



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
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 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

31 JANUARY 2022

DRAFT SCOPING REPORT	
REFERENCE #.: NWP/ EIA/ 71/ 2021	
PROJECT TITLE:	PROPOSED MIXED USE TOWNSHIP ESTABLISHMENT WITHIN APPROXIMATELY 39,48 HECTARES AREA ON PORTION II OF THE FARM ROOIKOPPIES 297 JQ, SITUATED IN MARIKANA, RUSTENBURG LOCAL MUNICIPALITY, BOJANALA PLATINUM DISTRICT, NORTH-WEST PROVINCE.
RELEVANT AUTHORITY:	DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT, CONSERVATION & TOURISM, NORTH WEST PROVINCE. AGRICENTRE BUILDING CORNER DR JAMES MOROKA & STADIUM ROAD MMABATHO, 2735 TEL: 018 389 5156
APPLICANT:	MUNAMATU TRADING
ENVIRONMENTAL ASSESSMENT PRACTITIONER:	C & K ENVIRONMENTAL SERVICES PTY LTD KGOMOTSO MOLEFI & PHOMOLO THIBELA CONTACT #: 067 747 0065 EMAIL: kgomotso@ck-enviro.co.za phomolo@ck-enviro.co.za



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 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

GENERAL TERMS AND ABBREVIATIONS:

CLIENT	Munamatu Trading
DEDECT	Department of Economic Development, Environment, Conservation and Tourism
EIA	Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EMP	Environmental Management Plan
EMPR	Environmental Management Programme
EA	Environmental Authorisation
DWS	Department of Water and Sanitation
RLM	Rustenburg Local Municipality
SACNASP	South African Council for Natural Scientific Professions
SDF	Spatial Development Framework
WULA	Water Use License Application
WUL	Water Use License
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
NEMPAA	National Environmental Management Protected Areas Act, 2003 (Act No. 57 of 2003)
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)



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 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

MPRDA	Minerals & Petroleum Resources Development Act, 2002 (Act No.287 of 2002).
NEMAQA	National Environmental Management Air Quality Act, 2004 (Act 39 of 2004).
WETLAND	Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is periodically covered with shallow water, and which land in normal circumstances support or would support vegetation typically adapted to life in saturated soil.” In addition to water at or near the surface, other distinguishing indicators of wetlands include hydromorphic soils and vegetation adapted to or tolerant of saturated soils (DWA, 2005)
WATERCOURSE	A watercourse includes a river or spring; a natural channel in which water flows regularly or intermittently; a wetland, lake, pan or dam, into which or from which water flows; any collection of water that the Minister may declare to be a watercourse; and where relevant, its beds and banks.
WATER RESOURCE	Water resource includes a watercourse, surface water, estuary, or aquifer.
DEVELOPMENT SITE	Boundary and extent of development works and infrastructure.



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Table of contents	Page No.
1. Introduction	05
1.1 Project description	05
1.2 Site location	05
2. Details of the EAP	08
3. Purpose of the Draft Scoping Report	09
4. Legislation	10
4.1 Activities triggered	
4.2 Acts, Policies, and Guidelines	12
5. Need and desirability	15
6. Demographics	21
7. Spatial Development	23
8. Environmental Description	24
9. Services & Technical Planning	28
9.1 Water supply and demand	28
9.2 Sewage drainage scheme	29
9.3 Stormwater management plan	29
10. Alternatives	30
10.1 Layout and design alternatives	30
10.2 Sustainable and green alternatives	30
11. Environmental Impact Assessment	31
12. Public Participation Process	46
13. Plan of study	49
13.1 Tasks to be undertaken	49
13.2 Environmental Management Programme	52
13.3 Consultation with competent authorities	52
13.4 Public Participation Process during the EIA phase	53
14. Appendices	56-64



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

I. INTRODUCTION

C & K Environmental Services Pty Ltd has been appointed by Munamatu Trading to conduct a Scoping and EIR Environmental Impact Assessment Process for the Proposed Mixed-use Township Establishment on Portion II of the Farm Rooikoppies 297 JQ, situated in Marikana, Rustenburg Local Municipality, Bojanala Platinum District Municipality, North-West Province.

I.1 PROJECT DESCRIPTION

The proposed project entails a mixed-use township establishment on Portion II of the farm Rooikoppies, in Marikana area. The project site is approximately 39,48 hectares and includes the following zonings:

- Residential 1 development, within an area of 7,58 hectares of dwelling House (RDPs) (285 stands);
- Residential 2 development, within an area of 7,70 hectares of dwelling House (bonded) (202 stands);
- Residential 3 development, within an area of 2,91 hectares of Community Residential Units, targets low-income individuals and households earning between R800 and R3 500 a month, who are unable to enter the formal private rental and social housing market;
- Business 1 land use for shops and related business uses within an area of 1,05 hectares;
- Public Open Space, Roads and Streets within the remainder of the site.

I.2 SITE LOCATION

The study area falls within Rustenburg Local Municipality under Bojanala District Municipality, Ward 31 about 25 km northeast of Rustenburg and about 15 km northwest of Mooinooi. The farm Rooikoppies 297 JQ Portion II is situated adjacent to Karee Road and Engen filling station in Marikana, North West Province. The proposed development site covers approximately 39 hectares.

Access to the development site will be gained through Karee and Marikana Road intersection. The proposed access will be on the east, forming a 4-way with Karee Road and Marikana Road.



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Site photographs





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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

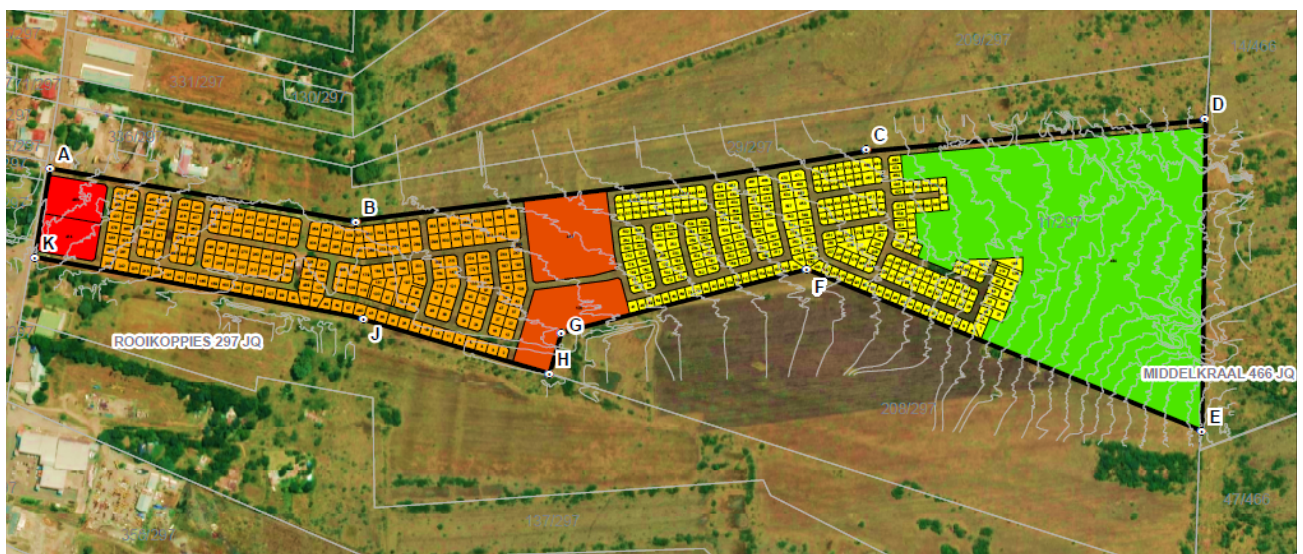
Site Coordinates: 25°41'53,02”S 27°29'51,76”E

Surveyor-general 21 digit site reference number: T0JQ0000000029700011

The relative position of the site is marked in red below:



Proposed development Layout Plan:











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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Proposed land use table:

ZONING	LAND USE	LEGEND	No. OF ERVEN	AREA (HA)	% OF AREA
RESIDENTIAL 1	Dwelling House (RDPs)		285	7,58	19,20%
RESIDENTIAL 2	Dwelling House (Bonded)		202	7,70	19,50%
RESIDENTIAL 3	Dwelling Units (CRUs)		2	2,91	7,37%
BUSINESS 1	Shops and related busines uses		2	1,05	2,66%
PUBLIC OPEN SPACE	Parks and Open Spaces		1	13,81	34,98%
TRANSPORTATION	Roads & Streets		0	6,43	16,29%
TOTAL			492	39,48	100,00%

2. DETAILS AND EXPERTISE OF ENVIRONMENTAL PRACTITIONER

C and K Environmental Services Pty Ltd has over 15 years' experience in Environmental Planning and related application processes, headed by Ms Kgomotso Molefi (BSc. Hons Environmental Management, registered with SACNASP as a Professional Natural Scientist - Pri.Sci.Nat Registration # 117177).

The Company has undertaken numerous applications for Environmental Authorisation in terms of the previous Environmental Impact Assessment Regulations, as well as in terms of the current 2014 & 2017 EIA Regulations in Gauteng, Mpumalanga, Limpopo, North West, Eastern Cape and the Western Cape Provinces of South Africa. A number of various and diverse applications have been undertaken, which include developments for residential, commercial, institutional, and business land



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

uses, various types of bulk and service infrastructure (roads, sewers, water pipelines, etc), filling stations, solar farms, abattoirs, mining rights and permits, etc.

3. PURPOSE OF THE DRAFT SCOPING REPORT

The purpose of this Draft Scoping Report is to holistically identify all the potential issues and impacts from activities associated with the proposed development, with an aim of providing the competent authority with adequate information to make decisions which ensure that activities which may impact negatively on the environment to an unacceptable degree are not authorised, and that activities which are authorised, are undertaken in such a manner that are mitigated and controlled. The report will focus on identifying the impacts on the physical and biological environment and to some extent the social environment, along with the impact mitigation thereof.

