a resident on the site; Yes = Reptile species is found to be resident on the site.

Species	Threatened Status	Resident at site	Recorded at site during survey	Likely to be found based on habitat assessment
<i>Homoroselaps dorsalis</i> Striped Harlequin Snake	Near threatened	No	No	No

Amphibians of particular conservation concern

No frog species that occur in the North West are listed as Threatened species (Vulnerable, Endangered or Critically Endangered) or Near Threatened species according to IUCN Amphibian Specialist Group (2013). Table 4.17 lists *Pyxicephalus adspersus* (Giant Bullfrog) as Least Concern globally. According to the Biodiversity Management Directorate of GDARD (Gauteng Department of Agriculture and Rural Development) (2014) there are no amphibians in Gauteng that qualify for red listed status (red listed here indicates a category of special conservation concern such as threatened or near threatened). Suitable habitat for Giant Bullfrog at site appears to be absent.

Near threatened amphibian species in North West Province. No = Amphibian species is not a resident on the site; Yes = Amphibian species is found to be resident on the site.

Species	Threatened Status	Resident at site	Recorded at site during survey	Likely to be found based on habitat assessment
<i>Pyxicephalus adspersus</i> Giant Bullfrog	Near threatened (Currently Least Concern)	No	No	No

Assessment of invertebrate species of particular conservation concern

Butterflies of particular conservation concern

Studies about the vegetation and habitat of threatened butterfly species in South Africa showed that ecosystems with a unique combination of features are selected by these often-localised threatened butterfly species (Deutschländer and Bredenkamp 1999; Edge 2002, 2005; Terblanche, Morgenthal & Cilliers 2003; Lubke, Hoare, Victor & Ketelaar 2003; Edge, Cilliers & Terblanche, 2008). Threatened butterfly species in South Africa can then be regarded as bio-indicators of rare ecosystems.

Four species of butterfly in Gauteng Province and North West Province combined are listed as threatened in the recent butterfly conservation assessment of South Africa (Mecenero *et al.*, 2013). The expected presence or not of these threatened butterfly species as well as species of high conservation priority that are not threatened, at the site sa listed in the following Tables.

Threatened butterfly species in North West Province and Gauteng Province. Sources: Henning, Terblanche & Ball (2009), Mecenero *et al.* (2013). Invertebrates such as threatened butterfly species are often very habitat specific and residential status imply a unique ecosystem that is at stake.

Species	Threatened Status	Recorded at site during survey	Residential status at the site: Yes confirmed, Highly likely, Likely, Medium possibility, Unlikely, Highly unlikely
<i>Aloeides dentatis dentatis</i> Roodepoort Copper	Endangered	No	Highly unlikely
<i>Chrysochrysis aureus</i> Golden Copper	Endangered	No	Highly unlikely
<i>Lepidochrysops praeterita</i> Highveld Blue	Endangered	No	Highly unlikely
<i>Orachrysops mijburghi</i> Mijburgh's Blue	Endangered	No	Highly unlikely

Butterfly species of the North West Province and Gauteng Province that are not threatened and not near threatened but of which are of particular conservation concern and listed in the **Rare** category (Mecenero *et al.*, 2013). No = Butterfly species is unlikely to be a resident at the study area; Yes = Butterfly species is a resident at the study area.

Species	Threatened Status	Recorded at site during survey	Residential status at the site: Yes confirmed, Highly likely, Likely, Medium possibility, Unlikely, Highly unlikely
<i>Colotis celimene amina</i> Lilac Tip	Rare (Low density)	No	Highly unlikely
<i>Lepidochrysops procera</i> Savanna Blue	Rare (Habitat specialist)	No	Highly unlikely
<i>Metisella meninx</i> Marsh Sylph	Rare (Habitat specialist)	No	Highly unlikely
<i>Platylesches dolomitica</i> Hilltop Hopper	Rare (low density)	No	Highly unlikely

Beetles of particular conservation priority

Fruit chafer species (Coleoptera: Scarabaeidae: Cetoninae) in the Gauteng Province and North-West Province which are of known high conservation priority. No *Ichnestoma stobbiai* or *Trichocephala brincki* were found during the surveys. There

appears to be no suitable habitat for *Ichneustoma stobbiai* or *Trichocephala brincki* at the site. There appears to be no threat to any of the fruit chafer beetles of particular high conservation priority if the site were developed.

Species	Threatened Status	Recorded at site during survey	Likely to be resident based on habitat assessment
<i>Ichneustoma stobbiai</i>	Uncertain	No	No
<i>Trichocephala brincki</i>	Uncertain	No	No

Scorpion species of particular conservation priority

Rock scorpion species (Scorpiones: Ischnuridae) species that are of known high conservation priority in the Gauteng Province and North-West Province. None of these rock scorpions have been found at the site and the habitat does not appear to be optimal.

Species	Threatened Status	Recorded at site during survey	Likely to be resident at site based on habitat assessment
<i>Hadogenes gracilis</i>	Uncertain	No	No
<i>Hadogenes gunningi</i>	Uncertain	No	No

Ecological Sensitivity at the site

Ecological sensitivity at the site is low. Informal dumping, trampling, tracks, likely overgrazing by free roaming cattle and clearings are widespread human induced impacts at the site. Informal settlements are present at some parts of the site. Soil compaction is noticeable at many places at the site. Pylons run through the site. Vegetation at the site appears to be degraded, modified or in some areas transformed. Hitherto cultivated fields cover most of the site. Threatened species appear to be absent. The scope for the vegetation at the site to be restored and conserved is small.

Summary of risks and impacts

Vegetation at the site appears to be degraded, modified or in some areas transformed. Disturbances that have caused extensive impacts to vegetation include hitherto cultivated fields at large parts of the site, possible overgrazing by free roaming cattle and goats, clearings, trampling, informal dumping and informal settlements. Plant cover at many areas is visibly poor which lead to soil compaction and lower rainfall efficiency. Patches of degraded grassland with some indigenous grass species, herbaceous species and few trees remain at the site. The shrub *Protasparagus laricinus* is conspicuous at the site and its concentrations approach bush encroachment at some places.

Wetlands and rocky ridges appear to be absent at the site.

Grassland at the site is represented by the Vaal-Vet Sandy Grassland vegetation type (Gh 10) which is listed as a Threatened Ecosystem, Endangered, according to the National List of Threatened Ecosystems (2011). Terrestrial vegetation at the site has been modified and transformed at parts, in the past and is currently considerably degraded. The scope for the restoration and conservation of natural grassland at the site is small.

No Threatened or Near Threatened plant or animal species appear to be resident at the site. No other plant or animal species of particular conservation concern appear to be present at the site. The site is regarded as low ecological sensitivity. There is little scope for the degraded and increasingly isolated site to be part of a corridor of particular conservation importance. Following the mitigations, which will be upheld, and planned footprint for development all the impact risks listed above are moderate or low.

8.2. SOCIO ECONOMIC FACTORS

8.2.1. SOCIAL AMENITIES

The SDF and the Land Use Management system of the Local Municipality has identified certain areas that must address previously disadvantaged areas and historically disadvantaged residents. There is a definite need for the residents to have reasonable access to opportunities and facilities that supports living in the urban Settlement. It is the responsibility of the local municipality to ensure that the residents have reasonable access to community services and amenities, as well as employment opportunities and that the form of land development need to provide for basic needs in an affordable way.

The proposed development aims to address the need identified by the City of Matlosana Local Municipality, for the provision of additional residential erven together with the necessary non-residential facilities required for townships of this nature.

The new "Human Settlements Plan" promotes the achievement of a non-racial, integrated society through the development of sustainable human settlements and quality housing. Housing is to be utilized for the development of sustainable human settlements in support of spatial restructuring.

The aim is to move beyond the provision of basic shelter towards achieving the broader vision of sustainable human settlements and more efficient towns, cities and regions. The following factors will be taken into consideration in order to achieve this vision:

- **Progressive Informal Settlement Eradication:** These settlements must be integrated into the broader urban setup so as to overcome spatial, social and economic exclusion. The plan encourages the eradication of informal settlements through in-situ upgrading in desired locations coupled with the relocation of households where development is not possible or desirable.
- **Promoting Densification and Integration:** The aim is to integrate previously excluded groups into the city so as to enable them to enjoy the benefits it offers and to create more integrated, functional and environmentally sustainable human settlements, towns and cities.
- **Enhancing Spatial Planning:** Greater co-ordination and alignment of various planning instruments and economic policies lies at the heart of sustainable human settlements. This requires more than mere co-ordination between departments but there needs to be a single overarching planning authority and/or instrument to provide macro-level guidance to support the development of sustainable human settlements.

- **Enhancing the location of New Housing Projects:** The location of past housing projects was said to reinforce apartheid spatial settlement patterns. Spatial restructuring aims to achieve a more decisive intervention in land markets. The following interventions are envisaged viz. accessing well located state-owned and parastatal land: acquisition of well-located private land for housing development, funding for land acquisition and fiscal incentives.
- **Supporting Urban Renewal and Inner City Regeneration:** Urban renewal and inner city regeneration often result in the current inhabitants being excluded as a result of the construction of dwelling units they cannot afford. Some municipalities are trying to avoid this by promoting affordable inner city housing. The "Human Settlements Plan" will support this by encouraging social housing.
- **Developing Social and Economic Infrastructure:** The need to move away from a housing-only approach towards a more holistic development of human settlements which includes the provision of social and economic infrastructure is emphasized.
- **Enhancing the Housing Product:** The aim is to develop more appropriate settlement layouts and housing products and to ensure appropriate housing quality.

This project from the onset aimed at providing a proper integrated human settlement that ascribes to the BNG Principles set out above. This was achieved as follows:

- This project makes provision for a variety of erven that can be utilized for various housing typologies. The largest proportion of the township areas will however be aimed at the subsidized housing sector through the implementation of one of Government's subsidized housing programmes as well as the need that exists for people that do not qualify for a Government subsidy, due to either already owning other property or earning in excess of the threshold household income prescribed in respect of the various housing subsidy programmes, but who still wishes to acquire an affordable stand where they can construct their own home.
- The proposed development focusses on promoting densification through the creation of smaller economical erven to optimise the provision of services to this area.
- The proposed township also provides social, educational and commercial support facilities and infrastructure in close proximity to the inhabitants to create a vibrant, sustainable settlement.

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion"*, whilst ensuring that such growth is *"ecologically sustainable"*. In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably

During the construction phase, temporary employment will be created. The increased employment in the area during the construction phase will also result in increased expenditure, which, in addition, will mean that more than just the proposed jobs required for the construction on the site will be created due to economic spin-offs that will result.

8.2.2. AIR QUALITY

“The extent and toxicity of emissions is not necessarily a concise indicator of contributions to ground-level air pollution concentrations or of risks to health and the environment. Such contributions are also a function of the height of emission, temporal variations in the release of pollutants, and the proximity of the source to the people or the environment affected by exposure to the pollutant (such as, for instance, children, or the elderly, or people who are ill, or others who may be particularly sensitive receptors to a specific pollutant above a certain concentration). If an industry is operating close to a school or hospital or centre for the elderly, the potential exposure (in combination with the other contributing factors) is high.

Three factors govern the significance of household fuel-burning emissions:

- (i) the low level of emissions (that is, their height above the ground is generally about 3 m, within people’s breathing zone);*
- (ii) the simultaneous occurrence of peak emissions (during the coldest months of winter and in the early mornings and throughout the evenings) and poor atmospheric dispersion (stable atmosphere with low wind speeds, with the possible development of temperature inversions); and*
- (iii) the release of such emissions within high human exposure areas, given that such emissions generally occur in dense, low-income settlements where population density is high (in addition, the pollution is not only outdoors, but frequently indoors as well, due to poor ventilation, so it affects the whole family).*

The significance of vehicle emissions as contributors to air-pollutant concentrations and health risks is similarly increased by the low level (close to the ground) of the emissions, and their proximity to highly populated areas – on highways, for example, with emissions being particularly high when traffic is congested. Vehicle emissions tend to peak early in the morning and in the evenings, when the potential for atmospheric dispersion is reduced (for example, wind speeds are generally low in the early mornings and evenings, reducing their potential for dispersing pollution).

Given the high volumes of pollutants emitted from fuel-burning within the industrial and power-generation sectors, their contribution to ambient concentrations and public health risks is often lower than might be expected. This is because these sources are generally characterized by constant releases, relatively high above ground level, and further away from residential settlements than are household fuel-burning and vehicle emissions.

Ranking the significance of different sources of pollution on the basis of the total emissions for which each source is responsible would, for example, place industrial emissions above household fuel-burning. If the aim is to reduce impacts on human health, however, then household fuel-burning would need to be targeted as a top priority (Scorgie et al., 2004d).

Historically, air pollution control in South Africa has primarily emphasized the implementation of ‘command and control’ measures in the industrial sector. The shift from source-based control, to the management of the air that people breathe, emphasizes the importance of targeting a wider range of sources and using more flexible and varied approaches. It means paying greater attention to ambient air quality, as it is more important (and more cost-effective, in many cases) to make sure that the ambient air complies with air quality standards. This approach ensures that human and environmental health is protected and that the cumulative impact of pollution from a number of sources is addressed.

Approaches adopted or considered for future implementation have included: regulation (for example, the use of Atmospheric Emission Licences for Listed Activities); market instruments (such as atmospheric user-charges and pollution taxes); the potential for voluntary agreements, education and awareness raising; and emissions trading. International experience shows that adopting a mix of instruments and interventions is more effective than using a single instrument to improve air quality across various types of source. Although direct regulation remains important in controlling industrial sources, there is evidence that specifying emission limits is more effective than specifying the use of particular technologies, so as to give companies

flexibility in selecting the method of achieving success that suits them best. This approach is advocated as being more cost-effective and more likely to stimulate technological advances in pollution control methods and production processes.

For large point sources (that is, sources of pollution that are concentrated on one site, but that have large, constant volumes of many types of pollution) that are few in number, instruments such as emissions trading have been advocated as an effective way to manage pollutant emissions and reduce the costs of compliance.

