DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT OF A 15KM N14/R31 BYPASS ROAD IN KURUMAN WITHIN THE JURISDICTION OF GA-SEGONYANA LOCAL MUNICIPALITY IN THE NORTHERN CAPE PROVINCE.

REF: NC/BA/25/JTG/GA-S/KUS3/2021
DATE: 8 FEBRUARY 2022

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ZENITH INTEGRATED AFRICA PROJECTS Pty Ltd

EXERCUTIVE SUMMARY

Lesekha Consulting has been appointed by Zenith Integrated Africa Projects on behalf of the client; Ga-Segonyana Local Municipality to apply for an Environmental Authorization for the proposed development of a 15km N14/R31 bypass road in Kuruman within the jurisdiction of Ga-Segonyana Local Municipality in the Northern Cape Province.

Lesekha Consulting was appointed as an Independent Environmental Assessment Practitioner (EAP) responsible for facilitating the legalities required to obtain an Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, read with the Environmental Impact Assessment Regulations, (04 December 2014 as amended). The proposed development to construct N14/R31 bypass road in Kuruman triggers the following listed activities according to Government Notice NEMA Regulation 324 of 04 December 2014:

- GN. R. 324, 04 December 2014 (Activity 56:): The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—
  (i) where the existing reserve is wider than 13,5 meters; or
  (ii) Where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occurs inside urban areas.
- GN. R. 324, 04 December 2014 (Activity 12):The development of :
  (iii) bridges exceeding 100 square metres in size or more:
  The development of:
  (ii) Infustructure or structure with a physical footprint of 100 square metres or more:
  a) Within a watercourse
  excluding—
  (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;
  (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;
  (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;
  (dd) where such development occurs within an urban area; [or]
  (ee) where such development occurs within existing roads, [or] road reserves or railway line reserves; or

(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared

As such an application to acquire the environmental authorization was lodged with the Northern Cape Department of Environment and Nature Conservation with the reference number: **NC/BA/25/JTG/GA-S/KUS3/2021** The Environmental Assessment Application process will be undertaken to obtain an Environmental Authorization for the proposed project in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The clients intention is to contract a bypass that will deviate the traffic from N14 and R31 with Kuruman Town. The following activities will be executed as part of the proposed construction of the R31/N14 bypass road:

- Clearance of indigenous vegetation.
- Construction of a bridge/culvert
- Truck station
- Construction of circle intersections connecting the bypass road to the R31 and N14

The N14/R31 bypass road will be constructed outside of Kuruman town, connecting to N14 and R31 roads. Approximately 26.4 ha extend of indigenous vegetation will be cleared. The main objective of the bypass is to relieve the traffic in Kuruman to town

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TERMS AND DEFINITIONS

TERM/S	DEFINITION
Affected environment	Those parts of the socio-economic and biophysical environment impacted on by the development.
Affected public	Groups, organizations, and/or individuals who believe that an action might affect them.
Alternative proposal	A possible course of action, in place of another, that would meet the same purpose and need. Alternative proposals can refer to any of the following but are not necessarily limited thereto: • alternative sites for development • alternative projects for a particular site • alternative site layouts • alternative designs • alternative processes • alternative materials
Alternatives	Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, process or technology alternatives, temporal alternatives, or the no-go alternative.
Appeal	Any affected person may appeal a decision of the competent authority to the MEC.
Applicant	An applicant is a person who applies for environments authorization to undertake a listed activity lawfully. The applicant must appoint an independent EAP to manage the application process.
Authorities	The national, provincial, or local authorities, which have a decision-making role or interest in the proposal or activity. The term includes the lead authority as well as other authorities.
Baseline	Conditions that currently exist. Also called “existing conditions.
Benefits assessment	The objective of the assessment of benefits is to identify and assess all the significant benefits that may arise from the undertaking of an activity.
Best practical environmental option	Means the option that provides the most benefit or causes the least damage to the environment, at a cost acceptable to society, in the long term as well as in the short term.
Competent authority	The person who makes decisions in respect of applications for environmental authorizations is known as the competent authority. In this instance, the competent authority is the MEC of North West Province. Delegated officials from relevant departments assist the MEC with the final