The process is also intended to ensure that:

- The minimum information that is necessary for decision-making is provided;
- Adequate information is provided to I&APs to enable them to participate effectively;
- Issues, ideas and concerns raised by I&APs are properly considered and addressed;
- Issues, impacts and alternatives are considered and assessed in a structured and objective manner;
- The requirements for the management of impacts over the life cycle of activities.

The planning and eventual construction and operation of the proposed township development represents the legal trigger for a Scoping Environmental Impact Assessment process to followed; in terms of the List of Activities and Competent Authorities identified in the National Environmental Management Act (Act No. 107 of 1998) (NEMA), EIA Regulations, GNR 326 published on 07 April 2017. The process takes place in three broad phases, namely (1) submission of an application form, (2) Scoping phase and the (3) Environmental Impact Assessment Report submission phase.



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

4. LEGISLATION

4.1 IDENTIFIED LISTED ACTIVITIES:

Based on the project scope, the following activities were identified for the proposed project:

LISTED ACTIVITIES: National Environmental Management Act (Act No. 107 of 1998) Regulations		
Relevant notice	Activity No. and Description in terms of relevant notice.	Describe of each listed activity as per proposed project description.
Listing I, GNR 327 of 7 April 2017: Listing Notice I, Activity 28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	The residential and mixed use development will be constructed in an area that was previously used for agricultural purposes prior to April 1998. Marikana, formerly known as Rooikoppies is a town laid out in 1870 on the farm Rooikoppies, and the settlement later expanded into seven white-owned farms. In 1933, the Buffelspoort Dam was built, allowing the local farmers to irrigate their crops. The farming community grew in the 1960s on the back of lucrative tobacco farming, but other diversified farming practices i.e. cattle, maize, chillies, paprika, soya, and



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

		sunflower amongst the main groups that were the main economic driver of the area.
GNR 325 of April 2017, Listing Notice 2, Activity 15	The clearance of an area of 20 hectares or more of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The proposed development is approximately 39,48 hectares where clearance of indigenous vegetation will be cleared.
GNR 324 of April 2017, Listing Notice 3, Activity 12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan; (h) North West Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.	Construction activities may occur 100 metres from a watercourse. A wetland delineation is to be conducted to confirm this. Based on the DEA screening tool report, the aquatic importance of the proposed area has been shown to have high sensitivity.

NB: Two artificial wetlands were identified within the project boundary; an Aquatic Specialist will be consulted for confirmations if the activity will trigger Section 21 of the NWA. Section 21 (c) and (i) is applicable to any activity related to a wetland:

- Section 21(c): Impeding or diverting the flow of water in a watercourse; and
- Section 21(i): Altering the bed, banks, course, or characteristics of a watercourse.

Should the above be applicable, an application will be lodged with DWS, and no activity can commence on site until all approvals and licences are in place.



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

4.2 ACTS, POLICIES AND GUIDELINES

The following legislation will be taken into account during the EIA process:

Title of legislation, policy, or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).	National & Provincial	27 November 1998
National Environmental Management: Waste Act, 2008 (Act No.59 of 2008)	National & Provincial	10 March 2009
National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)	National & Provincial	24 February 2005
National Heritage Resource Act No. 25 of 1999	South African Heritage Resource Agency	28 April 1999
National Water Act 36 of 1998	Department of Water and Sanitation	20 August 1998
The Occupational Health and Safety Act No.85 of 1993	Department of Health	23 June 1993

Description of compliance with the relevant legislation, policy, or guideline:

Legislation, policy of guideline	Description of compliance
The South African Constitution Act 108 of 1996	Section 24 of the constitution provides the basic framework for all environmental policy and legislation, and it states that everyone has a right: <ul style="list-style-type: none"> 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 – <ul style="list-style-type: none"> (i) prevent pollution and ecological degradation (ii) promote conservation; and



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPr, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	<p>(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</p> <p>The applicant is therefore obliged to take actions to prevent pollution or degradation of the environment.</p>
<p>National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended).</p>	<p>This activity is listed for development under the current 2014 Environmental Impact Assessment Regulations (and 2017 Amendments) of the National Environmental Management Act (NEMA) (Act 107 of 1998).</p> <p>The application will involve undertaking of listed activities, which are outlined in the report. Section 24 of the Act provides that all activities that may significantly affect the environment and require authorization by law must be assessed prior to approval.</p> <p>The applicant will ensure that all requirements of NEMA are conformed with. The applicant is obliged under Section 28 to take actions to prevent pollution or degradation of the environment.</p>
<p>National Environmental Management: Waste Act, 2008 (Act No.59 of 2008)</p>	<p>The Environmental Management Programme (EMPr) will give guidance on how all waste generated on site be dealt with.</p>
<p>National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)</p>	<p>No Atmospheric Emission License is required for the site, mitigation measures to control air pollution and dust must be implemented to ensure compliance with this Act. Measures will include regular dust suppression (watering).</p>
<p>National Environmental Management: Biodiversity Act, 2004 (Act No.10 of 2004)</p>	<p>It is unlikely that the site may contain any significance, however, a specialist will be consulted upon Competent Authority's request.</p>
<p>National Water Act 36 of 1998</p>	<p>Two artificial wetlands were identified within the project boundary; an Aquatic Specialist will be consulted for confirmations if the activity will</p>



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	trigger Section 21 of the NWA. Section 21 (c) and (i) in this case General Authorization may be required, depending on the risk posed to the watercourse and catchment. Therefore, a separate water use risk assessment and a water use license application may need to be undertaken.
National Heritage Resource Act No. 25 of 1999	Section 38 of the National Heritage Resources Act, SAHRA can call for an impact assessment. However, the Act also makes provision for the assessment of heritage impacts as part of the EIA process. Therefore, a Specialist will be appointed to undertake the Phase I HIA to ensure that the requirements of this Act are satisfied, and no archaeological and cultural artefacts are impacted by the proposed development.
Town Planning and Township's Ordinance (15 of 1986)	All the town planning processes should be satisfied in accordance with this act.
The Occupational Health and Safety Act No.85 of 1993	The applicant is required to comply with all general safety requirements and construction regulations, the National Disaster Management Act (No.57 of 2002) (COVID-19 prevention and control measures) during all the phases of the development.
The development will comply with National, Provincial and Municipal legal requirements and frameworks.	



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

5. NEED AND DESIRABILITY

Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA, and provided for in various policies and plans, including the National Development Plan 2030 (NDP). Addressing the need and desirability of a development is a way of ensuring sustainable development, thus, a development that is ecologically sustainable, socially, and economically justifiable while ensuring the simultaneous achievement of the triple bottom line. Hence, relevant spatial plans are to be considered, including Municipal Integrated Development Plans (IDP). Dassierand, Potchefstroom has been included by the department of human settlements in as part of the provisional restructuring zones in terms of the Social Housing Policy, the guidelines and social housing Act, 2009 (Act No.16 of 2008).

The National Development Plan aims to eliminate poverty and reduce inequality by 2030. South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society. This plan envisions a South Africa where everyone feels free yet bounded to others; where everyone embraces their full potential, a country where opportunity is determined not by birth, but by ability, education, and hard work. Realising such a society will require transformation of the economy and focused efforts to build the country's capabilities.

The Rustenburg Local Municipality's IDP 2021-2022, Provincial Priority Area 4: Human Settlement and Spatial Transformation indicates emphasis on:

- Ensuring that the delivery of housing contributes to the restructuring of towns and cities and strengthens the livelihood prospects of households;
- Active citizenship in spatial development should be supported through properly funded interventions that encompass citizen-led neighbourhood vision and planning processes, and the introduction of social compacts;
- Settlement planning should ensure the creation of spaces that are liveable, equitable, sustainable, resilient, and efficient, and that support economic opportunities and social cohesion;



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
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MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Rustenburg Local Municipality is one of 21 local municipalities in North West Province and forms part of the Bojanala District Municipality. It represents the core part of platinum mining in South Africa, and the N4 Platinum Development Corridor runs from east to west through the municipal area. The RLM accommodates about 16% of the provincial population, and it is estimated that it will in future experience significant population growth (up to 32.9% of the provincial population growth). At present it also represents about 18% of the provincial housing backlog (\pm 60 000 units).

The Rustenburg Local Municipality's IDP 2021-2022 indicates that land availability is a big challenge within the Rustenburg Local Municipality, with land ownership being vested in the hands of Traditional Authorities, Mines, Private owners, and Government. Another issue is that of the concentration of mining rights within the jurisdiction, preventing any form of development on that particular land. These aspects impact on housing development activities within the jurisdiction, hence, the proposed development is deemed necessary.

The Rustenburg Environmental Management Framework (EMF) 2018, aims to ensure sustainable development in securing environmental protection of natural resources and promoting cooperative Environmental governance. The EMF will be mainly used for the evaluation and monitoring of all EIA applications received from RLM Directorates and external applications received by the Directorate: Community Development, so as to ensure a balance between developments and protection of environmental resources, hence this scoping report will be submitted for consideration to the relevant Departments and stakeholders.