Implementing an efficient social protection system to alleviate poverty is central to maintaining conditions that facilitate not only economic growth but also environmental sustainability. Many South African households – including those with access to electricity – use coal, wood, and paraffin, due to the relative cost-effectiveness of such fuels for heating (that is, space heating) and cooking purposes.

Many low-cost housing developments and informal settlements are located close to industrial and mining operations, as such land is both available and inexpensive. Poorer communities are more likely to suffer from poor service delivery, including inadequate waste removal that sometimes results in refuse being set alight illegally. These examples show that poverty alleviation could help to improve air quality by enabling people to choose practices that are friendlier to the environment.”

https://www.environment.gov.za/sites/default/files/docs/stateofair_airqualityand_sustainable_development.pdf Date visited: 17/03/2020.

The proposed development is planned and will eventually be developed with the above mentioned in mind. The alleviation of poverty (Jobs that will be created) and the provision of proper accommodation facilities (Which has been designed to be as energy efficient as possible) will contribute towards lessening air pollution in the area.

In addition to the above, it should be noted that the project will however create a certain amount of dust during the construction phase. If proper dust suppression measures are implemented this variable will have very little impact (low in intensity and significance during the construction phase).

8.2.3. NOISE

It is a fact that a certain amount of noise will be generated during the construction phase of the project. Noise levels should however rarely exceed the allowable limits. It is unlikely that the project will create any more noise during the operational phase than that already experienced on site.

8.2.4. ARCHAEOLOGY AND CULTURAL SITES

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known sites on the specific land parcel and none was identified during the physical assessment in January 2021. The area has been heavily impacted and disturbed in the recent past by agricultural and current ongoing residential and related activities. This includes large-scale informal settlement over the largest portion of the study and development footprint.

8.2.5 AESTHETICS

Aesthetics have very little influence as the area is already highly disturbed. The development is located towards the south and south-east of the existing Township of Jouberton and towards the north of Kanana while a large part of the site area is already covered by informal settlement. The proposed stream crossing of the bulk water supply line (Stream crossing 1) will be 2,5

kilometers north-east of the site, adjacent to a existing bridge over the Schoonspruit on Inge Avenue while the proposed stream crossing of the bulk sewer pipeline (Stream crossing 2) is located 4,5 kilometers south-east of the site, also crossing the Schoonspruit.

Visual Intrusion is defined as the level of compatibility or congruence of the project with the particular qualities of the area, or its 'sense of place'. This is related to the idea of context and maintaining the integrity of the landscape or townscape.

High visual intrusion – results in a noticeable change or is discordant with the surroundings;

Moderate visual intrusion – partially fits into the surroundings, but clearly noticeable;

Low visual intrusion – minimal change or blends in well with the surroundings.

The proposed development will change the scenic resources of the local area from an undeveloped site to a residential area. The visual intrusion is considered to be moderate as the proposed development partially fits into the surroundings but will be clearly noticeable.

The proposed development will require additional lighting on and in buildings and possibly along roads. This will change the night landscape from unlit to lit.

9. ENVIRONMENTAL IMPACT ASSESSMENT

9.1 ASSESSMENT CRITERIA

Impacts were rated using the following methodology:

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
Duration (time scale)	Short term	Up to 5 years
	Medium term	6 – 15 years
	Long term	More than 15 years
Extent (area)	Local	Confined to study area and its immediate surroundings
	Regional	Region (cadastral, catchment, topographic)
	National	Nationally (The country)
	International	Neighboring countries and the rest of the world.
Magnitude (Intensity)	Low	Site-specific and wider natural and/or social functions and processes are negligibly altered. ((A low intensity impact will not affect the natural, cultural, or social functions of the environment).
	Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way. (Medium scale impact will alter the different functions slightly).
	High	Site-specific and wider natural and/or social functions and processes are severely altered. (A High intensity impact will influence these functions to such an

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
		extent that it will temporarily or permanently cease to exist).
Probability	Improbable	Possibility of occurrence is very low. (Such an impact will have a very slight possibility to materialise, because of design or experience).
	Possible	There is a possibility that the impact will occur
	Probable	It is most likely that the impact will occur
	Definite	The impact will definitely occur
Significance	Insignificant	Impact is negligible and will not have an influence on the decision regarding the proposed activity (No mitigation is necessary)
	Very Low	Impact is very small and should not have any meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Low	The impact may not have a meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Medium	The impact should influence the decision regarding the proposed activity (The project can only be carried through if certain mitigatory steps are taken)
	High	The impact will influence the decision regarding the proposed activity
	Very High	The proposed activity should only be approved under special circumstances
Reversibility	Low	There is little chance of correcting the adverse impact
	Medium	There is a moderate chance of correcting the adverse impact
	High	There is a high chance in correcting the adverse impact
Risk	Low	Assessing a risk involves an analysis of the consequences and likelihood of a hazard being realized. In decision-making, low-consequence / low-probability risks (green) are typically perceived as acceptable and therefore only require monitoring.
	Medium	Other risks (amber) may require structured risk assessment to better understand the features that contribute most to the risk. These features may be candidates for management
	High	High-consequence / high-probability risks (red) are perceived as unacceptable and a strategy is required to manage the risk.

Attributes associated with the alternatives were assessed and is outlined below:

Geographical attributes

The Geographical attributes of an area relates to the characteristics of a particular region, area or place. It influences the determination of site alternatives as it relates to the location of a site in relation to relevant features in the area.

Physical attributes

Physical attributes of an area relates to the processes and patterns in the natural environment. For the purpose of this assessment, the following processes and patterns have been investigated. Geology, soil, topography and landforms, climate and meteorology, surface water and ground water.

Biological attributes

Biological attributes for the purpose of this study includes the distribution of species and ecosystems in geographic space and through geological time. Organisms and biological communities often vary in a regular fashion along geographic gradients of latitude, elevation, isolation and habitat area. The two main branches assessed will be:

Phytogeography is the branch of biogeography that studies the distribution of plants.

Zoogeography is the branch that studies distribution of animals.

Social attributes

Social attributes is closely related to social theory in general and sociology in particular, dealing with the relation of social phenomena and its spatial components.

Economic attributes

Economic attributes includes the location, distribution and spatial organization of economic activities and also takes into account social, cultural, and institutional factors in the spatial economy of the development.

Heritage attributes

The broad generic term Cultural Heritage Resources refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

Cultural attributes

Cultural attributes relates to the specific characteristics such as language, religion, ethnic and racial identity, and cultural history & traditions of people. These attributes influences family life, education, economic and political structures, and, of course, business practices.

It should be noted that the above mentioned attributes do not occur in isolation and it is not uncommon for an identified impact to overlap with two or more of these attributes. Also note, not all risks require comprehensive and detailed assessment. Solid problem formulation should allow decision-makers to evaluate the extent of subsequent analysis required. The level of effort put into assessing each risk should be proportionate to its significance and priority in relation to other risks, as well as its complexity, by reference to the likely impacts. Consideration should be given to stakeholders' perceptions of the nature of the risk.

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic	32,38 hectares of indigenous vegetation will be eradicated in order to establish the development	Duration	Long term	Obtain the necessary environmental authorization for the development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite	Conduct a Fauna and Flora Habitat survey to determine the sensitivity of the area.	Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Low	Implement the mitigation measures as described in the Environmental Management Plan.	Medium
	Services will connect to Municipal infrastructure that is available in the area and a new bulk water and sewer line is proposed to cross the Schoonspruit in two different locations as indicated in Figure 2. The pipelines are located within an urban area and is therefore not listed, however, this application also deals with the proposed infilling of 52 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1040 cubic metres from a watercourse in order to construct a bulk Water Pipeline (See Stream crossing 1) and the proposed infilling of 16 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 320 cubic metres from a watercourse in order to construct a bulk Sewer Pipeline (See Stream crossing 2)	Duration	Long term	Obtain the necessary environmental authorization for the development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite	The 1:100 flood line and the edge of the wetland/riparian zone will have to be determined and will have to be incorporated into the final layout plan.	Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Low	Plan for the following: The installation of the pipe is to commence during the dry season to allow for the lowest possible impact on the environment and to simplify the required construction procedures The local vegetation will be stored and used again during the rehabilitation period. Topsoil will be placed in a demarcated area for re-use during the rehabilitation period. The area to be used for stockpiling of the topsoil will be at an approved location. The area to be excavated needs to be clearly marked with lime. Provide shoring and bracing to the excavations where required. Erect physical barriers around the excavated area according to OHS requirements. Install and compact bedding where the infrastructure is to be installed according to the engineer's specifications (material description, bedding depth and compaction specifications).	Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
				<p>Install and compact soilcrete stabilised blanket material directly above the syphon in layers of 150mm.</p> <p>Backfill and compact excavated material in layers of 150mm up to natural ground level.</p> <ul style="list-style-type: none"> • Backfill will be done in the same sequence; • Top soil will be backfilled after compaction; • Gabions will be installed for erosion control/management; • Storm water berms will be built to control and manage storm water; • Each site will be landscaped after construction. <p>The necessary erosion prevention mechanism shall be employed to ensure the sustainability of all structures;</p> <p>The construction camp shall not be located within the 1:100 year flood line or within a 100m of any watercourse; whichever the greater.</p> <p>Construct the infrastructure in accordance with the designs and ensure the natural flow of the river is not disturbed in the long term.</p> <p>Obtain the necessary environmental authorization for the development. Obtain the necessary Water Use Licenses.</p> <p>Implement the mitigation measures as described in the Environmental Management plan.</p> <p>Implement the mitigation measures as described by the Wetland specialists incorporated into the Environmental Management Plan.</p>	
	28,09 ha of the proposed development area is located within a CBA 1 and the vegetation will be eradicated.	Duration	Long term	Obtain the necessary environmental authorization for the development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High	High	
		Probability	Definite	Definite	
		Significance	Medium	Medium	
		Reversibility	Low	Low	
		Risk	Low	Medium	
				Conduct a Fauna and Flora Habitat survey to determine the sensitivity of the area.	
				Implement the mitigation measures as described in the Environmental Management Plan.	

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	Plan for the provision of services for the development.	Duration	Long term	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Plan to rehabilitate disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the eradication of foreign and invader plant species which are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Plan for the provision and maintenance of ablation facilities for construction workers to prevent pollution of surface and underground water.	Duration	Short term	Provide portable ablation facilities that will not cause pollution during the construction phase. There should be 1 Chemical toilet for every 30 workers on site.	Short term	
	Extent	Local		Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
Plan to manage possible impacts that the project can have on the soil and geology.	Duration	Long term	Properly plan the construction phase in such a manner that impacts on the soil and geology of the area can be minimised. The findings of the Geotechnical Engineer must be incorporated into the design of the project. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Long term	
	Extent	Local		Local	
	Magnitude (Intensity)	Low		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
	Plan for the removal of vegetation (which will lead to the destruction of faunal and floral habitats) during the construction phase.	Duration		Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants.
Extent		Local	Local		
Magnitude (Intensity)		Medium	Medium		
Probability		Definite	Definite		

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)						
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)						
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)	
		Significance	Medium	The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Medium	
		Reversibility	High		High	
		Risk	Low		Medium	
	Plan to safeguard open trenches in order to alleviate the danger of collapse on people or on equipment and people- especially small children who may fall into it.	Duration	Short term	Ensure that the trenches are dug according to specifications as prescribed by the Civil Engineer.	Short term	
		Extent	Local		Local	
		Magnitude (Intensity)	Medium		Medium	
		Probability	Definite	Ensure that the trenches stay open for as short a time as possible.	Definite	
		Significance	Medium		Medium	
		Reversibility	High		High	
		Risk	Low		Medium	
	Indirect impacts:					
	Geographical Physical Social Economic	Plan to control dust generation from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction.	Short term
			Extent	Local		Local
			Magnitude (Intensity)	Low	Start the rehabilitation of disturbed surfaces as soon as possible	Low
Probability			Probable	Probable		
Significance			Medium	Medium		
Reversibility			High	High		
Risk			Low	Medium		
Plan and compile method statements to implement measures for the prevention and or handling of spills of lubricants / oils that can take place on bare soil.		Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Local	
		Magnitude (Intensity)	Low		Low	
		Probability	Probable		Probable	
		Significance	Medium	Medium		
		Reversibility	High	High		
		Risk	Low	Medium		
Plan to provide method statements on the handling of waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard		Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner.	Local	
		Magnitude (Intensity)	Low		Low	
		Probability	Probable	NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Probable	
		Significance	Medium		Medium	
		Reversibility	High		High	
		Risk	Low		Medium	
Plan to ensure all involved is aware of the possible social and environmental problems that may be experienced as a		Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act.	Local	
		Magnitude (Intensity)	Medium		Medium	
	Probability	Probable	Probable			
	Significance	Medium	Medium			

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	result of non-compliance to the relevant legislation.	Reversibility	High	Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	High
		Risk	Low		Medium
	Plan to create new employment opportunities. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
Risk	Low	Medium			
Cumulative impacts:					
Geographical Physical Social Economic	Plan the development to ensure the social well-being of the community for which the development is intended	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Plan to ensure that the services (solid waste, bulk water supply water, sewage, electricity and storm water) are designed and constructed in such a manner that it will not cause Environmental degradation.	Extent	Local	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite	Ensure that the development is constructed as planned.	Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the increase in traffic volumes that will result from the proposed development	Extent	Local	The Town and Regional Planner will have to design the layout of the development in such a way that accessibility will not become a problem. Appoint a Traffic engineer to assess the traffic volumes and existing road network and determine whether upgrades are necessary	Local
		Magnitude (Intensity)	Medium		Medium
Probability		Definite	Definite		
Significance		Medium	High		
Reversibility		Low	Low		
Risk		Medium	Medium		
Loss of indigenous vegetation.	Extent	Local	No mitigation measures possible.	Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	High		High	
	Reversibility	Low		Low	
	Risk	Medium		Medium	