TERM/S	DEFINITION
	decision.
Cumulative impacts	Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period and can include both direct and indirect impacts.
Decision-maker	The person(s) entrusted with the responsibility for allocating resources or granting approval to a proposal.
Decision-making	The sequence of steps, actions or procedures that result in decisions, at any stage of a proposal.
Development footprint	In respect of land means any evidence of physical alteration because of the undertaking of any activity.
Direct impacts	Direct impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
Disposal	Licensing, management, capacity, etc. of landfill sites and dump sites.
EAP	An EAP is a person who manages an application for environmental authorisation for an applicant.
Ecology	The study of the inter relationships between organisms and their environments.
Education and Awareness	Public education and awareness initiatives regarding the impact of waste on the environment and people's health and the promotion of sound waste management practices.
Environmental Assessment (EA)	The generic term for all forms of environmental assessment for projects, plans, programmes or policies. This includes methods/tools such as BA, strategic environmental assessment, sustainability assessment and risk assessment.
Environmental Assessment Practitioner	Individuals or firms who act in an independent and unbiased manner to provide information for decision-making.
Environmental Impact Assessment	A public process, which is used to identify, predict, and assess the potential environmental impacts of a proposed project on the environment. The EIA is used to inform decision-making.
Environmental Management Programme	A working document on environmental and socio-economic mitigation measures that must be implemented by several responsible parties during all the phases of the proposed project.

TERM/S	DEFINITION
Impacts	Impacts are the changes in an environmental parameter that result from undertaking an activity. The change is the difference between the effects on the environmental parameter where the activity is undertaken compared to that where the activity is not undertaken. Impacts may be positive or negative and may be categorized as being direct (primary), indirect (secondary) or cumulative impacts.
Impacts assessment	The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise from the undertaking of an activity.
Independent	In relation to an EAP or a person compiling a specialist report or undertaking a specialised process or appointed as a member of an appeal panel, means – That such EAP or person has no business, financial, personal or other interest in the activity, application or appeal in respect of which that EAP or person is appointed in terms of these Regulations other than fair remuneration work performed in connection with that activity, application or appeal; or that there are no circumstances that may compromise the objectivity of that EAP or person in performing such work.
Indirect impacts	Indirect impacts of an activity are indirect or induced changes that may occur because of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken, or which occur at a different place because of the activity.
Integrated Waste Management Plan	An Integrated Waste Management Plan provides a framework within which local municipalities can deliver a waste management service to all residents and businesses.
Interested and affected parties (I&APs)	Individuals, communities, or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. These may include local communities, investors, business associations, trade unions, customers, consumers, and environmental interest groups. The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.
Mitigate	The implementation of practical measures to reduce adverse impacts.
Mitigation measures	Mitigation measures are the steps that are taken to reduce the identified impacts as far as possible. Mitigation measures will address the predicted factors of the impacts clearly to demonstrate how the impacts will be reduced through mitigation.
Municipal solid	Solid waste resulting from or incidental to municipal, community,

TERM/S	DEFINITION
waste	commercial, institutional, and recreational activities, and includes garbage, rubbish, ashes, street cleanings, abandoned automobiles, and all other solid wastes except hazardous waste, industrial solid waste, oilfield waste and biomedical wastes.
No-go alternative	The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives can be compared.
Plan of Study	A Plan of Study describes how the EIA for the proposed Project will proceed during the EIA phase.
Public participation	Public participation is a key element of the Basic Assessment processs and must be conducted in accordance with at least the minimum requirements as set out in the Regulations.
Recycle	Means to do anything that results in providing a use for a thing that otherwise would be disposed of or dealt with as waste, including collecting, transporting, handling, storing, sorting, separating and processing the thing, but does not include the application of waste to land or the use of a thermal destruction process.
Role-players	The stakeholders who play a role in the environmental decision-making process. This role is determined by the level of engagement and the objectives set at the outset of the process.
Significant impact	Means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.
Stakeholder engagement	The process of engagement between stakeholders (the proponent, authorities, and I&APs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is more appropriate than the term “public participation”
Stakeholders	A sub-group of the public whose interests may be positively or negatively affected bya proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (I&APs). The principle that environmental consultants and stakeholder

TERM/S	DEFINITION
	engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.
Study area	Refers to the entire study area encompassing the total area as indicated on the study area map.
Visual impact	Changes to the visual character of available views resulting from the development that include obstruction of existing views; removal of screening elements thereby exposing viewers to unsightly views; the introduction of new elements into the view shed experienced by visual receptors and intrusion of foreign elements into the view shed of landscape features thereby detracting from the visual amenity of the area.