According to the Rustenburg Local Municipality's IDP 2021-2022 portion of the development area fall within Zone A: Development Zone I (Residential Business and other), 'Development Zone I' is a refinement of areas identified for future urban development in local municipal SDFs. These development uses include, amongst others, residential land uses, commercial land uses, and land uses related to government functions, but specifically excludes industrial land uses and mining related land uses. With the following general management guidelines are applicable to Zone A:

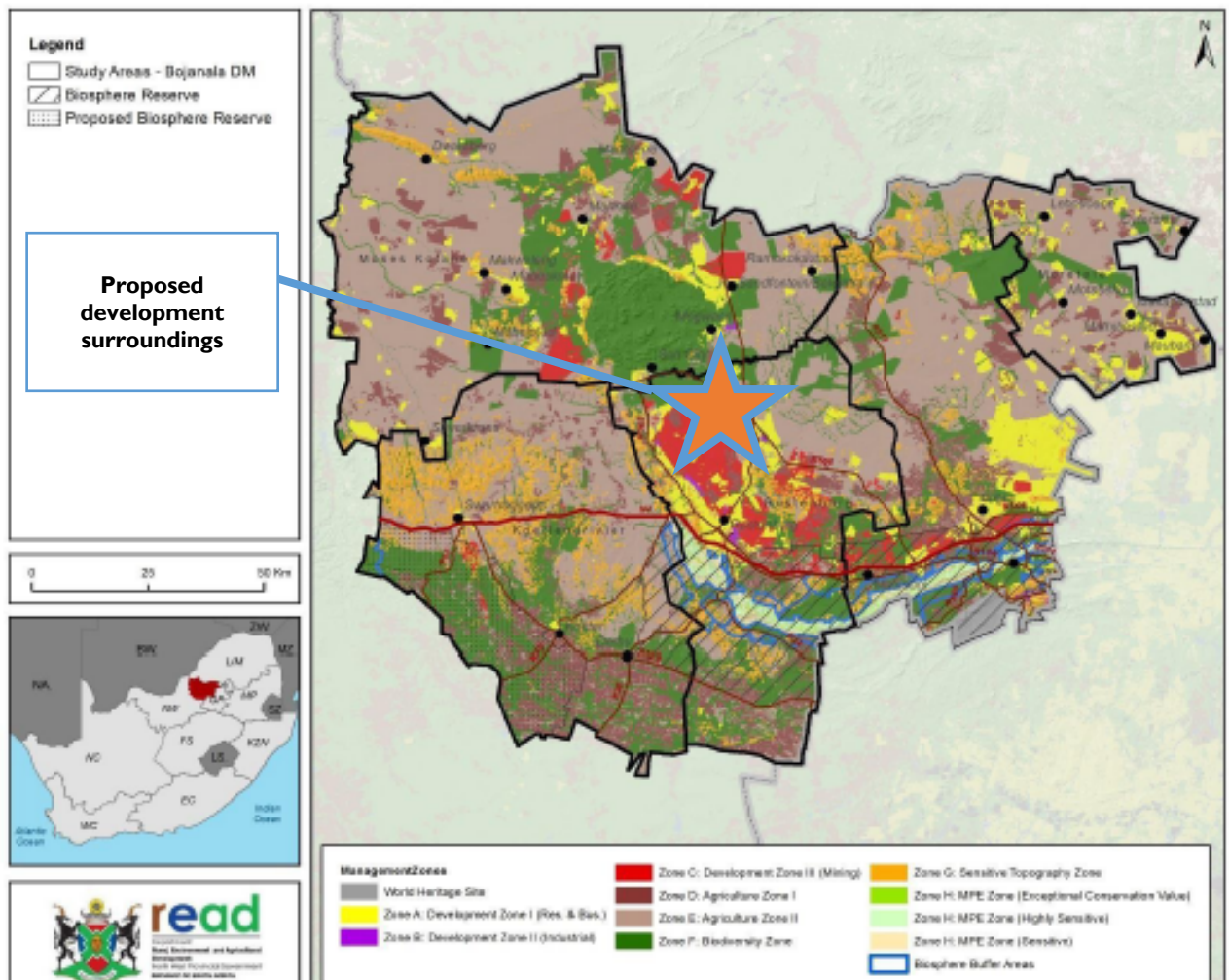


SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- Development should be confined to urban areas (areas situated within the urban node/edge/fringe, or where no such node/edge/fringe has been defined or adopted, areas situated within the edge of built-up areas) to minimise the effects of urban sprawl in the area.
- The zone should be used for the expansion of urban areas and the integration of existing settlements.
- Green open spaces should be established and protected within the zone. The following should be encouraged in this zone: Urban infill development; Residential development; Commercial developments; Government functions; other appropriate land uses as reflected in the applicable SDF/s; Upgrading of service infrastructure and Urban greening.

Rustenburg Local Municipality Environmental Management Zones





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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

A sustainable increase in employment will require a faster-growing economy and the removal of structural impediments, such as poor-quality education or spatial settlement patterns that exclude the majority. These are essential to achieving higher rates of investment and competitiveness and expanding production and exports. Business, labour, communities, and government will need to work together to achieve faster economic growth.

To reduce the acute effects of poverty on millions of South Africans over the short term, the National Development Plan 2030 amongst other priorities proposes to:

- Promote mixed housing strategies and more compact urban development to help people access public spaces and facilities, state agencies, and work and business opportunities;
- Reducing the cost of living for low-income and working-class households;
- Inequality and poverty can be addressed by raising incomes through productivity growth and reducing the cost of living;
- A commitment to a minimum living standard will ensure that all households can meaningfully participate in the economy. The costs of food, commuter transport and housing must be reduced, while raising the quality of free or low-cost education and health care; For infrastructure that supports human settlements (housing, water, sanitation, roads, parks and so on) the picture is unnecessarily complicated;
- The planning function is located at local level, the housing function is at provincial level, and the responsibility for water and electricity provision is split between those responsible for bulk services and reticulation. In practice, these arrangements do not work;
- In general, human settlements are badly planned, with little coordination between those installing water reticulation infrastructure and those responsible for providing bulk infrastructure. Responsibility for housing should shift to the level at which planning is executed at municipal level. The NDP sets out recommendations for effective urban development.

Chapter 7 of the Constitution of the Republic of South Africa provides for the establishment of municipalities and provides for its objects in Section 52 as follows:

- To provide democratic and accountable government for local communities;
- To ensure the provision of services to communities in a sustainable manner;



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- To promote social and economic development;
- To promote a safe and healthy environment; and
- To encourage the involvement of the communities and community organizations in the matters of local government.

The Constitution commits municipalities to take reasonable measures, within its available resources, to ensure that all South African's have access to adequate housing, health care, education, food, water, and social security.

In terms of collectively considering ecological, social, and economic impacts it is important to remember that while there might be some trade-offs between the considerations, in South Africa all development must in terms of Section 24 of the Constitution be ecologically sustainable, while economic and social development must be justifiable. The environmental impact assessment EIAs are about the search for the best practicable option that will best ensure the maintenance of ecological integrity while promoting justifiable social and economic development.

Alternatives are also considered to avoid negative impacts altogether, but if avoidance is not possible to be considered, alternatives that will better mitigate and manage negative impacts, while search for alternatives to better enhance the positive impacts is explored to ensure that a best practicable environmental option is selected. According to NEMA the "best practicable environmental option" means the option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term.

The surrounding community would gain a marginal benefit from the development in terms of a number of temporary employment opportunities during the construction, as well as possible permanent positions (shop workers i.e. cashiers, packers etc. domestic workers, care takers and gardeners) once the houses are developed. The municipality would benefit via rates, and taxes, once the development is complete.

Typical household renting in South Africa; Currently the typical nuclear family is not a predominant household form in South Africa. Household structures are varied and complex and so too are housing needs. Among those looking for affordable rental options are the following:



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- Persons opting for the flexibility and mobility that rental housing allows (e.g. those who are investing in housing in the rural areas but are earning income in the cities, contract workers who follow work to different locales, or those who are occupationally mobile);
- Persons utilising social housing options as a first phase in a process to individual ownership (deferred ownership) and/or better rental accommodation at a later stage when their ability to afford higher-rentals increases;
- Low income households who cannot afford inner city residential property prices and are forced to choose affordable rental options such as those provided by social housing institutions;
- Persons who wish to address their housing needs through a collective approach;
- Single individuals have been excluded from subsidy assistance to date; the government needs to support housing access for this group, and social housing is well-suited to address this need;
- Persons requiring short-term accommodation such as vendors and others who sell produce in urban areas and who cannot afford to return nightly to their permanent residence in far-flung townships;
- Broken households where persons urgently need alternative accommodation due to a variety of circumstances;
- Singles with dependents who tend to opt for affordable social housing rental options;
- Persons with special housing needs but who are able to live independently, such as those with disabilities living with HIV/AIDs, including orphans and children. Co-operation would be required with the Departments of Health and Social Development in order to accommodate this group;
- Single persons wishing to co-habit in rental accommodation.
- Persons currently living in informal settlements because it is the only affordable rental option available to them.
- Persons across the range of income bands that can be construed as low-income.

The above groups identified are by no means exclusive or exhaustive; but characterise the broad profile of potential residents who would be drawn to this development. In cases where the housing



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

mandate overlaps with other government departments mandates, discussions will need to be held with the other government departments at national, provincial, and local government level to clarify specific roles and responsibilities. Co-operative governance is important for the social housing process to work.

6. DEMOGRAPHICS

"Demographics", or "population characteristics", includes analysis of the population of a region. Distributions of values within a demographic variable, and across households, as well as trends over time are of interest. In this section, an overview is provided of the demography of the Rustenburg Local Municipality and all its neighbouring regions, Bojanala Platinum District Municipality, North West Province and South Africa as a whole. Population statistics is important when analysing an economy, as the population growth directly and indirectly impacts employment and unemployment, as well as other economic indicators such as economic growth and per capita income.

According to the Rustenburg Local Municipality 2021-2022 IDP, the male/female split in population was 118.4 males per 100 females in 2017. The Rustenburg Local Municipality has significantly more males (54.21%) relative to South Africa (48.95%), and what is typically seen in a stable population. This is usually because of physical labour intensive industries such as mining. In total there were 295 000 (45.79%) females and 350 000 (54.21%) males. This distribution holds for Bojanala Platinum as a whole where the female population counted 809 000 which constitutes 47.52% of the total population of 1.7 million.

The total population of a region is the total number of people within that region measured in the middle of the year. Total population can be categorised according to the population group, as well as the sub-categories of age and gender. The population groups include African, White, Coloured and



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Asian, where the Asian group includes all people originating from Asia, India and China. The age subcategory divides the population into 5-year cohorts, for example 0-4, 5-9, 10-13, etc.