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 2: Single land use: Housing only					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic	32,38 hectares of indigenous vegetation will be eradicated in order to establish the development.	Duration	Long term	Obtain the necessary environmental authorization for the development. Conduct a Fauna and Flora Habitat survey to determine the sensitivity of the area.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Low		Medium
	Services will connect to Municipal infrastructure that is available in the area and a new bulk water and sewer line is proposed to cross the Schoonspruit in two different locations as indicated in Figure 2. The pipelines are located within an urban area and is therefore not listed, however, this application also deals with the proposed infilling of 52 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 040 cubic metres from a watercourse in order to construct a bulk Water Pipeline (See Stream crossing 1) and the proposed infilling of 16 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 320 cubic metres from a watercourse in order to construct a bulk Sewer Pipeline (See Stream crossing 2)	Duration	Long term	Obtain the necessary environmental authorization for the development. The 1:100 flood line and the edge of the wetland/riparian zone will have to be determined and will have to be incorporated into the final layout plan. Plan for the following: The installation of the pipe is to commence during the dry season to allow for the lowest possible impact on the environment and to simplify the required construction procedures The local vegetation will be stored and used again during the rehabilitation period. Topsoil will be placed in a demarcated area for re-use during the rehabilitation period. The area to be used for stockpiling of the topsoil will be at an approved location. The area to be excavated needs to be clearly marked with lime. Provide shoring and bracing to the excavations where required. Erect physical barriers around the excavated area according to OHS requirements. Install and compact bedding where the infrastructure is to be installed according to the engineer's specifications (material description, bedding depth and compaction specifications).	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 2: Single land use: Housing only					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
				<p>Install and compact soilcrete stabilised blanket material directly above the syphon in layers of 150mm.</p> <p>Backfill and compact excavated material in layers of 150mm up to natural ground level.</p> <ul style="list-style-type: none"> • Backfill will be done in the same sequence; • Top soil will be backfilled after compaction; • Gabions will be installed for erosion control/management; • Storm water berms will be built to control and manage storm water; • Each site will be landscaped after construction. <p>The necessary erosion prevention mechanism shall be employed to ensure the sustainability of all structures;</p> <p>The construction camp shall not be located within the 1:100 year flood line or within a 100m of any watercourse; whichever the greater.</p> <p>Construct the infrastructure in accordance with the designs and ensure the natural flow of the river is not disturbed in the long term.</p> <p>Obtain the necessary environmental authorization for the development. Obtain the necessary Water Use Licenses.</p> <p>Implement the mitigation measures as described in the Environmental Management plan.</p> <p>Implement the mitigation measures as described by the Wetland specialists incorporated into the Environmental Management Plan.</p>	
	28,09 ha of the proposed area is located within a CBA1 and the vegetation will be eradicated.	Duration	Long term	Obtain the necessary environmental authorization for the development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High	Conduct a Fauna and Flora Habitat survey to determine the sensitivity of the area.	High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low	Implement the mitigation measures as described in the Environmental Management Plan.	Low
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 2: Single land use: Housing only					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	Plan for the provision of services for the development.	Duration	Long term	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Plan to rehabilitate disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the eradication of foreign and invader plant species which are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Plan for the provision and maintenance of ablation facilities for construction workers to prevent pollution of surface and underground water.	Duration	Short term	Provide portable ablation facilities that will not cause pollution during the construction phase.	Short term	
	Extent	Local		Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
Plan to manage possible impacts that the project can have on the soil and geology.	Duration	Long term	Properly plan the construction phase in such a manner that impacts on the soil and geology of the area can be minimised. The findings of the Geotechnical Engineer must be incorporated into the design of the project. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. The findings of the Geotechnical Engineer must be incorporated into the design of the project. Plan to prevent spills of lubricants/oils that can take place on bare soil. This	Long term	
	Extent	Local		Local	
	Magnitude (Intensity)	Low		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)						
ALTERNATIVE 2: Single land use: Housing only						
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)	
				will include the use of drip trays for vehicles that are standing for more than 24 hours.		
	Plan for the removal of vegetation (which will lead to the destruction of faunal and floral habitats) during the construction phase.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants.	Short term	
		Extent	Local		Local	
		Magnitude (Intensity)	Medium		Medium	
			Probability	Definite	The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible.	Definite
			Significance	Medium		Medium
			Reversibility	High		High
			Risk	Low	No snares may be set.	Medium
	Plan to safeguard open trenches in order to alleviate the danger of collapse on people or on equipment and people- especially small children who may fall into it.	Duration	Short term	Ensure that the trenches are dug according to specifications as prescribed by the Civil Engineer.	Short term	
		Extent	Local		Local	
		Magnitude (Intensity)	Medium		Medium	
			Probability	Definite	Ensure that the trenches stay open for as short a time as possible.	Definite
			Significance	Medium		Medium
			Reversibility	High		High
			Risk	Low	Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Medium
Indirect impacts:						
Geographical Physical Social Economic	Plan to control dust generation from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction.	Short term	
		Extent	Local		Local	
		Magnitude (Intensity)	Low		Low	
			Probability	Probable	Start the rehabilitation of disturbed surfaces as soon as possible	Probable
			Significance	Medium		Medium
			Reversibility	High		High
			Risk	Low		Medium
	Plan and compile method statements to implement measures for the prevention and or handling of spills of lubricants / oils that can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Local	
		Magnitude (Intensity)	Low		Low	
		Probability	Probable		Probable	
			Significance	Medium	Medium	
			Reversibility	High	High	
			Risk	Low	Ensure that all construction vehicles are in good working order and not leaking oil and or fuel.	Medium
	Plan to provide method statements on the handling of waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that:	Local	
		Magnitude (Intensity)	Low		All construction rubble is disposed of in a safe and environmentally acceptable manner.	Low
		Probability	Probable		NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase.	Probable
			Significance	Medium	Medium	
			Reversibility	High	High	
		Risk	Low	All cement is housed as to prevent spills (due to rain and or handling errors).	Medium	

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 2: Single land use: Housing only					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
				NO glass, plastic, metal, or paper shall be allowed to pollute the area.	
	Plan to ensure all involved is aware of the possible social and environmental problems that may be experienced as a result of non-compliance to the relevant legislation.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium	Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to create new employment opportunities. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					
Geographical Physical Social Economic	Plan the development to ensure the social well-being of the community for which the development is intended	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	Plan to ensure that the services (Solid waste, bulk water supply water, sewage, electricity and storm water) are designed and constructed in such a manner that it will not cause Environmental degradation.	Extent	Local	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High	Ensure that the development is constructed as planned.	High
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the increase in traffic volumes that will result from the proposed development	Extent	Local	The Town and Regional Planner will have to design the layout of the development in such a way that accessibility will not become a problem.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium	Appoint a Traffic engineer to assess the traffic volumes and existing road network and determine whether upgrades are necessary	High
		Reversibility	Low		Low
		Risk	Medium		Medium
	Loss of indigenous vegetation.	Extent	Local	No mitigation measures possible.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 3: (No-Go Option)					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	No indigenous vegetation will be removed.	Duration	Long term	No mitigation measures required.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
Indirect impacts:					
Geographical Physical Social Economic Cultural	No new employment opportunities will be created during the planning and design phase. No skills enhancement will take place If this option is implemented, the projected boost to the local and regional economy will not take place.	Extent	Local	Ensure that the development is constructed and operated as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	If this option is implemented, the projected boost to the local and regional economy will not take place. No new employment opportunities will be created. No improvement to local skills development will take place. No broadened Tax base for the City of Matlosana Local Municipality.	Extent	Local	Ensure that the development is constructed and operated as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
DIRECT IMPACTS:					
Geographical Physical Social Economic	32,38 hectares of indigenous vegetation will be eradicated in order to establish the development.	Duration	Long term	Obtain the necessary environmental authorization for the development. Implement the findings of the Fauna and Flora Habitat survey. Implement the mitigation measures as	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)

ALTERNATIVE 1: Mixed land use township (Preferred Alternative)

Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
				described in the Environmental Management Plan.	
the proposed development area is located within a CBA 1 and the vegetation will be eradicated.	Duration	Long term		Obtain the necessary environmental authorization for the development.	Long term
	Extent	Local			Local
	Magnitude (Intensity)	High			High
	Probability	Definite		Implement the findings of the Fauna and Flora Habitat survey.	Definite
	Significance	Medium			Medium
	Reversibility	Low			Low
	Risk	Low			Medium
Services will connect to Municipal infrastructure that is available in the area and a new bulk water and sewer line is proposed to cross the Schoonspruit in two different locations as indicated in Figure 2. The pipelines are located within an urban area and is therefore not listed, however, this application also deals with the proposed infilling of 52 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 1 040 cubic metres from a watercourse in order to construct a bulk Water Pipeline (See Stream crossing 1) and the proposed infilling of 16 cubic metres of bedding and blanket material into, and the excavation, removal and moving of soil and/or rock of 320 cubic metres from a watercourse in order to construct a bulk Sewer Pipeline (See Stream crossing 2)	Duration	Long term		The installation of the pipe is to commence during the dry season to allow for the lowest possible impact on the environment and to simplify the required construction procedures	Long term
	Extent	Local			Local
	Magnitude (Intensity)	High			High
	Probability	Definite		The local vegetation will be stored and used again during the rehabilitation period.	Definite
	Significance	Medium			High
	Reversibility	Low			Low
	Risk	Low			Medium
				Topsoil will be placed in a demarcated area for re-use during the rehabilitation period.	
				The area to be used for stockpiling of the topsoil will be at an approved location.	
				The area to be excavated needs to be clearly marked with lime.	
				Provide shoring and bracing to the excavations where required.	
				Erect physical barriers around the excavated area according to OHS requirements.	
				Install and compact bedding where the	

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
				<p>infrastructure is to be installed according to the engineer's specifications (material description, bedding depth and compaction specifications).</p> <p>Install and compact soilcrete stabilised blanket material directly above the syphon in layers of 150mm.</p> <p>Backfill and compact excavated material in layers of 150mm up to natural ground level.</p> <ul style="list-style-type: none"> • Backfill will be done in the same sequence; • Top soil will be backfilled after compaction; • Gabions will be installed for erosion control/management; • Storm water berms will be built to control and manage storm water; • Each site will be landscaped after construction. <p>The necessary erosion prevention mechanism shall be employed to ensure the sustainability of all structures;</p> <p>The construction camp shall not be located within the 1:100 year flood line or within a 100m of any watercourse; whichever the greater.</p> <p>Construct the infrastructure in accordance with the designs and ensure the natural flow of the river is not disturbed in the long term.</p> <p>Obtain the necessary environmental</p>	

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)

ALTERNATIVE 1: Mixed land use township (Preferred Alternative)

Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
				authorization for the development. Obtain the necessary Water Use Licenses. Implement the mitigation measures as described in the Environmental Management plan. Implement the mitigation measures as described by the Wetland specialists incorporated into the Environmental Management Plan.	
Un-rehabilitated, disturbed surfaces can lead to erosion and dust pollution.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term	
	Extent	Local		Local	
	Magnitude (Intensity)	Low		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
Foreign plant species are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term	
	Extent	Local		Local	
	Magnitude (Intensity)	Low		Low	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
Poorly planned ablution facilities for construction workers may cause pollution of surface and underground water.	Duration	Short term	Provide portable ablution facilities that will not cause pollution during the construction phase.	Short term	
	Extent	Local		Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
The proposed project can impact on the soil and geology.	Duration	Long term	Implement the findings of the Geo-Technical Engineer. Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Long term	
	Extent	Local		Local	
	Magnitude (Intensity)	Low		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
	Duration	Short term		Short term	

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)

ALTERNATIVE 1: Mixed land use township (Preferred Alternative)

Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
	The vegetation of the area will be removed during the construction phase, which will destroy floral and faunal habitats.	Extent	Local	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Open trenches can be dangerous as they can either collapse on people or on equipment and people- especially small children, can fall into them.	Duration	Short term	Ensure that the trenches are dug according to specifications as prescribed by the Civil Engineer. Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
Risk	Low	Medium			
Indirect impacts:					
Geographical Physical Social Economic	Dust generation from the proposed project could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
	Risk	Low	Medium		
	Spills of lubricants / oils can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
Risk		Low	Medium		

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)

ALTERNATIVE 1: Mixed land use township (Preferred Alternative)

Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
	Waste materials such as glass, plastic, metal or paper present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Non-compliance to the relevant legislation may cause social and environmental problems.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	New employment opportunities will be created. Local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					
Geographical Physical Social Economic	Enhancement of the social well-being of the local communities for which the development is intended	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute	Environmental Attribute
		Risk	Low	The demand for housing will be partially addressed in the area.	Medium
	<p><u>Solid waste:</u> The proposed development will add additional solid waste into the existing waste stream of the City of Matlosana Local Municipality.</p> <p><u>Sewage:</u> The proposed development will add additional sewage into the existing sewage stream of the City of Matlosana Local Municipality.</p> <p><u>Water supply:</u> The proposed development will add pressure to the water supply of City of Matlosana Local Municipality's Water.</p>	Extent	Local	Ensure that the development is constructed as planned by the Civil Engineer.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium
	<p><u>Traffic:</u> The proposed development will result in an increase in traffic in the immediate surroundings of the proposed development.</p>	Extent	Local	Ensure that the development is constructed as planned by the Town and Regional Planner and findings of the Traffic Engineer for upgrading the accesses are implemented	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Medium		Medium
	<p>Indigenous vegetation will be removed.</p>	Extent	Local	No mitigation measures possible.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
		Extent	Local		Local

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)					
ALTERNATIVE 1: Mixed land use township (Preferred Alternative)					
Environmental Attribute	Environmental Attribute	Environmental Attribute	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	Poorly maintained and serviced infrastructure may cause environmental problems.	Extent	Local	It will be the responsibility of the Local Municipality to maintain the infrastructure.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)

ALTERNATIVE 1: Mixed land use township (Preferred Alternative)