1. INTRODUCTION

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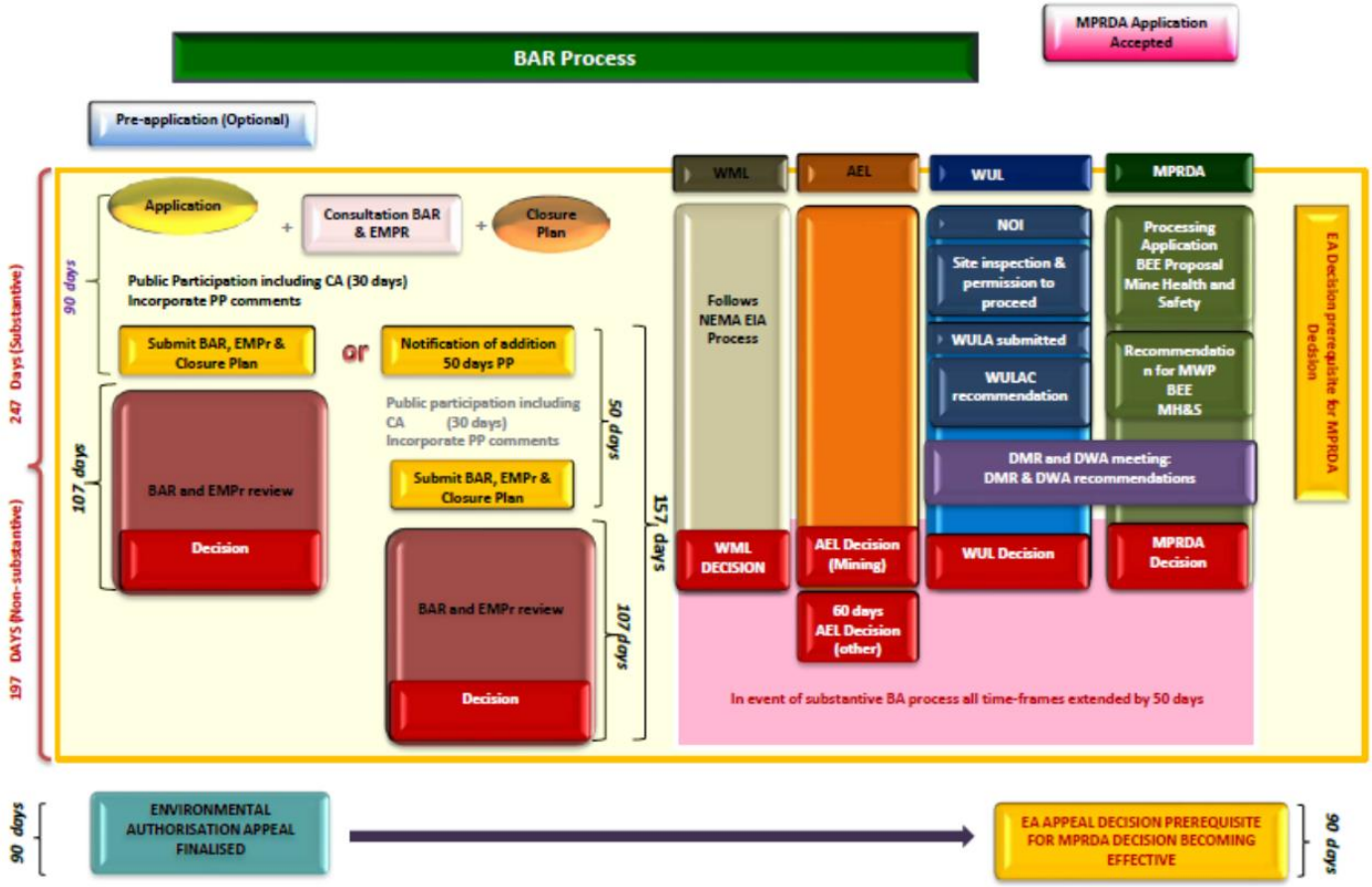
1.1. OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process—

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
b) identify the alternatives considered, including the activity, location, and technology alternatives;
c) describe the need and desirability of the proposed alternatives;

d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:
    (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
    (ii) the degree to which these impacts—
        (a) can be reversed;
        (b) may cause irreplaceable loss of resources; and
        (c) can be managed, avoided or mitigated;
e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
    (i) identify and motivate a preferred site, activity and technology alternative;
    (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
    (iii) Identify residual risks that need to be managed and monitored.