POPULATION BY POPULATION GROUP, GENDER AND AGE - RUSTENBURG LOCAL MUNICIPALITY, 2017 [NUMBER].

	African		White		Coloured		Asian	
	Female	Male	Female	Male	Female	Male	Female	Male
00-04	28,200	28,600	2,020	2,120	305	316	198	204
05-09	23,700	23,900	1,980	2,110	281	222	208	251
10-14	19,400	19,000	1,560	1,550	180	175	171	153
15-19	18,800	18,400	1,420	1,550	171	184	102	114
20-24	25,500	26,900	1,570	1,720	243	275	141	89
25-29	33,300	38,700	2,310	2,400	275	331	191	193
30-34	31,500	42,600	2,070	2,490	330	386	292	211
35-39	23,800	32,800	2,020	2,040	221	287	290	319
40-44	17,300	22,900	2,010	2,000	174	266	344	325
45-49	11,500	19,400	1,980	2,220	148	228	209	271
50-54	9,360	16,100	1,880	1,940	133	144	108	136
55-59	6,720	12,500	1,550	1,710	106	116	105	101
60-64	5,090	6,890	1,210	1,180	79	53	166	82
65-69	3,260	3,540	1,040	822	62	40	218	41
70-74	2,500	2,150	799	597	38	21	190	71
75+	2,930	2,370	1,220	631	39	24	104	56
Total	263,000	317,000	26,600	27,100	2,780	3,070	3,040	2,620

Source: IHS Markit Regional eXplorer version 1479

Household characteristics and access to services

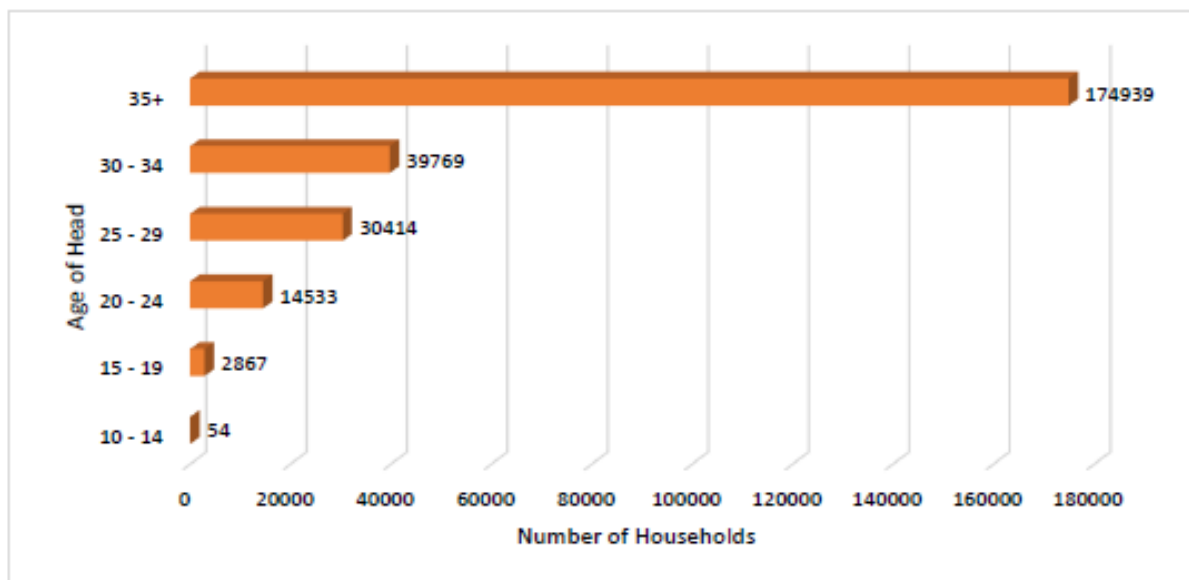
The IDP further emphasises on the household profiles and characteristics as well as access to basic services. Besides knowledge of the population and its size, knowledge of household characteristics is as important for development and planning. In order to highlight the Districts households, the section focuses on the following subsections: household size; household headship and composition; housing and dwelling type; access to basic services, the section provides analysis from the questions asked in Community Survey 2016, number of households were estimated to being approximately 262576.

The graph below presents the number of households by age of household head in Rustenburg Local Municipality as per the community survey 2016. The majority of the households in the Rustenburg Local Municipality were headed by adults age above 34 and only 54 households were recognised as the child headed households by children less than 15 years of age.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)



7. SPATIAL DEVELOPMENT

According to the RLM Housing Sector Plan (2019) the following strategies are meant to give effect to settlement and housing development intended for RLM.

Implementation Strategy 1: Accreditation of RLM

RLM accreditation at Level 2 permits full authority to prepare, manage and implement its housing sector plan as approved in May 2013 by the National Minister of Human Settlement and confirmed by province on 16 June 2013 and yet the municipality may not perform the function as it is awaiting signing of the protocol by the province. RLM should pursue the signing of the protocol as a matter of urgency to enable them to implement the housing programme.

Failure to sign protocols inhibits RLM from developing and implementing a comprehensive housing programme as it is not authorized to source housing capital and therefor unable to support the provisions of the SDF to develop sustainable human settlements at well located strategic areas. This adds to shortage of a comprehensive housing package and affects the economy of the area as well as the intended inhabitants.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Furthermore, the municipality has established a credible team of paid officials to prepare and implement requisite housing development programmes. If protocols are not signed the municipality is unable to derive its objective of providing a sustainable housing programme in terms of its mandate. The proposed development is therefore to aid the municipality implementing parts of the strategies and service delivery.

The Rustenburg Spatial Development Framework, (hereafter referred to as the Rustenburg SDF), forms part of a hierarchy of plans of which is informed by the Integrated Development Plan (IDP). The Spatial Development Framework is one of the required Sector Plans of the IDP. It serves as an input into the IDP and concentrates on the spatial aspects of development planning, whereas the IDP focuses on broader development and financial issues. Following the SDF in the hierarchy of plans are the local Spatial Development Framework plans focusing on specific areas within the municipal area and thus deals with these areas in more detail than the SDF. Precinct plans typically deal with the specific areas requiring a specific form of planning intervention and are typically identified for the establishment of mixed nodes, development corridors. The proposed development is being undertaken in accordance with the municipal SDF and will be aligned with its goals and anticipated goals, in terms of human settlements and service delivery.

8. ENVIRONMENTAL DESCRIPTION

Vegetation

Local vegetation comprises of various grass species while trees and shrubs comprise of small to large Common Hook Thorn. The local vegetation type can be classified as Marikana Thornveld, which is found mainly in North West and Gauteng Provinces and it occurs on plains from the Rustenburg area in the west, through Marikana and Brits to the Pretoria area in the east. The site is largely disturbed, consisting of cultivated lands as well as previously cultivated areas, along with some roads / tracks, and some natural areas. There is no mining infrastructure on site, but surrounding areas are dominated by mines, human settlements, and cultivation. The wider area of the site is surrounded by further agricultural activities and extensive mining activities. The site remains as one of the few parcels of open land in an area, although has few if any important ecological connectivity with natural



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

ecological areas. However, a Biodiversity Specialist will be appointed for further investigations and confirmations.

Topography

Topography and relief directly affect rainfall runoff and its infiltration rate, which impacts directly on the development of subsidence events and initiation of slope instability. The general topography shows that runoff flows to the westerly direction into the Sterkstroom River for the western third of the site and towards the east for the remaining two thirds of the site. The site is generally flat lying and has a maximum local slope of approximately 1.8 % and an average near slope of about 0.3 %, hence the site slopes are considered stable.

Watercourses

Two artificial wetlands were identified within the proposed development boundary through satellite imagery scans and the DEA screening tool report highlighted high sensitivity on the aquatic theme. A Specialist will be appointed for further investigations and confirmations.

Drainage

There are no formal storm water drainage systems installed on site. The near flat nature of the terrain is favourable for sheet wash surface drainage, which ultimately drains towards the north, into cultivated areas. According to Department of Water and Sanitation (DWS) information, the site is located on the following Water Management Area (WMA), namely: The Crocodile West and Marico WMA. The water drainage exits the site via the Sterkstroom River.

Climate

Marikana is situated in a summer rainfall region with a maximum average monthly precipitation of 110-115 mm in the months of December through to February, when maximum air temperatures reach 30 degrees Celsius. Winter temperatures average from 5 - 8 degrees Celsius.

Land use

The site is predominantly an open field with a single dwelling previously used as agricultural land.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Mining activities

There are formal mining activities immediately nearby that may have a negative impact on or endanger the community. The nearest active mine is Lonmin Platinum mine which is approximately 1.8 km to the west of the site. There is thus a high possibility of undermining that may cause surface subsidence on site.

Geology

Geotechnical investigations were undertaken, and Report dated September 2019 is attached as an appendix. The report indicates that the local geology of the site may be interpreted from fieldwork results. The site is covered by Hillwash and residual gabbro-norite soil underlain by weathered gabbro-norite. Soil profiling was undertaken and the excavation of several test pits across the site revealed hillwash soil surface up to an average depth of 1.4 m underlain by medium dense colluvial layer ranging from 0.7 to 1.1 m depth and a residual layer ranging from 0 to 2.0 m. The following is a typical sequence of soil horizons as seen on site:

- 0-1.4 m: Dry to slightly moist, yellowish brown stained red, medium dense, intact, sandy silty clay, hillwash.
- 0.7-1.1 m: Dry to slightly moist, red stained black, medium dense to dense, intact, sandy clay with minor gravel of anorthosite, colluvium.
- 0-2.0 m: Dry to slightly moist, greyish black, firm, shattered and slickensided, silty clay, residual gabbro-norite.
- 1.4-1.5 m: Fine to cobbles, sub-rounded, closely packed gravel of anorthosite, in a minor matrix of slightly moist, red, clayey sand. Overall consistency is medium dense to dense residual.