Environmental Attribute	Environmental Attribute	Environmental Attribute	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
		Risk	High		High
Indirect impacts:					
Geographical Physical Social Economic Cultural	Lack of rehabilitation may cause problems	Extent	Local	It will be the responsibility of the Local Municipality to ensure that the rehabilitation plan is implemented	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	Enhancement of the social well-being of the local communities for which the development is intended	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium
Geographical Physical Social Economic Cultural	Broadened tax base: The proposed development will generate more income for the City of Matlosana Local Municipality.	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

10. PUBLIC PARTICIPATION.

10.1 ADVERTISEMENT AND NOTICE

Publication name	Klerksdorp Record	
Date published	28/04/2021	
Site notice 1 position Site notice 2 position Site notice 3 position Site notice 4 position	Latitude	Longitude
	26°54'49.93"S	26°36'54.19"E
	26°55'16.69"S	26°36'18.50"E
	26°54'2.18"S	26°38'53.27"E
Site notice 4 position	26°57'27.90"S	26°39'1.06"E
Date placed	29/04/2021	

PROOF OF SITE NOTICE AFFIXED IN LINE WITH COVID-19 PROTOCOL: SANITIZATION IN PLACE: 29/04/2021









PROOF OF NEWSPAPER ADVERTISEMENT (KLERKSDORP RECORD 28/04/2021)

GEREGTELIKE KENNISGEWINGS
LEGAL NOTICES

IVERVOLG VAN P20

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS (EIR AND SCOPING) READ REF. NO: NWP/ EIA/03/2021

NOTICE is hereby given of an Environmental Impact Assessment Process to be conducted. This process will be undertaken in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Amended Regulations promulgated on 7 April 2017). The proposed project is classified as, and will be conducted in terms of Government Notice No. R.326 of 2017; (Government Notice No. R.325 Listing Notice 2; Activity No. 15) (Government Notice No. R.327 Listing Notice 1; Activity No. 19) (Government Notice No. R.327 Listing Notice 1; Activity No. 28(i)) and (Government Notice No. R.324 Listing Notice 3; Activity No. 12(h)(iv); 14(ii)(a)(i, ii & iv)). This advertisement complies with the instructions regarding such notices, National Environmental Management Act (Act No. 107 of 1998, as amended). (Amended Regulations Promulgated on 17 April 2017) (Government Notice No. R.326 of 2017) (Regulation 41(2)(c) (d)). The competent authority is the Northwest Department of Economic Development, Environment, Conservation and Tourism. The responsible office is: Ms Thembekile Makuwa, Poelchefstroom Office, reachable at Tel: 018 2596883; email: makuwa@nwpg.gov.za. Project name: Environmental Impact Assessment for the proposed clearance of 173,074979 ha of indigenous vegetation, located within a critical biodiversity area (CBA 1) in order to establish a Township, located on a portion of Portion 24 (a portion of Portion 9), a portion of Portion 25 (a portion of Portion 9), Portion 32 (a portion of Portion 9), a portion of Portion 8 (a portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No.

018 462 3070/061 503 1172. Fax: 018 462 3067. **K10 30/04**

LOST OR DESTROYED DEED

NOTICE is hereby given in terms of Regulation 85 of the Deeds Registries Act 1937, of the intention to apply for the issue of a certified copy of Deed of Transfer T15889/2018 passed by MAQUASSI HILLS LOCAL MUNICIPALITY, in favour of MAQUASSI HILLS LOCAL MUNICIPALITY situated at Portion 190 (a portion of Portion 2) of the farm Wolmaransstad Town and Townlands 184, Registration Division HO Province North-west, measuring: 99,9540 (nine nine comma nine five four zero) hectares in extent, which has been lost or destroyed.

All interested persons having objection to the issue of such copy are hereby required to lodge the same in writing with the Registrar of Deeds at Pretoria Deeds Office Information, Merino Building, corner of Pretorius and Bosman Streets, Pretoria Central, Pretoria, 0002 within two weeks from the date of the publication of this notice. Dated at Sandton 21 April 2021.

APPLICANT: AngloGold Ashanti Limited. Email: elaine.harris@nortonrosefulbright.com. Address c/o Norton Rose Fulbright, 1 Alice Lane, Sandton, 2196. Contact Number: 011 301 3441. **K13 30/04**

FULL CIRCLE PROJECTS TWENTY CC IN LIKWIDASIE (1999/036589/23)

ENNIS geskied hiermee dat die ondergenoemde as Mede-Likwidateure aangestel is om dat persone wat eniglets aan die boedel verskuldig is onmiddellik hul skulde by die genoemde Likwidateure moet vereffen. Meestersverwysing: M90/2020.

In Eerste & Tweede vergadering van Krediteure van bogenoemde boedel sal plaasvind op Woensdag, 19 Mei 2021 om 10:00 te die Landdroshof in Klerksdorp vir die volgende doeleindes:
1. Bewys van eise.
2. Verslag van Likwidateure te aanvaar en
3. om besluite en opdragte te aanvaar.
DT MAJIEDT & LF KAABA o/a HONEYPROKUREURS, Honey Kamers, Kenneth Kraandraat, Bloemfontein. Tel: 051 403 6600. **K12 30/04**

LOST OR DESTROYED DEED

ing Company Limited and formerly known as AngloGold Limited), Registration Number 1944/017354/06 in respect of Erf 2525 Orkney Extension 1 Township, Registration Division IP, Province of Northwest, which has been lost or destroyed.

All interested persons having objection to the issue of such copy are hereby required to lodge the same in writing with the Registrar of Deeds at Pretoria Deeds Office Information, Merino Building, corner of Pretorius and Bosman Streets, Pretoria Central, Pretoria, 0002 within two weeks from the date of the publication of this notice. Dated at Sandton 21 April 2021.

APPLICANT: AngloGold Ashanti Limited. Email: elaine.harris@nortonrosefulbright.com. Address c/o Norton Rose Fulbright, 1 Alice Lane, Sandton, 2196. Contact Number: 011 301 3441. **K13 30/04**

AANSOEK EN BEËDIGDE VERKLARING KRAGTENS REGULASIE 8(1) VAN DIE AKTESWET, 47 VAN 1937

EK, die ondergetekende 1. JULIUS EDWARD FRIEDENTHAL, identiteitsnommer: 391022 5017 08 3, 2. JULIUS EDWARD FRIEDENTHAL, identiteitsnommer: 391022 5017 08 3, in my hoedanigheid as lang-slewende gade en Ekskuteur in die boedel wyle MARIA ELIZABETH FRIEDENTHAL kragtens Ekskuteurbrief Nommer 5557/2015 uitgereik deur die Meester van die Hoogereregshof van Suid-Afrika Noordwes Afdeling, Mahikeng te Mahikeng op 18 September 2015, die geregistreerde eienaar van: Erf 1763 Siffontein Uitbreiding 3, Dorpsgebied, Registrasie Afdeling IP, Provinsie Noordwes, groot 1504 (eenduisend vyfhonderd en vier) vierkante meter gehou kragtens Transportakte Nommer T19780/1989, verklaar hiermee onder eed:

- Ek is die geregistreerde hoër van Akte van Transport Nr. T19780/1989.
- Die gemelde Akte van Transport is nie met verband beswaar of verband nie en word nie deur enige persoon as sekuriteit vir skuld gehou nie.
- Die gemelde Akte van Transport is wedlik vertore en kon ten spyte van 'n boerhoorlike soektog nie gevind word nie.
- Ons weet ongelukkig nie wat die omstandighede is

het nie. Derhaaf doen ons aansoek by die Registrateur van Akte te Pretoria, kragtens die bepalings van Regulasie 8(1) vande Registrasie van Aktes Wet Nr. 47 van 1937 dat 'n gesertifiseerde afskrif van gemelde Transportakte aan ons uitgereik word. **JULIUS EDWARD FRIEDENTHAL** **K14 30/04**

NOTICE
In the High Court of South Africa Northwest Division Mahikeng Case No: M20220. Held at Mmabatho on 19 March 2021 before the Honourable MR JUSTICE MAKOTI AJ. In the matter between: **DEON MARIUS BOTHA N.O** First Applicant **MOTSWANE MERRIAM KUTUMELA N.O** (in their capacities as joint trustees in the insolvent estate of TP MOKASULE Master's Ref: 0080/2019) Second Applicant and **BN MOKASULE N.O** (in the capacity as Trustee for the MOKASULE INVESTMENT TRUST, Reg. No: IT 143/10) Respondent

Having considered the documents filed of record and having heard:

IT IS ORDERED THAT:
1. Provisional sequestration order is granted for the MOKASULE INVESTMENT TRUST with Reg. No: IT 143/10.
2. A Rule NISI is granted with the return date being 21 May 2021 to show cause, if any, why the final order should not be granted.
3. Costs of the sequestration deemed to be costs in the administration of the estate. **ATTORNEY: JOHN WALKER ATTORNEYS**, Ground Floor, Block 7, Boardwalk Office Park, 79 Eros Street, Faerie Glen, Pretoria. **K15 30/04**

TOO LATE FOR CLASSIFIEDS
TE LAAT VIR KLASSIFIKASIE

GOLF PARK ORKNEY. Meenthuis te huur. 3 slaapkamers, 2 badkamers, groot kombuis + opwas, Oopplan, aparte loefarea, Prepaid krag, onderdakparkeering. Klein tuin in sekuriteitskompleks. Beskikbaar 1 Junie 2021. R4500 p.m. Marianne: 083 937 8593

Routine Road Maintenance TENDER Advert:
SHONISANI RAMBAU CONSTRUCTION (PTY) LTD

FOR THE ROUTINE ROAD MAINTENANCE OF NATIONAL ROUTE N12-SEC14(KM24.5 TO KM 63.00) FROM LEKWATEEMANE MUNICIPAL BORDER TO WOLMARANSSTAD, N12 -SEC15(KM 0.00 TO KM 37.2) FROM OLMARANSSTAD TO MATLOSANA MUNICIPAL BORDER, R504 -SEC 3(KM 0.00 TO KM 28.9) & SEC 4 (KM 0.00 TO 24.1) FROM WOLMARANSSTAD TO THE FREE STATE BORDER, AND R505-SEC 4 (KM 0.00 TO KM 37.82) FROM WOLMARANS-STAD TO TSWANG MUNICIPAL BORDER

T1.1 TENDER NOTICE AND INVITATION TO TENDER (SBD1)

SHONISANI RAMBAU CONSTRUCTION (PTY) LTD invites tenders from EME/QSE subcontractors for Contract SANRAL X.002-110-2019/1 FOR THE ROUTINE ROAD MAINTENANCE OF NATIONAL ROUTE N12 FROM LEKWA - TEEMANE MUNICIPAL BORDER TO MATLOSANA MUNICIPAL BORDER, R504 FROM WOLMARANSSTAD TO THE FREE STATE BORDER, AND R505 FROM WOLMARANSSTAD TO TSWANG MUNICIPAL BORDER on behalf of SHONISANI RAMBAU CONSTRUCTION (PTY) LTD in accordance with the requirements of The South African National Roads Agency SOC Limited (SANRAL). This project is in the North West Province and in the Dr Kenneth Kaunda District Municipality.

Subcontractors are required for the following subcontract:

- SANRAL X.002-110-2019/1_SC1: General Maintenance Contracts (1/2 CE)
- SANRAL X.002-110-2019/1_SC2: General Maintenance Contracts (1/2 CE)
- SANRAL X.002-110-2019/1_SC3: General Maintenance Contracts (1/2 CE)
- SANRAL X.002-110-2019/1_SC4: General Maintenance Contracts (3/4 CE)
- SANRAL X.002-110-2019/1_SC5: General Maintenance Contracts (3/4 CE)
- SANRAL X.002-110-2019/1_SC6: Pavement Maintenance Contract (5 CE)

The approximate duration is 9 months. CIDB Regulation 25 (1B) will be applicable to this contract for 1-2CE's. (SC 1 and 2).
The approximate duration is 29 months. CIDB Regulation 25 (1B) will be applicable to this contract for 3-5CE's. (SC 3, 4 and 5).

Only tenderers who are at least 51% Black owned, who is an EME/EME start up or QSE and meet the definition of a Targeted Enterprise as defined in C3.2.2.5 are eligible to tender.

Only tenderers that meet all the eligibility criteria under clause 4.1.1 of the Tender Data will be considered.

Only tenderers who meet the minimum functionality score as stated in clause 5.11.9 will be evaluated further on price and preference.

It is estimated that tenderers should have a CIDB contractor grading designation as indicated in the table below:

Works Package	CIDB requirement
X.002-110-2019/1_SC1	General Maintenance Contracts (1/2 CE)
X.002-110-2019/1_SC2	General Maintenance Contracts (1/2 CE)
X.002-110-2019/1_SC3	General Maintenance Contracts (1/2 CE)
X.002-110-2019/1_SC4	General Maintenance Contracts (3/4 CE)
X.002-110-2019/1_SC5	General Maintenance Contracts (3/4 CE)

434-IP, City of Matlosana, Northwest Province. Bulk services are proposed and will include the crossing of the Schoonspruit in two different locations.

Project Description: The proposed clearance of 173.074979ha of indigenous vegetation, located within a critical biodiversity area (CBA 1) in order to establish a mixed-use (Residential, business, institutional, municipal, recreational and public open space) township with associated services, which will entail the excavation, infilling and moving of soil within the Schoonspruit at 2 different locations to connect water and sewer pipelines.

Client: City of Matlosana Local Municipality.

Consultant and contact person: Mr. JP de Villiers of AB Enviro Consult cc, 7 Louis Leipoldt Street, Potchefstroom, 2531, Tel: 083 548 8105, Fax: 018 293 0671, Email: jp@abenviro.co.za.