1.2. BASIC ASSESSMENT PROCESS ORGANOGRAM

The Basic Assessment process should be undertaken for project activities that are included under Listing Notices 1 and 3. Impacts of these activities are more generally known and can often be mitigated or easily managed. The BA process must follow the procedure as prescribed in Regulations 19 to 20. The following diagram outlines the steps that should be followed in undertaking a BA process.

Figure 1: Basic Assessment Process Organogram

The proposed formalization of the Mbeki Sun Settlement triggers activities under Listing Notice 2 (GN No. R324). A Basic Assessment process will be undertaken for the proposed project. The activities being included as part of the environmental authorization are as follo1.3.

1.3. LISTED AND SPECIFIED ACTIVITIES TRIGGERED AND BEING APPLIED FOR THE PROPOSED FORMALIZATION OF MBEKI SUN INFORMAL SETTLEMENT.

Indicate the number and date of the relevant notice:	Activity No (s) and Activity Description (in terms of the relevant notice)	Describe each listed activity as per project description
GN. R. 324, 07 April 2017	**Listed activity 56:** The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre— (i) where the existing reserve is wider than 13,5 meters; or (ii) Where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.	A portion of the road will be constructed where an existing road will be widen and extended. Clearing of vegetation will be required to construct 13.km
GN. R. 324, 07 April 2017	**Listed activity 12 :** The development of : (iii) bridges exceeding 100 square metres in size or more: The development of: (ii) Infustructure or structure with a physical footprint of 100 square metres or more: a) Within a watercourse excluding— (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;	The proposed development will entail the construction of a bridge at a non –perennial stream crossing.

	(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; [or] (ee) where such development occurs within existing roads, [or] road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared	

These activities may not commence until Environmental Authorization has been received from the approving authority: Northern Cape Department of Environment and Nature Conservation.

2. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

2.1. CONTACT DETAILS OF THE EAP.

Table 1: Details of the EAP

CONTACT PERSON AND CORRESPONDENCE ADDRESS	
Contact Person	Lesego Senna
Address	25 Caroline Close Rowlands Estate Mafikeng, 2745
Tel No	018 011 0002/083 763 7854
Fax No	086 541 6369
E-mail address	lesego@lesekha.co.za

2.2. EXPERTISE OF THE EAP

Lesego Senna is a qualified Environmental Practitioner who managed and coordinated the EIA study of the project in discussion. Lesego Senna holds the bachelor's degree: in Natural Science majoring in Microbiology and Biochemistry. She also holds an Honours Degree: Environmental Sciences, Majoring in Environmental Impact Assessment and Earth Sciences – North West University (Potchefstroom Campus).

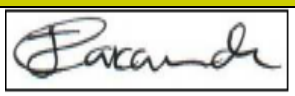
Lesego holds a certificate in Environmental Law (NQF level 7) with the following courses: Waste Management, Biodiversity Management, Waste Management, Heritage Assessment, Environmental law & Environmental Impact Assessment obtained from the Centre of Environmental Management at Potchefstroom University). She also holds a certificate in GIS and GPS course (NQF level 5) from the Free State University, with the following Modules: Spatial data Structures; Spatial data symbolization and analysis and interpretation Map design.

Lesego Senna is a registered Environmental Scientist registered with the ***South African Council of Natural Scientific Profession SACNASP (Reg.No.400165/17).*** The acquired qualifications and experience demonstrated that we are uniquely qualified to undertake this Environmental Impact Assessment Study. Please refer to the attached details of a Practitioner attached as Appendix I: Details of the EAP

2.3. TECHNICAL TEAM.

Team members that have been integral in the successful production of this EIA report are represented in the table below.