No groundwater seepage was encountered in any of the test pits excavated as part of this investigation. However, it must be pointed out that this investigation was undertaken in a dry season. The aim of this investigation is to determine the different geotechnical properties of the surface soils in accordance with the GFSH-2 and the Site Investigation Code of Practice.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

In conclusion based on the NHBRC guidelines, the site can be classified into the following zones with the recommended foundation systems:

- Zone 1: Site Class H-H1/C, Normal Modified Foundation (6.16 Hectares)
- Zone 2: Site Class H2-H3, Stiffened/ Cellular Raft and (19.6 Hectares)
- Zone 3: Site Class H, R, Normal foundation (12,5 Hectares).

Heritage

There were no heritage or any archaeological artefacts noticed during the EAP site investigations, however, a Specialist will be appointed for further investigations and recommendations.

Traffic Impact Assessment

A Traffic Impact Assessment was conducted, and report dated October 2021 is attached as an appendix. It also indicates that access will be prepared in accordance with the requirements of the South African Road Classification and Access Management Manual (COTO, 2012). Access to the development site is proposed at Karee Road and Marikana Road intersection. The access will be on the east, forming a 4-way with Karee Road and Marikana Road.

Existing traffic count surveys were conducted on Friday 08 October 2021 and Saturday 09 October 2021, from 07h00 to 17h00. Traffic count surveys were done at the following key intersections:

- Marikana Road and Unnamed Road;
- Marikana Road and Karee Road; and
- Marikana Road and Unnamed Road.

With the projected future traffic volumes, the base year and 5 years after the base year should be analysed. The time horizons analysed are 2021 (base year) and 2026 (horizon year). It was assumed that the existing background traffic volumes would increase at a rate of 3% annual growth rate over the next 5 years to the future 2026 horizon year.

The proposed development is required to comply with all requirements in terms of access, entry, exit, driveway width, parking and loading requirements. Therefore, from a traffic and transportation engineering point of view, the proposed development is supported.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

9. SERVICES AND TECHNICAL PLANNING

9.1 WATER DEMAND AND SUPPLY

A technical design report dated January 2022, compiled by Red Now Technologies indicates that, Water reticulation for residential, industrial, and commercial development shall be implemented in accordance with the guidelines and standards in this document within the road reserve of a public road or within a servitude registered for this purpose in the name of end user such as Rustenburg Local Municipality. Upon completion of the project, the water reticulation infrastructure shall be inspected by Bojanala Platinum District Municipality Technical Services.

Once all approvals are obtained, and the required documentation such as As-built drawings, Close-out Report and Completion Inspection Report are submitted, ownership and maintenance of the infrastructure will be handed over to Rustenburg Local Municipality Technical Services Water and Sanitation Operations Division. In case of a private development, Rustenburg Local Municipality will only take over the operations and maintenance responsibility of infrastructure from the developer.

The design of water reticulation systems shall ensure sufficient capacity for the type of development proposed. The proposed system shall be designed to integrate with existing and future developments and provide a water connection at the street front of every erf. A detailed site investigation will be undertaken to establish the location of all existing infrastructure and affected services to facilitate the design of the water reticulation. Plans and records of these services will be obtained from the relevant service providers and wayleave approval will be obtained when their services are affected. A layout plan indicating the location of all existing services in relation to the planned location of new services will be submitted to the relevant division for approval.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

9.2 SEWER DRAINAGE SCHEME

Sewer reticulation for residential, industrial, and commercial development shall be implemented in accordance with the guidelines and standards in this document within midblock, road reserve of a public road or within a servitude registered for this purpose in the name of Bojanala Platinum District Municipality.

There will be new infrastructure installed and this proposed sewer line will connect to the last manhole of the new development leading to the existing which current only found 3km from proposed site development. In an absent of closer connection point, a proposal for financial provision for the development of an on-site treatment plant that will only accommodate the proposed development.

9.3 STORMWATER MANAGEMENT PLAN

There are stormwater outflow calculations and investigations that were undertaken (full details on technical report) and new infrastructure proposed. It was concluded that the effect will have during the pre-development phase, is very permeable to semi-permeable, and the runoff factor is low and in a post development phase permeability is also very low whilst the runoff factor will became be high. This will result in more stormwater runoff flow in a post development phase. The chosen site for development is green field and therefore no water, sewer, stormwater pipelines and road network.

A retention pond has been proposed at low point of this water course to store water to counter the problem of flooding on the road and graves on the south-west of this development across the municipal road. Upon development there is a change from limited vegetation to no vegetation then there will be an increase in the runoff factors resulting in an increase in the peak flow. The runoff will increase as the density of the vegetation decreases.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

10. ALTERNATIVES CONSIDERED

10.1 LAYOUT AND DESIGN ALTERNATIVES

There were no layout and design alternatives considered at this stage, however; after Biodiversity and Aquatic Specialist is consulted all recommendations will be implemented and revisions may be incorporated where requested by the specialist (i.e. wetland buffers if applicable).

10.2 SUSTAINABLE AND GREEN ALTERNATIVES

Strategies on green environment have been considered as they create a better sustainable living through off the grid concept to assist with electricity usage and other affected factors.

Rainwater harvesting

- Rainwater harvesting can be used for multiple household purposes. Rainwater harvesting provides you with a sustainable source of water which can be used for almost any purpose including irrigation, pool filling, toilet flushing, laundry, bathing, and car washing. It also provides emergency water in case of supply cuts or shortages and supplements the municipal supply system to help lower costs and usage.
- The most efficient roof surface is a metal roof. This means a corrugated, flat sheet, or IRB profile. 11 mm of rainfall for metal roofs produces 1000 litres of harvested rainwater for every 100 square meters of a roof area. Tiled roofs are not as efficient as metal for collecting rainwater.

Solar energy for water, electricity, and street lighting.

Solar hot water, consists of two main parts namely a solar collector and a storage tank. The sun heats the absorber plate in the collector which heats the fluid within the collector. The heated fluid is then moved into the storage tank where it can be used.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- Solar electric, photovoltaic (PV) is one of the best ways to utilise the worlds most abundant energy source, the SUN.
- Solar street lighting, communal outdoor streets, paths and walkways could be solar powered lights, fitted with LED bulbs, this type of lighting not only provides outstanding illumination, but is also energy efficient, long lasting and economical to run.
- The traditional solar powered lighting involves long cable runs, whilst new technology allows for solar panels, batteries and lighting fittings to be located together at the head of poles reducing cable runs and making fittings more secure and robust.

II. ENVIRONMENTAL IMPACT ASSESSMENT

The description and identification of anticipated impacts is based on the listing of environmental aspects. Environmental aspects, for the purposes of this document, is the term used to describe the actions that may have an impact on one or more of the environmental components listed. It is important to note that aspects that are clearly definable have been used in preference to those that are duplicative, redundant, difficult to measure, and/or obscure.

An impact is defined as any change in the physical, chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities relative to alternatives under study for meeting a project need. Therefore, the identified environmental aspects are said to have an impact on the components listed above if they result in change.

One of the most important objectives of conducting an Environmental Impact Assessment is to identify and evaluate these aspects and impacts. Consequently, the Environmental Management Programme (EMPR) will consist of the preferred mitigation and management options for the identified impacts assessed as being significant. These will be described within the EIA (and EMPR) report to follow.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

The environmental aspect and the resultant impact can become manifest during the **construction phase (c)** and/or the **operational phase (o)** which is the stage when the proposed integrated housing development is complete and fully functional.

The largest (negative – bio-physical and positive – socio-economic) impacts resulting from the environmental aspects are anticipated during the construction phase, while the **significant positive impacts** (socio-economic) will manifest during the operational phase. Therefore, the mitigation measures that are implemented during the construction phase especially should serve to sufficiently alleviate the temporary, negative impacts and optimise the positive impacts caused by the construction activities.

The following table provides a list of activities (environmental aspects) that will occur on site and it provides an outline of the potential impacts that these actions will have on the environment, the anticipated effects on the biophysical and social aspects.

The identification of the aspects and impacts may be expanded as more information becomes available when the specialist studies in fauna and heritage assessment is completed. At this stage, the table below provides a list of impacts and issues.

Methodology utilized in the rating of significance of impacts that may result from the CONSTRUCTION and OPERATIONAL phase

The objective of the impact assessment is to thoroughly identify potential impacts associated with the proposed development both positive and negative. The identified impacts are therefore evaluated in terms of their significance. This assessment is of a systematic analysis framework to evaluate the nature, extent, duration, intensity; probability and significance of the various impacts are considered either with or without mitigation and management measures.

There are several biophysical and social issues that can be expected as a result of the proposed development. Some of the issues are localised in their effects, whilst others could influence a more



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

widespread area. The aim of this basic assessment report is to ensure that issues are identified, assessed and mitigation measures be proposed.

The identification and brief descriptions of the relevant physical, biological, socio-economic and heritage issues include:

- Environmental aspects: defined as those actions on site that may potentially have an environmental impact.
- Environmental component to be impacted upon.
- Locality / applicable zone of the impact.
- Nature and description of the impact or issue.

An impact significance rating and evaluation, for the listed aspects, will form part of the BAR process/report to follow the environmental process. The methodology of impact assessment and its significance rating will be indicated below.

Most of the identified and anticipated negative impacts listed below will only take effect once the construction phase of the development commences; the main period of positive impacts occurrence is during the long term “operational” phase of the development when it is felt that the broader community will benefit from the project in terms less travel times to a service stations locally, once the proposed filling station is complete and fully functional.

An impact significance rating and evaluation, for the listed aspects, will form part of the BAR process/report to follow the environmental process. The methodology of impact assessment and its significance rating will be indicated below.

Significance is determined through a synthesis of the various impact characteristics and represents the combined effect of the extent, duration, intensity, and probability of the impacts.