Parties wishing to formally object to and/or comment on the proposed development are requested to forward their objections and comments (with reasons) to AB Enviro Consult, no later than 30 days after the date of this advertisement. An electronic copy of the draft Scoping Report is also available from AB Enviro Consult on request. K9 30/04

LOST OR DESTROYED DEED

NOTICE is hereby given in terms of Regulation 68 of the Deeds Registries Act 1937, of the intention to apply for the issue of a certified copy of Deed of Transfer T88692/2017 passed by MAQUASSI HILLS LOCAL MUNICIPALITY, in favour of MAQUASSI HILLS LOCAL MUNICIPALITY situated at Portion 181 (a portion of Portion 2) of the farm Wolmaransstad Town and Townland 184, Registration Division HO, Province North-west, measuring: 214,3947 (two one four comma three nine four seven) hectares in extent, which has been lost or destroyed.

All interested persons having objection to the issue of such copy are hereby required to lodge the same in writing with the Registrar of Deeds at Pretoria within two weeks from the date of the publication of this notice. Dated at Klerksdorp on 22 April 2021.

APPLICATION BY: Mandisa

NOTICE is hereby given in terms of Regulation 68 of the Deeds Registries Act 47 of 1937, of the intention to apply for the issue of a certified copy to serve in place of the original certified copy VA4420/2007 of the said Deed of Transfer Number T31891/1973 passed by WESTERN REEF'S EXPLORATION AND DEVELOPMENT COMPANY LIMITED, Registration Number U.C. 4498 in favour of ANGLO-GOLD ASHANTI LIMITED (formerly known as Vaal Reefs Exploration and Min-

waaronder dit verkore geraak

248388 30/04

US ON facebook
Online Record
www.klerksdorprecord.co.za 018 464 1911



MAQUASSI HILLS LOCAL MUNICIPALITY

ALIENATION OF PROPERTY

Notice is hereby given in terms of the provisions of Section 79 (18) of the Local Government Ordinance 17 of 1939 that it is the intention of Council to sell the following property to the person mentioned hereto:

To lease (3) hectares of Land of Portion 2 of the Farm Wolmaransstad Town & Townlands 184-ho on the Ottosdal Road, to Mowdis & Other Projects Co-operative for R1 734.00 per month.

&

Offer to Purchase Erf 4138 Extension 14, Wolmaransstad to Mr. S.E. Chipape for R57 000.00 [Vat Included]

&

To lease (2) hectares of land Portion 2 of the Farm Wolmaransstad Town & Townlands 184-ho on the Ottosdal Road, to Ngume and Ncamle (PTY) for R1 156.00 per month.

Further information regarding the proposed alienation will lie for inspection at the Admin Offices in Wolmaransstad, during normal office hours for a period of 14 days from the date of publication hereof, during which period motivated, legal and valid objections to the proposed alienations may be launched in writing with the Municipal Manager, 19 Kruger Street, Private Bag X3, Wolmaransstad, 2630.

Ref. 8/21/4/3 & 8/21/16/2 M.Makwala

MUNICIPAL MANAGER

The tenderers attention is drawn to clause 4.1.1 of the Tender Data for each work package when submitting their tender.

Tenders from tenderers registered as potentially emerging enterprises but with a CIDB contractor grading designation lower than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations, will be accepted.

Only locally produced or locally manufactured products and components for construction with a stipulated minimum threshold for local content and production as stated in the Tender Data will be considered.

Preferences are offered to tenderers who comply with the criteria stated in the Tender Data.

A tenderer's representative cannot represent more than one tenderer at the compulsory meeting.

SUBCONTRACT TENDER DOCUMENTS

Tender documents are available at no cost in electronic format on CD. Tenderers must have access to Microsoft Office © 2013 and Acrobat/Adobe © 9.0, or similar compatible software.

The physical address for collection of tender documents is at SHONISANI RAMBAU CONSTRUCTION (PTY) LTD site office, 34 Smuts, Wolmaransstad where tender documents may be collected from 03rd May 2021 during the hours 09:00 to 16:00 (Monday to Friday). Tenderers are to schedule an appointment for the collection of documents by contacting wolmaransstad@sroconstruction.co.za.

Tenderers must RSVP via email wolmaransstad@sroconstruction.co.za their intention to attend the tender briefing meeting by NO LATER THAN 17:00 on 05th May 2021. Failure to RSVP would result in the tenderer not being allocated a slot for the compulsory clarification meeting which may result in the tenderer being nonresponsive. Preference will be given to the tenderers that did RSVP, due to the restrictions on gatherings that may not exceed the number on the COVID 19 regulation. Please be advised that the route will not be traveled and that it will be the responsibility of each tenderer to acquaint themselves with the route and its condition.

TENDERERS' BRIEFING

A compulsory tender clarification briefing with representatives of the Project Management Team will take place at Community Hall (Tsweleng Youth Entrepreneurial Centre) on 07th May 2021 at 9:00 am for 1-2 CE contractors and on 07th May 2021 13:00 for 3-4 CE contractors and 5 CE contractors.

Tenders from Late arrivals will not be allowed, and their submissions shall be declared nonresponsive.

CLOSING TIME, COMPLETION AND DELIVERY OF TENDERS

The closing time for receipt of tenders is 12:00 on 21st May 2021 at 34 Smuts Street in Wolmaransstad in the TENDER BOX Provided. Late submissions will not be accepted.

Tenders may only be submitted in the format as stated in the Tender Data.

Requirements for addressing, delivery, opening and assessment of tenders are stated in the TenderData.

Queries relating to issues arising from these documents may be addressed to the following:

Enquiries

**ENVIRONMENTAL IMPACT
ASSESSMENT PROCESS
(EIR AND SCOPING)
READ REF. NO: NWP/
EIA/03/2021**

NOTICE is hereby given of an Environmental Impact Assessment Process to be conducted. This process will be undertaken in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Amended Regulations promulgated on 7 April 2017). The proposed project is classified as, and will be conducted in terms of Government Notice No. R.326 of 2017; (Government Notice No. R.325 Listing Notice 2; Activity No. 15) (Government Notice No. R.327 Listing Notice 1; Activity No. 19) (Government Notice No. R.327 Listing Notice 1; Activity No. 28(i)) and (Government Notice No. R.324 Listing Notice 3; Activity No's 12(h)(iv); 14(ii)(a)c.(iii & iv)).

This advertisement complies with the instructions regarding such notices, National Environmental Management Act (Act No. 107 of 1998, as amended) (Amended Regulations Promulgated on 17 April 2017) (Government Notice No. R.326 of 2017) (Regulation 41(2)(c) (d)). The competent authority is the Northwest Department Economic Development, Environment, Conservation and Tourism. The responsible office is: Ms Thembekile Makuwa, Potchefstroom Office, reachable at Tel: 018 299 6583; email: tmakuwa@nwpg.gov.za.

Project name: Environment Impact Assessment for the proposed clearance of 173,074979 ha of indigenous vegetation, located within a critical biodiversity area (CBA 1) in order to establish a Township, located on a portion of Portion 24 (a portion of Portion 9), a portion of Portion 25 (a portion of Portion 9), Portion 32 (a portion of Portion 9), a portion of Portion 8 (a portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No.

434-IP, City of Matlosana, Northwest Province. Bulk services are proposed and will include the crossing of the Schoonspruit in two different locations.

Project Description: The proposed clearance of 173,074979ha of indigenous vegetation, located within a critical biodiversity area (CBA 1) in order to establish a mixed use: (Residential, business, institutional, municipal, recreational and public open space) township with associated services, which will entail the excavation, infilling and moving of soil within the Schoonspruit at 2 different locations to connect water and sewer pipelines.

Client: City of Matlosana Local Municipality.

Consultant and contact person: Mr. JP de Villiers of AB Enviro Consult cc. 7 Louis Leipoldt Street, Potchefstroom, 2531. Tel: 083 548 8105. Fax: 018 293 0671. Email: jp@abenviro.co.za.

Parties wishing to formally object to and/or comment on the proposed development are requested to forward their objections and comments (with reasons) to AB Enviro Consult, no later than 30 days after the date of this advertisement. An electronic copy of the draft Scoping Report is also available from AB Enviro Consult on request.

K9 30/04

10.2 DETERMINATION OF APPROPRIATE MEASURES

Details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN R.982.

Key stakeholders (other than organs of state) identified in terms of Regulation 40(2)(d) of GN R.982:

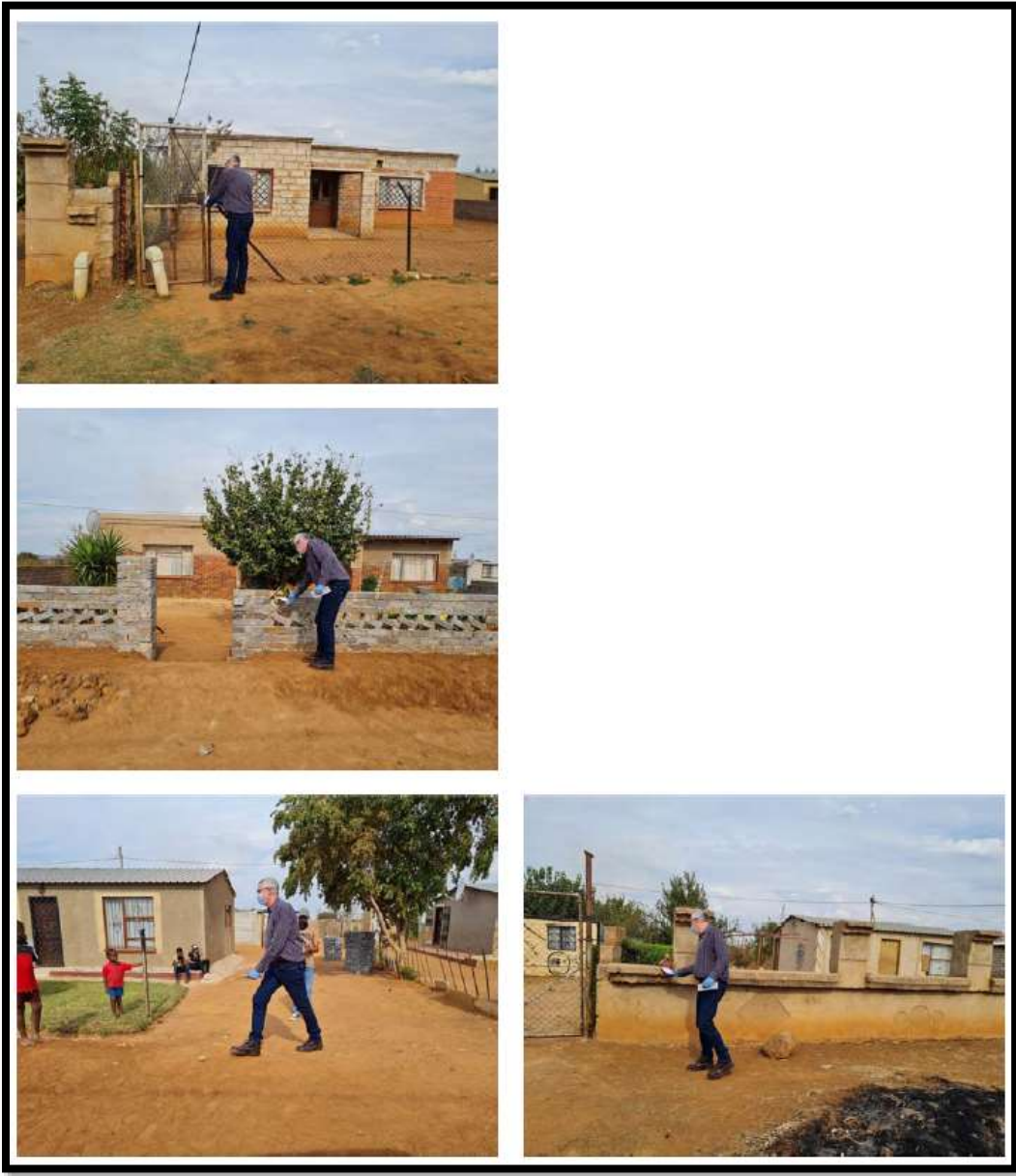
Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
N/A	Neighbour	See photo evidence

PROOF OF COVID-19 APPROVED PUBLIC PARTICIPATION PROTOCOLS AS WELL AS PROOF OF LETTER DROP









10.3 AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders. Key stakeholders identified in terms of Regulation 7(1) and (2) and Regulation 40(2) (a)-(c) of GN R.982:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Department of Water and Sanitation	Mr. TP NTili	(018) 384 3270	(053) 831 4534		Cnr Dr. James Moroka Drive and Sekame Road Mega City Complex Unit 99 Sekame Street MMABATHO 2735
Head of Department: North-West Department of Agriculture and Rural Development	Dr. P. Mokaila	(018) 389 5146/5104	(018) 392 4377		Department Agriculture and Rural Development Private Bag X2039 Mmabatho 2735
North West Department of Biodiversity	Head of Department	018 389 5719/5431/5688	018 392 4377		Private Bag X2039 Mmabatho 2735
Dr Kenneth Kaunda District Municipality	The District Municipal Manager	018 473 8000	018 473 2523		Private Bag X5017, Klerksdorp, 2570
City of Matlosana	The Municipal Manager	018 487 8009	018 487 1652	dnkosi@klerksdorp.org	PO Box 99 Klerksdorp 2570
Ward 23, City of Matlosana	The Councillor	018 487 8000	018 464 1780		PO Box 99 Klerksdorp 2570
Ward 36, City of Matlosana	The Councillor	018 487 8000	018 464 1780		PO Box 99 Klerksdorp 2570
Eskom	Mr. Dala	078 795 1188		dalaME@eskom.co.za	
SAHRA				SAHRIS	

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)



Full tracking and tracing/Volledige volg en spoor

Name and address of sender:

Naam en adres van afsender: **AB ENVIRO CONSULT**
7 LOUIS LEIPOLDT STREET
POTCHEFSTROOM
2531

Enquiries/Navrae
 Sharecall
 number/nummer

0860 111 502
 www.postoffice.co.za

No	Name and address of addressee Naam en adres van geadresseerde	Insured amount Versekerde bedrag	Insurance fee Versekeringsgeld	Postage Posgeld	Service fee Diensgeld	Affix Track and Trace customer copy Plak Volg-en-Spoor-Kliëntafskrif
1	City of Matlosana Loc. Mun. Ward Councillor 36 P.O. Box 99 Klerksdorp 2570					INTERNATIONAL INSURED PARCEL ShareCall 0860 111 502 www.postoffice.co.za CV 003 935 047 ZA CUSTOMER COPY
2	City of Matlosana Loc. Mun. Ward Cntr. 23 P.O. Box 99 Klerksdorp 2570					INTERNATIONAL INSURED PARCEL ShareCall 0860 111 502 www.postoffice.co.za CV 003 935 064 ZA CUSTOMER COPY
3	City of Matlosana Loc. Mun. The Man. Manager Mr Ish Nkhumise P.O. Box 99 Klerksdorp 2570					INTERNATIONAL INSURED PARCEL ShareCall 0860 111 502 www.postoffice.co.za CV 003 935 033 ZA CUSTOMER COPY
4	H.O. P. Dept. of Agric. + Rural Dev. Mmabatho 2735 Private Bag X2035					REGISTERED LETTER ShareCall 0860 111 502 www.postoffice.co.za RC467560334ZA CUSTOMER COPY 301020A
5	Private Bag X2035 Mmabatho 2735					REGISTERED LETTER ShareCall 0860 111 502 www.postoffice.co.za RC467560348ZA CUSTOMER COPY 301020B
6	Dr. Kenneth Kunda Dist. Mun. District Mun. manager Private Bag X301 Klerksdorp 2570.					REGISTERED LETTER ShareCall 0860 111 502 www.postoffice.co.za RC467560317ZA A BOOK COPY
7						
8						
9						
10						

Number of letters posted
 Getal briewe gepos

Total
 Totaal

R	R	R	R
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Signature of client
 Handtekening van kliënt

[Signature]

Signature of accepting officer
 Handtekening van aanneembeampte

[Signature]

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100.00. No compensation is payable without documentary proof. Optional insurance of up to R200.00 is available and applies to domestic registered letters only.