Table 2: Technical Team

Team Member	Qualifications	Responsibility	Signature
Ms. J. Sakaunda	BSc. (Honours) Environmental Sciences	Environmental Assessment Practitioner	
Ms. K.F.S. Mohaswa	BSc. Environmental Sciences	Environmental Assessment Practitioner	

3. DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY

3.1. PROJECT DESCRIPTION

The proposed development of a 15Km N14/R31 by pass road in in Kuruman within the jurisdiction of Ga-segonyana Local Municipality in the Northern Cape Province. The proposed bypass road will connect to R31 and N14 at the north, south, west and north side of Kuruman town. The following activities will be executed as part of the proposed construction of the R31/N14 bypass road:

- Clearance of indigenous vegetation
- Construction of a bridge/culvert
- Truck station
- Construction of circle intersections connecting the bypass road to the R31 and N14

The N14/R31 bypass road will be constructed outside of Kuruman town, connecting to N14 and R31 roads. Approximately 26.4 ha extend of indigenous vegetation will be cleared. The main objective of the bypass is to relieve the traffic in Kuruman to town

3.2. PROJECT LOCATION

The proposed N14/R31 bypass road will be constructed on the Eastern, Western and Southern side of Kuruman town within the Jurisdiction of Ga-segonyana Local Municipality in Norther Cape Province. The proposed development is situated on twelve (12) Erfs of Kuruman Farm portion 0. The bypass will intersect the N14 and R31 on the following geographical coordinates:

Intersect 1: 27°27’35.37”S; 23°26’49.92”E

Intersect 2: 27°28’45.50”S; 23°26’34.92”S

Intersect 3: 27°28’18.88”S; 23°23’55.34”S

Intersect 4: 27°25’24.08”S; 23°25’30.09”S

The road will be constructed on the excising road that will be widened and access road. clearing of indigenous vegetation will be required to construct 13kms of the proposed 15km of the N14/R31 bypass road.

3.2.1. Property Description of Proposed Activities.

No	Farm Name	Farm/ Erf No	Portion	latitude	longitude	Property type
1	KURUMAN	3	0	27°26'39.24S	23°23'36.48E	Erven
2	KURUMAN	1	0	27°26'50.16S	23°25'4.12E	Erven
3	KURUMAN	1	0	27°28'35.08S	23°23'58.53E	Erven
4	KURUMAN	5050	0	27°27'24.72S	23°26'54.17E	Erven
5	KURUMAN	5529	0	27°27'38.17S	23°27'0.59E	Erven
6	KURUMAN	4788	0	27°27'25.09S	23°27'28.11E	Erven
7	KURUMAN	4784	0	27°28'21.75S	23°23'43.57E	Erven
8	KURUMAN	6253	0	27°27'55.66S	23°27'15.02E	Erven
9	KURUMAN	6293	0	27°28'31.74S	23°24'6.71E	Erven
10	KURUMAN	6262	0	27°28'25.62S	23°23'50.26E	Erven
11	KURUMAN	2642	0	27°28'15.57S	23°27'25.39E	Erven
13	KURUMAN	6453	0	27°25'21.02S	23°25'32.77E	Erven

3.2.2. Locality Map and Site layout

The figure below illustrated the locality of the proposed site for development. The proposed bypass road is outlined with a yellow line.