- No significance, the impact is not substantial and does not require any mitigatory action.
- Low, the impact is of little importance, but may require limited mitigation.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- Medium, the impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
- High, the impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels.
- Acceptable levels could render the entire development option or entire project proposal unacceptable. Mitigation and management are essential.

Significance assessment methodology:

Tables below provide a key to the qualification criteria used for impact assessment in terms of probability, intensity, geographic extent and duration.

Probability: Probability of impact occurrence

Rating	Explanation of probability
1 (Very low)	<10% chance of impact occurrence
2 (Very low)	10 to 20% chance of impact occurrence
3 (Low)	20 to 39% chance of impact occurrence
4 (Low)	30 to 49% chance of impact occurrence
5 (Moderate)	41 to 50% chance of impact occurrence
6 (Moderate)	51 to 60% chance of impact occurrence
7 (High)	61 to 70% chance of impact occurrence
8 (High)	71 to 80% chance of impact occurrence
9 (Very high)	81 to 90% chance of impact occurrence
10 (Very high)	91 to 100% chance of impact occurrence

Intensity/severity: Intensity/severity of impact consequence

Rating	Explanation of intensity
1 (Very low)	Consequence if impact will be of no to very low level of harm/damage to the affected environmental component.
2 (Very low)	Same as above but of a little higher intensity.
3 (Low)	Consequence if impact will be of a low level of harm/damage to the affected environmental component.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

4 (Low)	Same as above but of a little higher intensity.
5 (Moderate)	Consequence if impact will be of a moderate harm/damage to the affected environmental component.
6 (Moderate)	Same as above but of a little higher intensity.
7 (High)	Consequence if impact will be of high harm/damage to the affected environmental component.
8 (High)	Same as above but of a little higher intensity.
9 (Very high)	Consequence if impact will be of a very high or unacceptable harm/damage to the affected environmental component.
10 (Very high)	The affected environmental component will be completely destroyed due to the consequence if the impact.

Extend: Explanation of geographic extend of impact

Rating	Explanation of extend
1 (Site specific, no effect on any neighbours)	Direct and/or indirect impacts limited to site of development only.
2 (Site specific, affecting direct neighbour(s))	Direct and/or indirect impacts limited to site of development and one or more direct neighbouring sites.
3 (Neighbourhood)	Direct and/or indirect impacts affecting environmental elements on a neighbourhood level.
4 (Local)	Direct and/or indirect impacts affecting environmental elements within the local community, e.g. on municipality level.
5 (Regional / district)	Direct and/or indirect impacts affecting environmental elements within the region e.g. a significant part of a province, a development corridor, the lowveld region, etc.
6 (Provincial)	Direct and/or indirect impacts affecting environmental elements on a provincial scale.
7 (> 2 provinces)	Direct and/or indirect impacts affecting environmental elements on more than a provincial scale, but not yet on a national scale. As a general guide: affecting more than 2 provinces.
8 (National)	Direct and/or indirect impacts affecting environmental elements on a national level, and/or affecting one or two neighbouring countries.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

9 (Sub-continental / continental)	Direct and/or indirect impacts affecting environmental elements on a sub-continental or continental level.
10 (Global)	Direct and/or indirect impacts affecting environmental elements on more than a provincial scale, but not yet on a national scale. As a general guide: affecting more than 2 provinces.

Duration: Explanation of duration of impact

Rating	Explanation of duration
1 (Very short term)	Less than 4 months
2 (Very short term)	4 months to <1 year
3 (Short term)	1 year to <3 years
4 (Short term)	3 years to <9 years
5 (Medium term)	9 years to <27 years
6 (Medium term)	27 years to <81 years
7 (Long term)	81 years to <243 years
8 (Long term)	243 years to < 729 years
9 (Very long term)	729 years to < 2000 years
10 (Very long term)	2000 years or longer

Final impact significance rating

= probability rating + intensity rating + extend rating + duration rating / 4 Round off to the nearest whole number.

Explanation of impact significance

Final impact significance rating	Impact significance	Explanation of impact significance
1-2	Very low	Impact would be negligible. In the case of negative impacts, almost no mitigation and/or remedial activity would be needed, and any minor steps which might be needed would be easy, cheap and simple.
3-4	Low	Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and/or remedial activity would be either easily achieved or little would be required, or both.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

5-6	Moderate significance	Impact would be real but not substantial within the bounds of those which could occur. In the case of negative impacts, mitigation and/or remedial activity would be both feasible and fairly easily possible.
7-8	High significance	Impacts of a substantial order. In the case of negative impacts, mitigation and/or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these.
9-10	Very high significance	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted.

Impact significance rating not between parentheses is given presuming that mitigation measures as described in this document are implemented.

Project phase applicable: PP
Probability: P
Intensity / Severity: I/S
Extent: E
Duration: D
SIGNIFICANCE RATING: SR
Construction phase: C
Operational phase: O

DESCRIPTION OF IMPACT	PROPOSED MITIGATIONS	PP	P	I/S	E	D	SR
Impact: Loss of soil structure Soil handling may result in loss of soil structure, especially if topsoil is not handled and stockpiled appropriately.	<ul style="list-style-type: none"> All construction activities should be limited to the site boundaries and topsoil be reused at the end of construction (i.e. revegetation). 	C	4	4	2	4	4



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

<p>Impact: Positive social and economic</p> <ul style="list-style-type: none"> • Temporary job opportunities will result from proposed development. These opportunities are usually limited to the contractor workforce and usually do not involve the greater community except if the contractor sources his workforce from another community. • This employment will only provide work on a short-term basis until the construction is completed. • Permanent employment within the business areas. 	<p>The local community members should be prioritised for any unskilled labours and specialised skills may be outsourced.</p> <ul style="list-style-type: none"> • The Contractor must ensure that a clear communication channel is established through the project CLO on basis of temporary employment. 	<p>C&O</p>	<p>5</p>	<p>4</p>	<p>3</p>	<p>4</p>	<p>4</p>
<p>Impact: Visual / Aesthetic</p> <p>Visual impact on surrounding environment and human health.</p>	<ul style="list-style-type: none"> • All construction waste must be removed from site and taken to a registered disposal site. • Construction traffic must only be within the designated routes. 	<p>C</p>	<p>4</p>	<p>4</p>	<p>2</p>	<p>4</p>	<p>4</p>
<p>Impact: Air and visual pollution</p>	<ul style="list-style-type: none"> • Dust should be controlled by the regular wetting of soil surfaces used by vehicles (construction vehicles) 	<p>C</p>	<p>4</p>	<p>4</p>	<p>2</p>	<p>4</p>	<p>4</p>



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	such as access roads. This measure will be included in the EMPr to ensure implementation.						
Impact: Noise pollution Noise and disturbance of peace to residents.	<ul style="list-style-type: none"> All vehicles must abide by a speed limit set by the management party of the contractor around and near the proposed site. Work hours should be limited to daily hours e.g. from 7:00am to 17:00 pm. Vehicles must be maintained to prevent unattended vehicles from making excessive noise due to mechanical faults. General rules such as no unnecessary use of the truck horns should be implemented. The above must be implemented as the development is within residential area. 	C	4	4	2	4	4
Impact: Health, Safety and Security General occupational health, safety, and community unrest.	<ul style="list-style-type: none"> It is noted that the construction phase may threaten safety around within area. It is therefore recommended that a community liaison officer is appointed to liaise between the contractor and community during the Construction phase. 	C	4	4	2	4	4



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	<ul style="list-style-type: none"> • Site should be fenced off and no unauthorized personnel allowed on site. • Workers must be provided with appropriate personal protection equipment (work suits, earplugs, hardhats, safety boots). • The Contractor must ensure that emergency procedures applicable to the site are set up prior to commencing work (fire, spills, incidents involving employees, hazardous substances). • Workers should not be allowed to drink during working hours. • The Contractor should respect the workers' rights to refuse work in an unsafe environment. • Material stockpiles or stacks must be stable and well secured with barricading/demarcation. • Compliance with the Disaster Management Act, 2005 (Act No.53 of 2005) with regards to the COVID-19 management and control measures. 						
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SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	<ul style="list-style-type: none"> All dangerous or no-go areas on site should be clearly marked as such, including deep excavations and flammable store. 						
<p>Impact: Wetland degradation</p> <p>Sediment release into the aquatic environment is one of the most common forms of waterborne pollution.</p> <p>Furthermore, mismanagement of waste and pollutants including hydrocarbons, construction waste and other hazardous chemicals will result in these substances entering and polluting the sensitive natural downstream environments either directly through surface runoff during rainfall events, or subsurface water movement.</p> <p>Construction activities (i.e. excavations and vegetation clearing) expose soil to environmental factors including rainfall and wind. The exposure to these factors will result in the removal of topsoil and the</p>	<ul style="list-style-type: none"> All waste generated during current operation is to be disposed of as per an Environmental Management Programme (EMPr). Waste disposal during the operational phase must ensure no litter or other contaminants on site are deposited in the stormwater system. Spillages of fuels, oils and other potentially harmful chemicals must be cleaned up immediately and contaminants properly drained and disposed of using proper solid/hazardous waste facilities. Any contaminated soil must be removed, and the affected area rehabilitated immediately. Attenuation of stormwater from the development site is important to reduce the velocity of runoff into the wetland area. 	C	6	4	2	4	4



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

<p>deposition of this sediment in the downslope watercourse system.</p>	<ul style="list-style-type: none"> • Attenuation measures during construction include but are not limited to – the use of sand bags, hessian sheets, silt fences, retention or replacement of vegetation and geotextiles such as soil cells which must be used in the protection of slopes. • Long term attenuation measures are recommended in the design of the development and can include permeable paving; infiltration trenches or swales. 						
<p>Impact: Ecology Impact on ecological integrity.</p>	<ul style="list-style-type: none"> • No permanent infrastructure should be placed on Highly Sensitive Areas. • No activity should take place within the watercourse buffers as indicated in the wetland report. • No construction material should be dumped on site or near the watercourses. • Watercourses and riparian vegetation should be demarcated as no go areas during construction phase. 	<p>C</p>	<p>6</p>	<p>4</p>	<p>2</p>	<p>4</p>	<p>4</p>