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AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

North West Department: Department of Water and Sanitation
Mr C Lobakeng
Megacity Shopping Centre
Unit no. 99, Ground Floor
MMABATHO
2735
018 384 0091

29/04/2021

Dear Sir/Madam

Environmental Impact Assessment for the proposed clearance of 173,074979 ha of indigenous vegetation, located within a critical biodiversity area (CBA 1) in order to establish a Township, located on a portion of Portion 24 (A Portion of Portion 9), a Portion of Portion 25 (A Portion of Portion 9), Portion 32 (A Portion of Portion 9), a Portion of Portion 8 (A Portion of Portion 2) of the farm Nooitgedacht No. 429-IP and a portion of Portion 100 (a portion of Portion 2) of the farm Nooitgedacht No. 434-IP, City of Matlosana, North West Province. Bulk services are proposed and will include the crossing of the Schoonspruit in two different locations.

AB ENVIRO CONSULT was appointed by City of Matlosana Local Municipality to submit an application to the Department of Rural, Environment and Agricultural Development, North West Province for the above mentioned development.

Attached please find an electronic copy of the draft Scoping report for your comments. We must receive your comments within a period of 30 days from the date of this letter. In the event of your organisation/department not wishing to comment on this matter, it would be appreciated if we could receive written confirmation thereof to enable us to continue with the finalisation of the application.

If no response is however received from your Department/organisation within the said time, it will be assumed that your department/organisation does not wish to comment on this matter and the application will be processed further.

Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

PROF. A.B. DE VILLIERS

PROF A B DE VILLIERS (M Sc, Ph D, SACNASP)
MR.J.P. DE VILLIERS (M Sc,HED, EAP-EAPASA); MRS.J.E. DU PLOOY (M.E.M: EAP-EAPASA)



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AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

Dr P. Mokaila
Department: Agriculture and Rural Development
Private Bag X2039
Mmabatho
2735

29/04/2021

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North West Department: Department of Biodiversity
Head of Department
Private Bag X2039
Mmabatho
2735

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Reg no. 2000/016653/23

Dr Kenneth Kaunda District Municipality
The District Municipal Manager
Private Bag X5017
Klerksdorp
2570

29/04/2021

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Mr TSR Nkhumise
City of Matlosana Local Municipality
Municipal Manager
PO Box 99
Klerksdorp
2570

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City of Matlosana LM
The Cllr Ward 36
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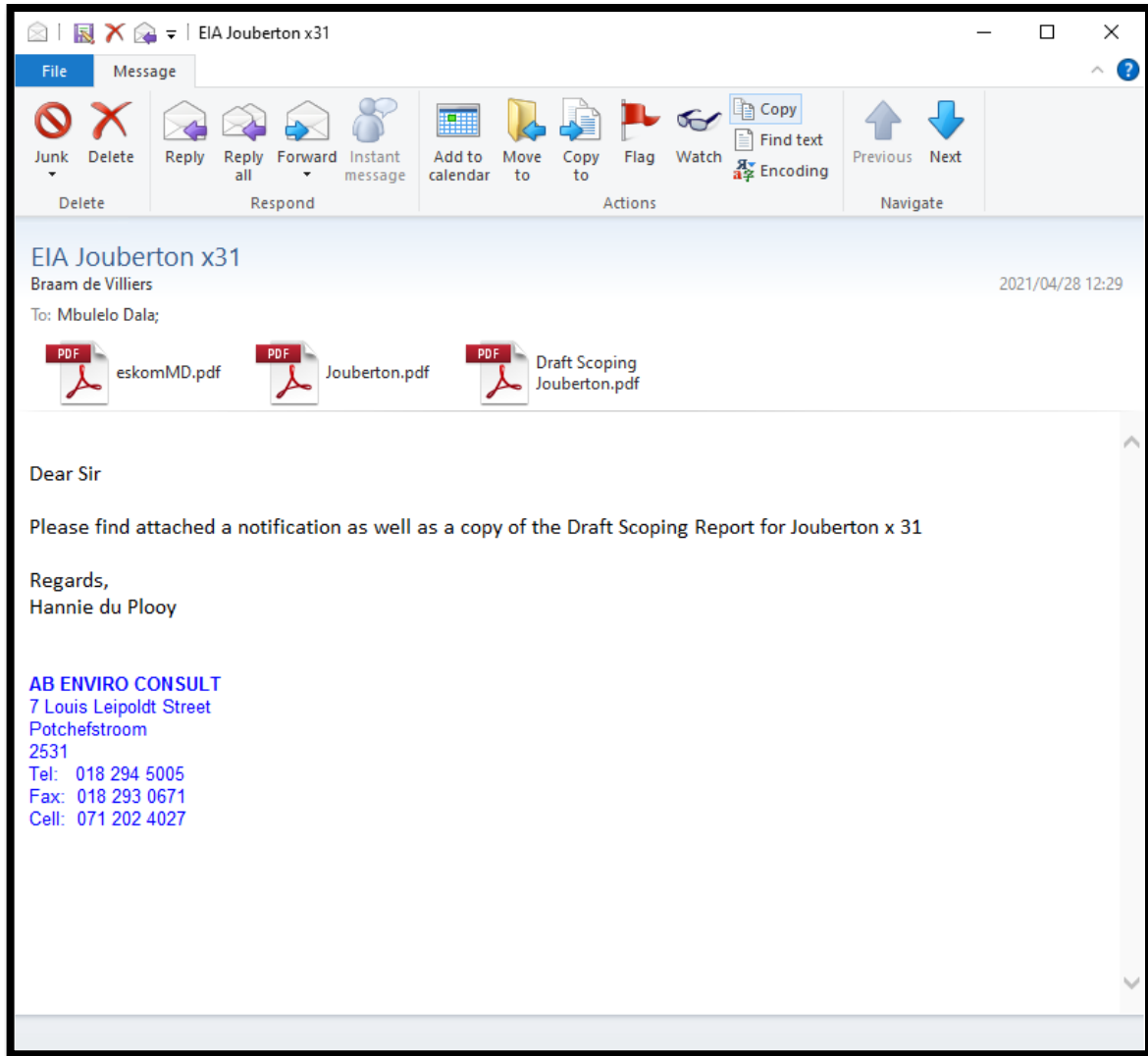
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10.4 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
To Follow	

10.5 COMMENTS AND RESPONSE REPORT

I&AP registered:	Comment received:	Response by the EAP:
To follow	To follow	

11. CONCLUDING STATEMENT.

In the National Framework for Sustainable Development (NFSD) it is stated that *"the achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action or decision. It is an ongoing process that requires a particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in a manner that sustains human well-being without compromising the ability of future generations to meet their own need.* The NFSD further continues to emphasize that South Africa's current development path in certain instances reflects signs of being unsustainable in the long-term. It highlights that a large percentage of growth in economic activity (measured in terms of its contribution to the GDP) is achieved by *"consuming' natural resources and degrading our habitat at accelerating rates with the inevitable consequence that future economic growth and development objectives will be prejudiced. "*

Consistent with national priorities, environmental authorities must support *"increased economic growth and promote social inclusion"*, whilst ensuring that such growth is *"ecologically sustainable"*. In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably.

The SDF and the Land Use Management system of the Local Municipality has identified certain areas that must address previously disadvantaged areas and historically disadvantaged residents. There is a definite need for the residents to have reasonable access to opportunities and facilities that supports living in the urban Settlement. It is the responsibility of the local municipality to ensure that the residents have reasonable access to community services and amenities, as well as employment opportunities and that the form of land development need to provide for basic needs in an affordable way.

The proposed development aims to address the need identified by the City of Matlosana Local Municipality, for the provision of additional residential erven together with the necessary non-residential facilities required for townships of this nature.

The new "Human Settlements Plan" promotes the achievement of a non-racial, integrated society through the development of sustainable human settlements and quality housing. Housing is to be utilized for the development of sustainable human settlements in support of spatial restructuring.

The aim is to move beyond the provision of basic shelter towards achieving the broader vision of sustainable human settlements and more efficient towns, cities and regions. The following factors will be taken into consideration in order to achieve this vision:

- Progressive Informal Settlement Eradication: These settlements must be integrated into the broader urban setup so as to overcome spatial, social and economic exclusion. The plan encourages the eradication of informal settlements through in-situ upgrading in desired locations coupled with the relocation of households where development is not possible or desirable.

- Promoting Densification and Integration: The aim is to integrate previously excluded groups into the city so as to enable them to enjoy the benefits it offers and to create more integrated, functional and environmentally sustainable human settlements, towns and cities.
- Enhancing Spatial Planning: Greater co-ordination and alignment of various planning instruments and economic policies lies at the heart of sustainable human settlements. This requires more than mere co-ordination between departments but there needs to be a single overarching planning authority and/or instrument to provide macro-level guidance to support the development of sustainable human settlements.
- Enhancing the location of New Housing Projects: The location of past housing projects was said to reinforce apartheid spatial settlement patterns. Spatial restructuring aims to achieve a more decisive intervention in land markets. The following interventions are envisaged viz. accessing well located state-owned and parastatal land: acquisition of well-located private land for housing development, funding for land acquisition and fiscal incentives.
- Supporting Urban Renewal and Inner City Regeneration: Urban renewal and inner city regeneration often result in the current inhabitants being excluded as a result of the construction of dwelling units they cannot afford. Some municipalities are trying to avoid this by promoting affordable inner city housing. The "Human Settlements Plan" will support this by encouraging social housing.
- Developing Social and Economic Infrastructure: The need to move away from a housing-only approach towards a more holistic development of human settlements which includes the provision of social and economic infrastructure is emphasized.
- Enhancing the Housing Product: The aim is to develop more appropriate settlement layouts and housing products and to ensure appropriate housing quality.

This project from the onset aimed at providing a proper integrated human settlement that ascribes to the BNG Principles set out above. This was achieved as follows:

- This project makes provision for a variety of erven that can be utilized for various housing typologies. The largest proportion of the township areas will however be aimed at the subsidized housing sector through the implementation of one of Government's subsidized housing programmes as well as the need that exists for people that do not qualify for a Government subsidy, due to either already owning other property or earning in excess of the threshold household income prescribed in respect of the various housing subsidy programmes, but who still wishes to acquire an affordable stand where they can construct their own home.
- The proposed development focusses on promoting densification through the creation of smaller economical erven to optimise the provision of services to this area.

- The proposed township also provides social, educational and commercial support facilities and infrastructure in close proximity to the inhabitants to create a vibrant, sustainable settlement.

Consistent with national priorities, environmental authorities must support "*increased economic growth and promote social inclusion*", whilst ensuring that such growth is "*ecologically sustainable*". In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental scoping process.

The alternatives considered for the proposed development includes "Mixed land use township" (Alternative 1), "Single land use: Housing only" (Alternative 2) and the "No-go option" (Alternative 3).

People want easy access to job opportunities, shops, schools, banking facilities, clinics, etc. and want their living environment to be placed at strategic positions with good access routes in close proximity to these amenities.

A mixed land use development is *socially responsible* based on the following:

- It covers the mixed and lower income bracket by providing a higher density housing option;
- The development will inevitably support the use of public transport;
- The development will include supporting social infrastructure as well as retail and commercial activities;
- The layout of the development must respond to the future road planning for the area, to facilitate and maximise pedestrianisation and public transport.
- Commercial erven can accommodate a shopping centre, to service the existing formalised settlements in the area. The commercial node will:
 - Promote entrepreneurial services and products;
 - Be within walking distance to places of refreshment and trade for residents;
 - Provide Job opportunities; and
 - Improve neighbourhood quality.

By providing only one land use type (i.e., housing), mixed income development and social integration across race and income levels, *cannot be achieved*. By restricting a township to one land use only, the above benefits to the local community, and subsequent council area, cannot be realised, and hence, is not a preferred land use option.

The only other alternative that exists for the proposed development is the "no-go" option which will imply that the status quo will prevail. This is unacceptable, as other land parcels will have to be

sourced to provide for this need within the community. This will imply that infill development will not take place and will result in urban sprawl.