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	<ul style="list-style-type: none"> • No collection of firewood or medicinal floral species must be allowed by construction personnel. • No painting or marking of vegetation to identify locality or other information shall be allowed, as it will disfigure the natural setting. Marking shall be done by steel stakes with tags, if required. • Avoid translocating topsoil stockpiles from one place to another or importing topsoil from other sources that may contain alien plant propagules. 					
<p>Impact: Fire and explosions</p> <p>Fire risks and explosions.</p>	<ul style="list-style-type: none"> • Hold fire prevention talks and reminders regularly with the staff. • Ensure that all workers are aware of the emergency evacuation plans in case of fire incidence on site. • Ensure adequate supply of firefighting equipment and train workers on how to utilize. • Smoking should be allowed in those areas considered a fire hazard. 	C	4	4	2	4 4



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	<ul style="list-style-type: none"> • Smoking should only be allowed within designated areas. • “No smoke” signs must be placed within high fire risk areas. 						
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The following specialist studies have been identified for the site and will be included in the Final Scoping Report:

- Ecological Impact Assessment: Floral & Faunal Assessments
- Wetland Impact Assessment
- Heritage Impact Assessment

Maps:

- Vegetation, Northwest Biodiversity Sector Plan
- Threatened Ecosystems
- Site Sensitivity & Wetland Delineation

Environmental Impact Statement

An environmental impact statement and impacts that the proposal and its alternatives may have on the environment after the management and mitigation of impacts.

- It is apparent that these impacts will be medium to long term and have sustainable benefits. It must be ensured that the construction phase is undertaken in accordance of sustainable development principles, best environmental management practices and that post- construction rehabilitation leaves the surrounding environments in a good, if not better state.
- The proposed development should not result in impacts on the natural or social environment that are highly detrimental, nor result in undue risks to the natural environment. The nature and types of negative impacts do not outweigh the potential benefits of this project, provided that the



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

short-term localized impacts of the construction phase are adequately mitigated. In this regard, an EMPr has been compiled and is attached to this report.

- It is recommended that external monthly EMPr monitoring takes place by an independent Environmental Control Officer (ECO) to ensure that the requirements of the EMPr are being correctly implemented, thus ensuring the protection of the surrounding environment during construction.
- Further, should any privately owned infrastructure (e.g. fencing) be damaged during construction, it is to be replaced in the same condition, if not better, by the contractor. After the construction phase the contractors must ensure that all hazardous materials if (any was produced) are removed from the site and that the site is rehabilitated to acceptable levels.
- Assuming that all phases of the project will adhere to the mitigation measures contained in the EMPr, the impacts associated with the development are mainly noise, traffic, dust, and social impacts which have minimum significance.
- Positive impacts associated with the proposed development include:
 - Socio-economic growth and development,
 - Temporary and permanent employment opportunities and skills development,
 - Access to residential units,
 - Reduction of any criminal activity that may be resulting from the open veld utilised as an escape area.

Overall EAP recommendations:

It is the recommendation of the EAP that the following management and mitigation measures be incorporated should an authorisation be issued or granted:

- All mitigation measures listed in the EMPr must be adhered to by the Applicant and subcontractors.
- COVID-19 control measures must be implemented as per the requirements of the National Disaster Management Act.
- Compliance with the Occupational Health and Safety Act and Construction Regulations.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- A grievance procedure will be established whereby any complaints can be received, recorded, and responded to appropriately.
- Fire extinguishers must be readily available onsite and easily accessible.
- An Emergency Response Plan must be in place for the site, which must clearly describe emergency procedures and include emergency contact numbers.
- There should be spill kit on site to ensure management of accidental hydraulic spills.
- No smoking may be permitted on site, but only at designated smoking area.
- There should be water trucks for regular dust suppression.
- The wetland area must be demarcated and tagged “NO GO ZONE”
- Chemical toilets must be provided for the use of the construction workers and must be regularly serviced.
- An Environmental Control Officer must be appointed and conduct monitoring at the site once a month during construction until completion of the project.

12. PUBLIC PARTICIPATION INFORMATION

A public participation process was conducted as part of the Environmental Impact Assessment process. During the process, all stakeholders and Interested & Affected Parties are provided an opportunity to participate and voice their concerns, both positive and negative. Those concerns and comments are then considered in the evaluation process by the Competent Authorities (DEDECT).

The public participation process aims to enlighten the public on the positive and negative aspects that the proposed development will have on their immediate surroundings. The applicant is required to mitigate impacts to an acceptable status, the significant impacts, as well as consider suitable alternatives as identified during the process.

Objectives of the public participation process:

The public participation process has the following objectives:

- To inform Interested and Affected parties of the proposed development;



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- To provide an opportunity for I&AP's to raise environmental issues/concerns and make suggestions;
- To promote transparency and an understanding of the project and its consequences;
- To serve as a structure for liaison and communication with I&AP's;
- To serve as a data gathering mechanism (of local knowledge) for the Environmental Study.
- To identify issues that can easily be overlooked in the initial stages of planning.

To summarise, the objective of the on-going public participation process is to promote openness and transparency concerning the proposed development, during the length of the project. The process should by no means be regarded as a vehicle to temper opposition or objections. Any conclusions agreed upon must be socially, financially, and technically acceptable and feasible in order to meet the requirements of both the NEMA Regulations and the vision of the applicant. The aim is to identify all I&AP's and remain in contact with them during the EIA.

Guidelines followed during the public participation process

The Public Participation Process (PPP) for this project was conducted by C & K Environmental Services (Pty) Ltd; and undertaken strictly according to the Regulations listed under Chapter 6 National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended. The process was open and transparent.

Below are activities undertaken to date (proof is attached as appendices under Public Participation Information):

Activity	Date
1. Placing of site notices	19 November 2021
2. Handing out and emailing of BIDs	19 – 26 November 2021
3. Newspaper advertisement	19 November 2021
4. Consultations with the Ward Councillor (Mr Molubi of Ward 31)	19 November 2021

Comments received to date:



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Comment(s) from I&Aps	EAP Response
<p>Comments from C Burger:</p> <ul style="list-style-type: none"> • There is no sewage system within Marikana. • The land is farming land, cattle and horses grazing here. • What type of security fence/wall will be erected to keep rubble and thieves away. • With no sewage system in place, there is currently a huge problem with people using the land as toilet and cattle gets sick due to eating human faeces. 	<p>The site is privately owned and the client would like to contribute to the economy of Marikana, and its communities.</p> <p>The proposed establishment caters for people from different backgrounds, while accommodating different salary brackets.</p> <p>An engineering services report has been attached, and all service provisions are currently being addressed for the project.</p>
<p>Comments from Carlos Luis:</p> <ul style="list-style-type: none"> • Is the municipality looking to purchase this land or just looking to rezone the area for future development? • How would this affect neighbouring properties like my mother property? I understand that you are looking at another position for the road, but her property is exactly opposite the Main Road and Karee Road T-Junction. • If the Municipality is looking to purchase the land, my mother is potentially looking to sell if a fair offer is proposed? This section of land is roughly 12,8 hectares. 	<p>The land proposed for the mixed use township establishment is privately owned and does not belong to the municipality. It is not known by the EAP or the Client if the municipality is planning to purchase any of the properties around the site.</p> <p>Access to the site is currently being addressed (please refer to the services report for further information).</p>



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

13. PLAN OF STUDY

The purpose of the Environmental Impact Assessment process is to holistically identify all the potential issues and impacts from activities associated with the proposed development, with an aim of providing the competent authority with adequate information to make decisions which ensure that activities which may impact negatively on the environment to an unacceptable degree are not authorised, and that activities which are authorised, are undertaken in such a manner that are mitigated and controlled. The report will focus on identifying the impacts on the physical and biological environment and to some extent the social environment, along with the impact mitigation thereof.

13.1 TASKS TO BE UNDERTAKEN DURING THE EIA PROCESS

Specialist Assessments:

Detailed specialist assessments will be conducted and included in the Final scoping report.

The Specialist Studies included in this Draft report are:

- Geotechnical investigations,
- Traffic impact assessment,
- Engineering and technical planning.

The following studies are still to be undertaken and will be included in the Final Scoping report and EIR:

- Ecological Impact Assessment: Floral & Faunal Assessments
- Wetland assessment and delineation
- Heritage impact assessment



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

A summary of the preliminary assessments (Baseline Environmental Descriptions) is tabulated below:

During the EIA phase of the project the following activities relevant to the different specialist studies will be undertaken

Specialist Study	Activities to be undertaken
Ecological impact assessment	<p>Due to the limited level of detail that is normally considered during the screening assessment, it is considered imperative to conduct a detailed ecological (flora and fauna) investigation. This would include, but not necessarily be limited to:</p> <p>Flora:</p> <ul style="list-style-type: none"> • Provide a description of the general floristic species diversity and community composition; • Evaluating the occurrence of potential Red Data species; • Demarcating any high sensitivity areas; • Provide an indication on the ecological condition (successional stage). <p>Fauna:</p> <ul style="list-style-type: none"> • A detailed faunal assessment based on field observation; • An avifaunal assessment with particular reference towards the occurrence species sensitive to the placement of transmission lines; • An evaluation of the occurrence of any of the listed conservation needy species. <p>Wetlands:</p> <p>As highlighted in the above sections portions of the development site are associated with the wetland / riverine / moist habitats. The EIA phase will thus focus on critical</p>



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

	<p>assessment of the wetland / riverine systems in the following way:</p> <ul style="list-style-type: none"> • Delineation of any important wetland and river boundaries using the requisite techniques based upon the latest Wetland Classification systems; • Indicate suitable buffer zones as prescribed by the relevant provincial policies / conservation plans; • Assess the status of the observed faunal and floral populations observed; • Assess the potential impacts on the functioning of these systems.
<p>Heritage impact assessment</p>	<p>Proposed methodology:</p> <ul style="list-style-type: none"> • Aerial Photographical Survey • Aerial photographs will be utilised to identify possible places where archaeological sites might be located. <p>Physical Surveying:</p> <p>The fieldwork component will consist of a selective walk through/site visit of the proposed development site and is aimed at locating any heritage resources falling within (and directly adjacent to) the proposed site. The locations of all heritage resources that are recorded during the survey will be documented using a hand-held GPS and/or photographs. Furthermore, the documentation will reflect a brief qualitative description and statement of significance for each site and includes a photographic record of all the sites. The South African Heritage Resource Agency have been included as an affected stakeholder and the findings of the Heritage Impact</p>



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Assessment will be captured on the SAHRIS database for further processing by the Heritage Resource Authority.

It is important to also note that informal social consultation (i.e. with local community members, residents and knowledgeable individuals) will be undertaken during the fieldwork component. The aim of social consultation is to identify any tangible and intangible resources (i.e. sacred places, myths and indigenous knowledge systems) that may exist.

13.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

The purpose of the developed EMPr is to identify possible environmental impacts and formulate mitigatory measures that should be implemented by the Contractor and Subcontractors during the construction and operation phase. These measures will ensure that the anticipated impacts are adequately managed and as far as possibly minimised. The Contractor and Subcontractors should be aware that the EMPr is a legally binding document; contents thereof must be understood and adhered to.

13.3 CONSULTATION WITH COMPETENT AUTHORITIES

Consultations will be arranged, where and if necessary as follows:

- Once the Draft Scoping Report has been made available for comment within the public domain.
- The Final Scoping Report will once again be made available for comment within the public domain.
- Any final comments will be incorporated into the Final Scoping Report for submission to DEDECT.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

- If any site visit with DEDECT is proposed once the Final Scoping Report has been submitted.
- After the Draft EIA report has been made available for comment within the public domain, comments will be incorporated into the Issues and Response Report and Final EIA Report for submission to DEDECT.
- The Final EIA Report will once again be made available for comment within the public domain.
- Apart from the above-mentioned occasions, further consultation with authorities will occur whenever necessary.

13.4 PUBLIC PARTICIPATION DURING THE EIA PHASE

Public participation forms a critical component of the EIA process, as it provides all interested and affected parties with an opportunity to learn about a project, but more importantly to understand how a project will impact on them. Although the EIA process, including the Public Participation Process is legislatively controlled, minimum requirements are not often enough in ensuring comprehensive, transparent participation. It is therefore necessary to utilise all participation tools during the EIA process to ensure maximum participation.

Public review of documents

Draft documents, including all supporting documentation, will be made available for public comment. The public will be given a 30 days period to comment and raise issues of concern based on the information contained in the report.

Should the plan of study be approved, the Draft EIA document will be completed and made available for public comment for a 30 days period. It should be noted that this period may be extended on request. All specialist reports prepared as indicated in this document will be included in the EIA report for public review.



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Public meetings

Public meetings are anticipated to take place following release and circulation of the Draft Scoping Report. However, no public meetings have taken place at this stage. A consultation meeting was arranged with the ward councillor and further communication will be submitted to the councillor throughout the process.

Incorporation of comments into the Final EIAR

All comments received during the public review period (including those obtained during public meetings) will be incorporated into the Final EIA report which will submitted to DEDECT for review and/or approval.

Notification of the Environmental Authorisation

On eventual issuing of a decision by DEDECT, notices will be sent to all registered Interested and Affected parties that the Environmental Authorisation (EA) has been granted/refused. Copies of the decision will be shared or made available for review.

These notices will indicate the process required to lodge an appeal, as well as the prescribed timeframes in which documentation should be submitted.

Project Plan:

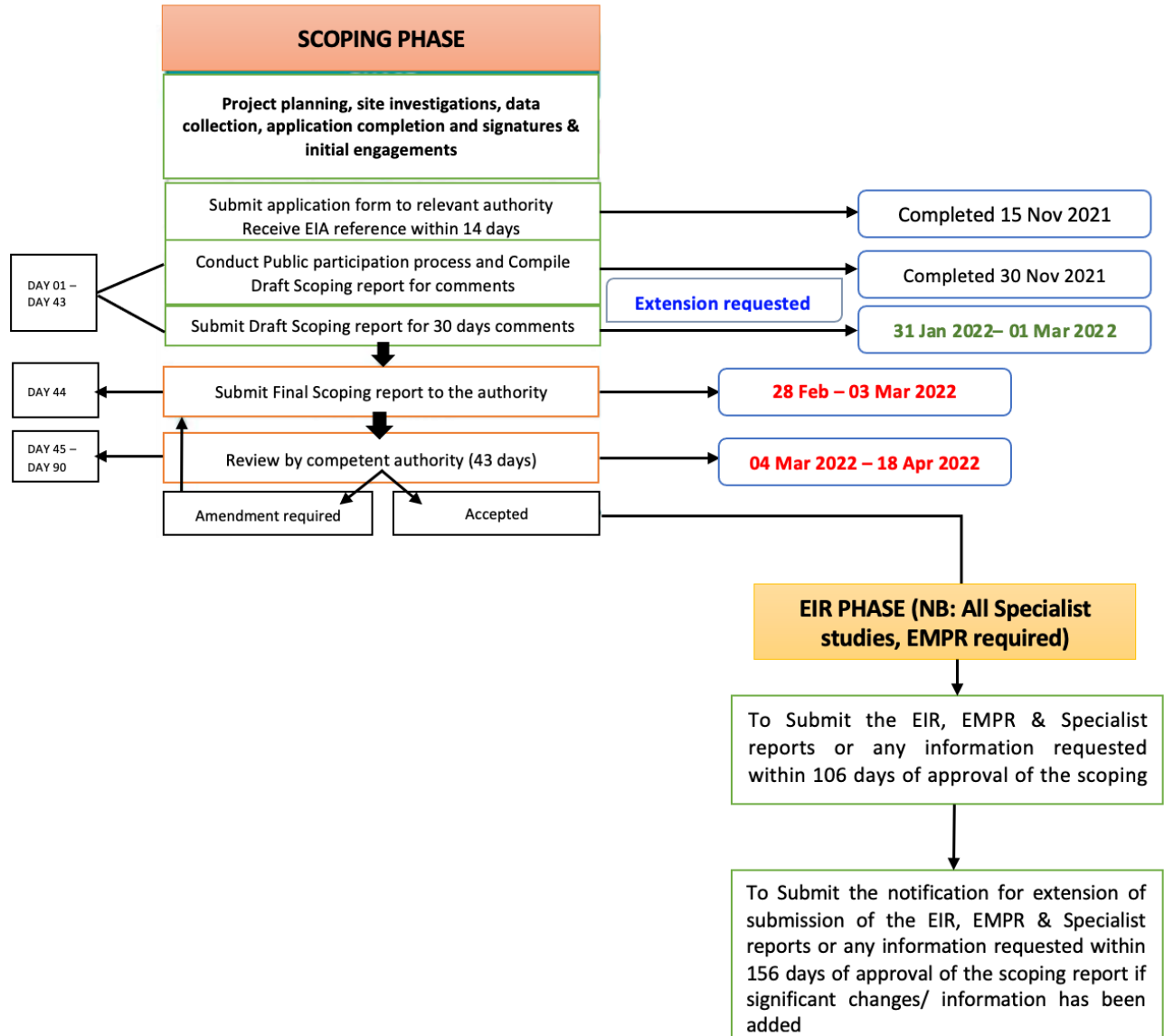
Submission of the Draft Scoping for comments (30 Days)	31/01/2022 – 01/02/2022
Submission of the final Scoping report	28/02/2022 - 03/03/2022
Public consultations or meetings	04/03/2022 – 18/03/2022
Submission of the Draft EIR for comments (30 Days)	Date to confirm on approval of the Scoping report
Submission of the Final EIR	Within 106 Days from Approval of the Final Scoping report



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING
 ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
 AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
 MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
 MAINTANANCE & REHABILITATION PROGRAMMES
 ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
 INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Notification of Interested and Affected Parties and/or stakeholders	Within 14 days of receipt of the decision
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PROCESS COMPLETED TO DATE:





SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

14. APPENDICES

Appendix 1	Locality map
Appendix 2	Layout plan
Appendix 3	Site photographs
Appendix 4	Public participation information
Appendix 5	DEA Screening tool report
Appendix 6	Specialist studies
Appendix 7	Environmental Management Programme
Appendix 8	Curriculum Vitae of the EAP



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix I:

Locality Map

Attached



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ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
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MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 2:

Layout Plan

Attached



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 3:

Site Photographs

Attached



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 4:

Public Participation Information

Attached:

- **PPP Report**
- **Proof of Newspaper advert**
- **Background Information Document (BID)**
- **BID Receipt**
- **Comments received to date**



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 5:

DEA Screening Tool Report

Attached



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 6:

Specialist Studies

Attached

- **Geotechnical Report**
- **Traffic Impact Assessment**
- **Technical Engineering Report**



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 7:

Environmental Management Programme

Attached



SPECIALISING IN: INFRASTRUCTURE DEVELOPMENT & PLANNING

ENVIRONMENTAL PLANNING: APPLICATIONS, EXEMPTIONS, EIA, EMPR, WATER USE & WASTE LICENSES
AUDIT: ENVIRONMENTAL CONTROL MONITORING & OCCUPATIONAL HEALTH & SAFETY
MINING RIGHTS, PERMITS, PLANS, COMPOSTING & RECYCLING FACILITIES
MAINTANANCE & REHABILITATION PROGRAMMES
ENVIRONMENTAL EDUCATION & TRAINING, BIODIVERSITY SPECIALIST STUDIES
INFORMATION TECHNOLOGY (SUPPORT SERVICES & INFRASTRUCTURE)

Appendix 8:

Curriculum Vitae of the EAP

Attached