The proposed development will address this shortage.

Although this is only the Scoping phase of the proposed development, no "fatal flaws" has been encountered as of yet. All the issues envisaged at this stage can be mitigated.

12 PLAN OF STUDY FOR EIA

12.1 Description of the alternatives to be considered and assessed

One of the objectives of an EIA is to investigate alternatives to the proposed project. The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, a number of possible proposals or alternatives for accomplishing the same objectives should be identified and investigated. In order to ensure that the proposed development enables sustainable development, feasible alternatives must be explored (S. Cliff, 2015).

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental scoping process. Alternatives should be considered as a norm within the Environmental Process (S. Cliff, 2015).

The alternatives considered for the proposed development includes land use alternatives (including the No-go option). The various alternatives will be assessed in the EIAR, in terms of environmental, social and technical feasibility.

12.1 Land Use Alternatives

12.1.1 Mixed land use township (Alternative 1)

Alternative Site layouts have been developed for the proposed development. The appointed Town and Regional planner have produced the proposed layout plan.

The proposed township will comprise the following:

JOUBERTON EXTENSION 31:		
Proposed Zoning	No of Erven	Area in Ha
Residential 1:	3 000	106.0656ha
Business 1:	3	0.5904ha
Secondary School	1	6.1326ha
Institutional:		
Primary School	1	4.8211ha
Creche	8	1.2245ha
Church	11	1.4590ha
Municipal/Special		
Community Facility	2	0.5145ha
Road widening	2	0.57134ha
Parking	2	0.0920ha
Public Open Space	6	8.1208ha
Recreational		
Sportsfield	1	1.8778ha
Streets		41.6048ha
	TOTAL:	173.0749ha

Although the emphasis is on housing, complimentary land uses have been included in the township. People want easy access to job opportunities, shops, schools, banking facilities, clinics, etc. and want their living environment to be placed at strategic positions with good access routes in close proximity to these amenities.

A mixed land use development is *socially responsible* based on the following:

- It covers the mixed and lower income bracket by providing a higher density housing option;
- The development will inevitably support the use of public transport;
- The development will include supporting social infrastructure as well as retail and commercial activities;
- The layout of the development must respond to the future road planning for the area, to facilitate and maximise pedestrianisation and public transport.
- Commercial erven can accommodate a shopping centre, to service the existing formalised settlements in the area. The commercial node will:
 - Promote entrepreneurial services and products;
 - Be within walking distance to places of refreshment and trade for residents;
 - Provide Job opportunities; and
 - Improve neighbourhood quality.

12.1.2 Single land use: Housing only (Alternative 2)

By providing only one land use type (i.e., housing), mixed income development and social integration across race and income levels, cannot be achieved.

The business, and institutional uses (schools, church and creche) on site serves as a range of essential services that can be obtained by people living in its vicinity. In turn, the business, commercial/light industrial nodes act as a pool of human and physical resources from which the inputs necessary for development can be distributed efficiently, and from which a community can draw to promote their development.

By restricting a township to one land use only, the above benefits to the local community, and subsequent council area, cannot be realised, and hence, is not a preferred land use option.

12.1.3 No-go Alternative

The only other alternative that exists for the proposed development is the “no-go” option which will imply that the status quo will prevail. This is unacceptable, as other land parcels will have to be sourced to provide for this need within the community. This will imply that the development will not take place and will result in urban sprawl.

12.2 Description of the aspects to be assessed as part of the environmental impact assessment process

In order to assess a proposed development it is important to take into consideration the principles of NEMA. These principles are outlined in Chapter 1 and DEDECT as follows:

- 1) *"The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—*
 - a. *shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;*
 - b. *serve as the general framework within which environmental management and implementation plans must be formulated;*
 - c. *serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;*
 - d. *serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and*
 - e. *guide the interpretation administration and implementation of this Act, and any other law concerned with the protection or management of the environment.*
- 2) *Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*
- 3) *Development must be socially, environmentally and economically sustainable.*
- 4) (a) *Sustainable development requires the consideration of all relevant factors including the following:*
 - (i) *That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
 - (ii) *that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
 - (iii) *that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;*
 - (iv) *that waste is avoided. or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;*
 - (v) *that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;*
 - (vi) *that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;*
 - (vii) *that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and*

- (viii) *that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.*
- (b) *Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.*
- (c) *Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.*
- (d) *Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.*
- (e) *Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.*
- (f) *The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation and participation by vulnerable and disadvantaged persons must be ensured.*
- (g) *Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.*
- (h) *Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.*
- (i) *The social, economic and environmental impacts of activities, including disadvantages and benefits must be considered, assessed and evaluated and decisions must be appropriate in the light of such consideration and assessment.*
- (j) *The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.*
- (k) *Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.*
- (l) *There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.*
- (m) *Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.*
- (n) *Global and international responsibilities relating to the environment must be discharged in the national interest.*
- (o) *The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.*

- (p) *The costs of remedying pollution, environmental degradation consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.*
- (q) *The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.*
- (r) *Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.”*

The following aspects and their possible impacts will be assessed

- ❖ Geology -structure and rock-type
 - ❖ Topography- macro and micro-relief
 - ❖ Climate: Temperature, rainfall, and wind.
 - ❖ Soil
 - ❖ Fauna
 - ❖ Flora
 - ❖ Surface Water
 - ❖ Underground water
 - ❖ Air Quality
 - ❖ Noise
 - ❖ Archaeology
 - ❖ Cultural Sites
 - ❖ Aesthetics
 - ❖ Technical issues
 - ❖ Sociological Issues
 - ❖ Economic Issues
- The evaluation of concerns in order to assign priority to the important issues: The study is designed to address concerns as well as to prioritise issues as part of the process.
 - Developing a strategy for addressing and resolving each issue: All relevant issues will be addressed in order of priority. In this sense the inputs of all I&APs, as well as all other socio-economic factors of importance will be resolved in order of priority.
 - Providing feedback at regular intervals in which comments by authorities have been incorporated: Feedback to I&APs is the only logical way by which eventual acceptance can be achieved. It is therefore a standing practise in all studies conducted by the consultant that feedback is provided on a continuous basis.

12.3 Aspects to be assessed by specialists

The process followed can be described as follows:

- 1) The EAP was contracted by the land owner, City of Matlosana Local Municipality as their Independent Environmental Assessment Practitioner.
- 2) A Geotechnical Engineer was appointed to determine whether the Geology and Soils of the site is suitable for the proposed development
- 3) A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- 4) An Ecological specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- 5) A Wetland Specialist was appointed to assess the impact of the installation of bulk services on the stream
- 6) A Civil Engineer has been appointed to assess the availability of services and required upgrades and connections to serve the existing and proposed development. A traffic engineer has been appointed to determine the accessibility as well as the need for improvements to road infrastructure as a result of additional traffic in the area.
- 7) A Surveyor in conjunction with the town and regional planner has determined the most appropriate layout taking into consideration the gradients of the site.
- 8) An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- 9) Desk top studies were conducted and alternatives assessed.
- 10) Site inspections were carried out to verify the outcomes of the desktop studies, and the preferred alternative defined.
- 11) A full Public Participation Process is being followed to obtain inputs from interested and affected parties.
- 12) All the information obtained from the above mentioned processes is being used to assess the Environmental Impact that the proposed development may have on the Environment and vice versa.
- 13) The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP is being used to determine measures to avoid, mitigate and manage potential impacts. These measures are described in the Environmental Management Programme.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme				X
Aquatic Biodiversity Theme				X
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme				X
Paleontology Theme			X	
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Outcome of the Initial Site Sensitivity Verification

The screening report generated using the national web based environmental screening tool lists a summary of the development site's environmental sensitivities. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development

footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

The following paragraphs addresses each of the “Proposed Development Area Environmental Sensitivity” themes as listed with sensitivities higher than ‘low’, and only discusses those that have not been expressly included in the draft scoping report.

1. Agriculture Theme

The screening report generated using the national web based environmental screening tool revealed that the sensitivity of the Agricultural theme has a High sensitivity rating for a part of the site with an annual crop cultivation /planted pasture rotation, however this area consists of informal settlement. The sensitivity is rated overall as ‘High’ however the part indicated as having a high sensitivity covers less than a quarter of the site. It is acknowledged that this area has been ploughed in the past (as can be seen from previous Google earth images), however, at the time of the site visit no part of the site was being cultivated and has already been mostly occupied by informal settlement.





Figure 1: Most of the site have been transformed by informal settlement and no agricultural uses remain.

As such the EAP **disputes** this sensitivity rating as the desktop study revealed that the site is also located within the 'Urban Edge' of the City of Matlosana according to the SDF 2009 Map:

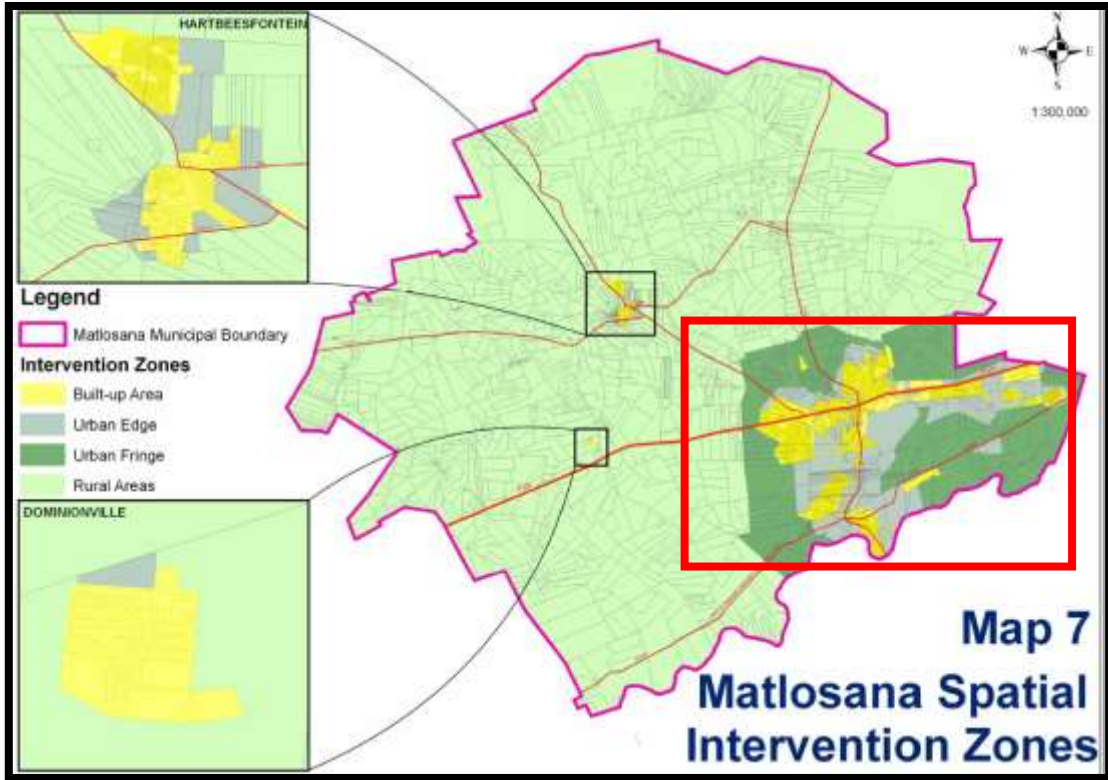


Figure 2: SDF Urban edge

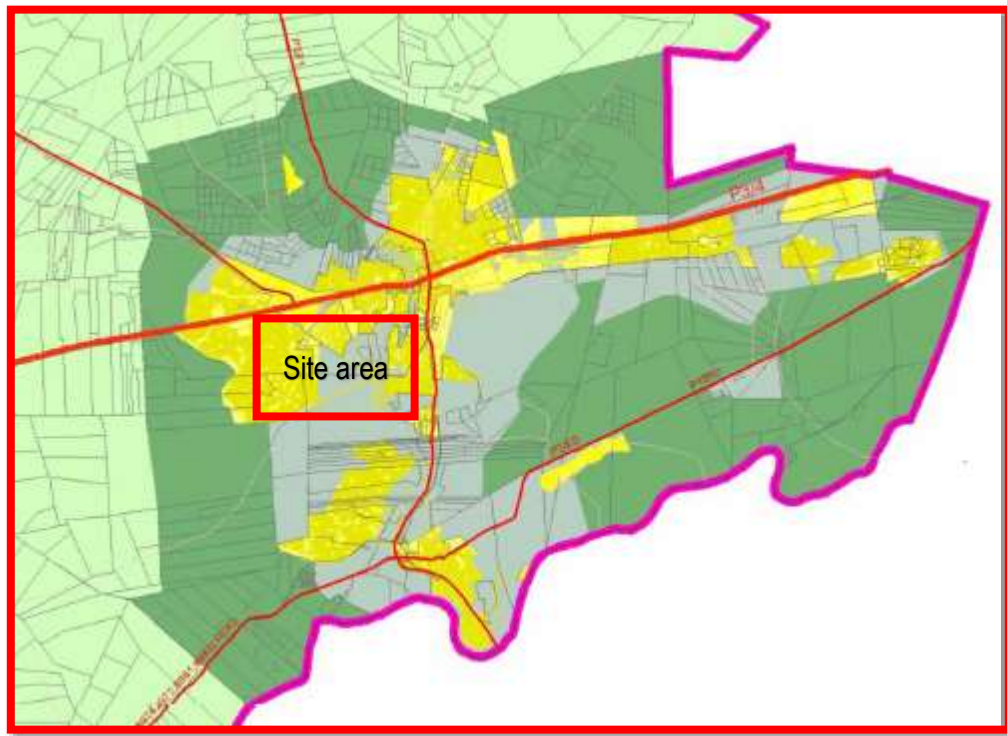
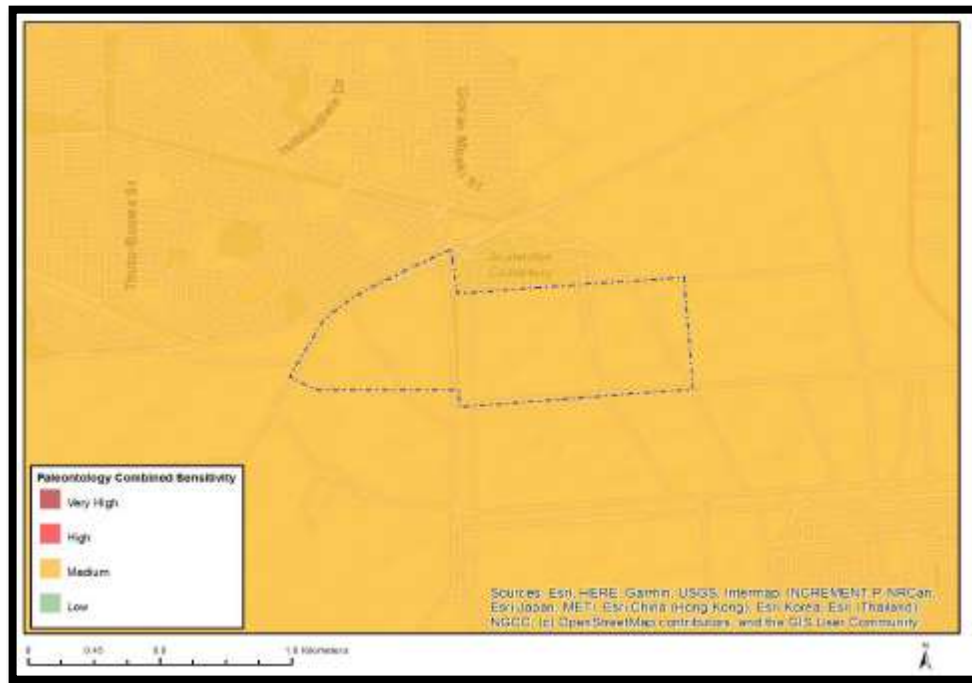


Figure 2a: Extract zooming in on City of Matlosana and the site indicated within the 'urban edge'

3. Paleontology Theme



The screening report generated using the national web based environmental screening tool revealed that the sensitivity of the Paleontology theme is medium. SAHRA has been consulted as the Regulating Authority in this regard, and their instructions will be followed should a study be required. (To date, no feedback has been received from SAHRA, and the EAP awaits instruction, if needed).

4. Conclusion

The following actions will be taken:

Theme	Action required	Status
Agriculture Theme	No Action required	
Animal Species Theme	Specialist study required	An Ecological Fauna and Flora Habitat Assessment has been done
Aquatic Biodiversity Theme	Wetland and Fauna and Flora Habitat Study required.	A Wetland and an Ecological Fauna and Flora Habitat Assessment has been done
Archaeological and Cultural Heritage Theme	Specialist study required	A Phase 1 Heritage impact Assessment has been done in January 2021
Civil Aviation Theme	Specialist study no required	No Action

Theme	Action required	Status
Palaeontology Theme	Specialist study may be required	SAHRA has been consulted on the application and the EAP is awaiting further instruction, should a PIA be required.
Plant Species Theme	Specialist study required	An Ecological Fauna and Flora Habitat Assessment has been done in December 2020
Defence Theme	No Action required	
Terrestrial Biodiversity Theme	Specialist study required	An Ecological Fauna and Flora Habitat Assessment has been done in December 2020
Landscape/Visual Impact Assessment	No Action required	
Socio- Economic Assessment	No Action required	Apart from the Civils services report that is being conducted, it is not perceived that additional socio-economical studies will be necessary

The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP will be used to determine measures to avoid, mitigate and manage potential impacts. These measures will be described in the Environmental Management Programme.

12.4 Description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists,

And

12.5 Description of the proposed method of assessing duration and significance

Impacts will be rated using the following methodology:

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
Duration (time scale)	Short term	Up to 5 years
	Medium term	6 – 15 years
	Long term	More than 15 years
Extent (area)	Local	Confined to study area and its immediate surroundings
	Regional	Region (cadastral, catchment, topographic)
	National	Nationally (The country)

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
	International	Neighboring countries and the rest of the world.
Magnitude (Intensity)	Low	Site-specific and wider natural and/or social functions and processes are negligibly altered. ((A low intensity impact will not affect the natural, cultural, or social functions of the environment).
	Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way. (Medium scale impact will alter the different functions slightly).
	High	Site-specific and wider natural and/or social functions and processes are severely altered. (A High intensity impact will influence these functions to such an extent that it will temporarily or permanently cease to exist).
Probability	Improbable	Possibility of occurrence is very low. (Such an impact will have a very slight possibility to materialise, because of design or experience).
	Possible	There is a possibility that the impact will occur
	Probable	It is most likely that the impact will occur
	Definite	The impact will definitely occur
Significance	Insignificant	Impact is negligible and will not have an influence on the decision regarding the proposed activity (No mitigation is necessary)
	Very Low	Impact is very small and should not have any meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Low	The impact may not have a meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Medium	The impact should influence the decision regarding the proposed activity (The project can only be carried through if certain mitigatory steps are taken)
	High	The impact will influence the decision regarding the proposed activity
	Very High	The proposed activity should only be approved under special circumstances
Reversibility	Low	There is little chance of correcting the adverse impact
	Medium	There is a moderate chance of correcting the adverse impact
	High	There is a high chance in correcting the adverse impact
Risk	Low	Assessing a risk involves an analysis of the consequences and likelihood of a hazard being realized. In decision-making, low-consequence / low-probability risks (green) are typically perceived as acceptable and therefore only require monitoring.

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
	Medium	Other risks (amber) may require structured risk assessment to better understand the features that contribute most to the risk. These features may be candidates for management
	High	High-consequence / high-probability risks (red) are perceived as unacceptable and a strategy is required to manage the risk.

Attributes associated with the alternatives will be assessed and is outlined below:

Geographical attributes

The Geographical attributes of an area relates to the characteristics of a particular region, area or place. It influences the determination of site alternatives as it relates to the location of a site in relation to relevant features in the area. A surveyor has been appointed to map the area and determine site levels.

Physical attributes

Physical attributes of an area relates to the processes and patterns in the natural environment. For the purpose of this assessment, the following processes and patterns have been investigated. Geology, soil, topography and landforms, climate and meteorology, surface water and ground water. Various Specialists are involved in assessing different aspects including Civil Engineer, Electrical Engineer, Surveyor, Town Planner, Botanical Specialist, Wetland Specialist, SAHRA Specialist and the EAP.

Biological attributes

Biological attributes for the purpose of this study includes the distribution of species and ecosystems in geographic space and through geological time. Organisms and biological communities often vary in a regular fashion along geographic gradients of latitude, elevation, isolation and habitat area. The two main branches assessed will be:
 Phytogeography is the branch of biogeography that studies the distribution of plants.
 Zoogeography is the branch that studies distribution of animals. The Botanical Specialist will determine the sensitivity and distribution of flora and associated fauna, and the wetland specialist will ensure that the relevant aquatic ecosystems are assessed.

Social attributes

Social attributes is closely related to social theory in general and sociology in particular, dealing with the relation of social phenomena and its spatial components. EAP, Town Planner, Civil Engineer and SAHRA specialist.

Economic attributes

Economic attributes includes the location, distribution and spatial organization of economic activities and also takes into account social, cultural, and institutional factors in the spatial economy of the development. . EAP, Town Planner, Civil Engineer and SAHRA specialist.

Heritage attributes

The broad generic term Cultural Heritage Resources refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of

paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction. SAHRA Specialist.

Cultural attributes

Cultural attributes relates to the specific characteristics such as language, religion, ethnic and racial identity, and cultural history & traditions of people. These attributes influences family life, education, economic and political structures, and, of course, business practices.

It should be noted that the above mentioned attributes do not occur in isolation and it is not uncommon for an identified impact to overlap with two or more of these attributes. Also note, not all risks require comprehensive and detailed assessment. Solid problem formulation should allow decision-makers to evaluate the extent of subsequent analysis required. The level of effort put into assessing each risk should be proportionate to its significance and priority in relation to other risks, as well as its complexity, by reference to the likely impacts. Consideration should be given to stakeholders' perceptions of the nature of the risk. SAHRA Specialist.

The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP will be used to determine measures to avoid, mitigate and manage potential impacts. Inputs from I&APs will be considered for all the above in order to ensure a sustainable development.

12.6 Stages at which the competent authority will be consulted

- 1) The first consultation will be in the form of the application submission
- 2) A Draft Scoping report will be submitted to the Department on 29/04/2021
- 3) The final Scoping report will be submitted to the Department by upon receipt of the approval of the Draft Scoping Report.
- 4) Once the Final Scoping report has been accepted, a Draft EIA Report will be submitted to the Department.
- 5) 30 Days after this draft EIA Report has been submitted, the final EIA Report will be submitted to the Department.

12.7 Particulars of the public participation process that will be conducted during the environmental impact assessment process

Public and stakeholder involvement in the EIA process is widely recognised as being an *essential* component of the EIA process. The input and contribution added to the process, by public comment and involvement, leads to better and more acceptable decision-making. The involvement of interested parties, adjacent land owners, NGO bodies and others, can help to identify whether all impacts have been included and whether all risk groups have been identified.

The engagement process will provide stakeholders with the opportunity to raise their issues and concerns and to interact on a one-on-one basis with the project team.

Registered I&APs shall be informed of the approval or rejection of the scoping report, and will be encouraged to continue their active participation in the EIA process by staying involved in the process, and commenting on the scoping report approval conditions / requirements.

The PPP to be conducted during the EIA phase will entail the following:

- ❖ Update the existing stakeholder database, following the review of the draft and final scoping reports by registered IAP's and DEDECT
- ❖ Announcement of the EIA phase of the project, which entails the following:
 - 1) Distribution of Letters, notices, the Draft and final EIAR to all registered I&APs via email, fax or post;
 - 2) Hosting Public Meetings (if necessary);
 - 3) Integration of comments into a Comments and Response Report;

12.8 Description of the tasks that will be undertaken as part of the environmental impact assessment process

Actions
1. Assessment Phase
1.1 Undertake assessment phase by assessing and evaluating potential impacts identified in the Scoping phase.
1.2 Review and manage specialist studies required.
1.3 Compile a draft Environmental Impact Report (EIR).
1.4 Compile a draft Environmental Management Plan for the Construction phase.
1.5 Compile an Information Sheet (summary of EIR) and distribute to identified I&APs
1.6 Distribute DEIR to I&APs
1.7 Allow the identified public to provide comment within a 30 day period on above report.
1.8 Address comments received and finalise EIR
1.9 Should the draft EIR require substantial changes, these changes will be incorporated into the final EIR and distributed.
1.10 Submit EIR to authorities for a final decision
1.11 Once the decision is issued, all I&Ps must be formally informed of the decision

12.9 Measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored

An EIA involves *prediction* and thus a certain degree of *uncertainty* is an integral part. There are two types of uncertainty associated with environmental impact assessments: those associated with the process and, those associated with predictions. With the former the uncertainty is whether the most important impacts have been identified and whether recommendations will be acted upon or ignored. For the latter, the uncertainty is in the accuracy of the findings. The main types of uncertainty and the ways in which they can be minimized are summarized as follows:

- ❖ **Uncertainty of prediction:** this is important at the data collection stage and the final certainty will only be resolved once implementation commences. Research can reduce the uncertainty;

- ❖ **Uncertainty of values:** this reflects the approach taken in the EIA process. Final certainty will be determined at the time decisions are made. Improved communications and extensive negotiations should reduce this uncertainty;
- ❖ **Uncertainty of related decision:** this affects the decision making element of the EIA process and final certainty will be determined by post evaluation. Improved coordination will reduce uncertainty.

The importance of *wide consultation* cannot be overemphasized in minimizing the risk of missing important impacts. The significance of impacts is subjective, but the value judgments required are best arrived at by consensus: public participation and consultation with a wide sector of the community will reduce uncertainty.

The accuracy of predictions is dependent on a variety of factors such as lack of data or lack of knowledge. Prediction capabilities are generally good in the physical and chemical sciences, moderate in ecological sciences and poor in social sciences.

The results of the EIA should indicate the level of uncertainty with the use of confidence limits and probability analyses wherever possible. Sensitivity analysis similar to that used in economic evaluation, could be used if adequate quantifiable data are available. A range of outcomes can be found by repeating predictions and adjusting key variables.

An EIA cannot give a precise picture of the future. The EIA enables uncertainty to be managed and, as such, is an aid to better decision making. (*S. Cliff, 2015, P92.*)

13. AFFIRMATION BY EAP

- I, Mr JP de Villiers declare under oath that I:
- a. act as the independent environmental practitioner in this application ;
 - b. do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed;
 - c. do not have and will not have a vested interest in the proposed activity proceeding;
 - d. have no, and will not engage in, conflicting interests in the undertaking of the activity;
 - e. undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required;
 - f. will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
 - g. will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
 - h. will keep a register of all interested and affected parties that participated in a public participation process; and
 - i. will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner:

Name of company:

Date:

Signature of the Commissioner of Oaths:

Date

Designation

Official stamp:

14. LIST OF REFERENCES

Department of Environmental Affairs and Tourism. 1992. Integrated Environmental Management. Pretoria, DEAT.

Department of Environmental Affairs and Tourism. 1998. *Guideline Document - EIA Regulations.* Pretoria, DEAT.

Department of Environmental Affairs. 1988. *Climate of South Africa, climate statistics up to 1984.* Weather Bureau (WB40). Pretoria, Government Printer.

Department of Transport, 19--. *Climate of South Africa Part 1 Climate statistics.* Weather Bureau (WB20). Pretoria Government Printer.

S. Cliff. 2015. Environmental Scoping report for the proposed high density residential township "Tanganani extension 7", to be located on a part of Portion 119 of the farm Diepsloot 388 JR, City of Johannesburg Municipality, Gauteng