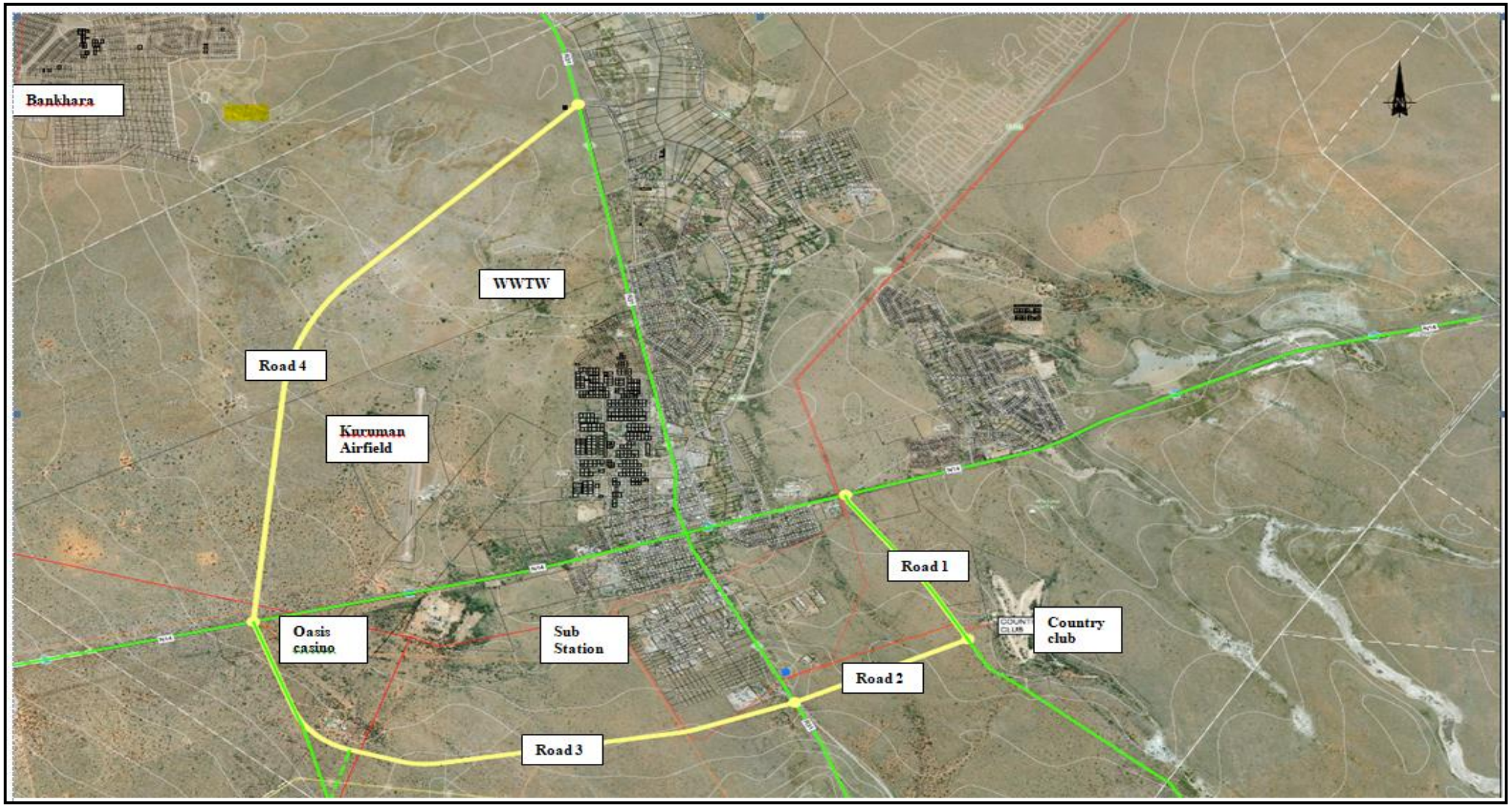


Figure 1: locality map of the proposed site of development.

4. A DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN INCLUDING ASSOCIATED STRUCTURES AND INFRASTRUCTURE

1.1. SITE DESCRIPTION

The proposed project will entail the construction of 15km N14/R31 bypass roads in Kuruman. During the construction phase clearance indigenous vegetation will be required. Approximately 11.5km of the study area will be on virgin land or undisturbed land, only 4.5km of the road will follow the existing road.

There is possible dolomitic area within the site therefore geotechnical assessment will be done on the site in question. Section 2 of the road as identified on the site layout map figure 1 will pass through a non-perennial stream and adjacent to the water reservoir. Section 4 of the road is proposed to be constructed within an area which was previously declared as protected area: Kuruman Nature Reserve. A portion of the proposed road falls within an area used for livestock farming and grazing.

Section/Road 1:

- The road will be constructed on an existing tar and gravel road.
- The road will connect to the N14 east of Kuruman Town going towards Kuruman Golf Estate.
- Clearing of indigenous vegetation will be required on the side of the road to widen the road and allow for construction.

Section/Road 2:

- There is no existing road where the new road will be constructed.
- The area is highly vegetated with indigenous and protected plants.
- This section of the road will pass through a non-perennial stream, where a bridge or culvert will be required.
- The road connects from R31 to join Road 1.
- Powerlines were identified on the study area.

Section/Road 3:

- Approximately 1.7 km of the road will be constructed on an existing gravel road and the rest of the road will be on an undisturbed area with dense vegetation cover.
- Clearing of indigenous vegetation will we required on dense tree and grass cover.
- There is Eskom and Telkom servitude on the study area of construction. A 9m Buffer should be considered on a from a 15kv line and 21m buffer from a 132kv power line.

Section/Road 4

- The road will connect on N14 west of and R31 north of Kuruman town.
- The road will be constructed on undisturbed dense tree cover with most of the area covered with grass and shrubs.
- Road 4 will be constructed within an area which previously declared as protected area: Kuruman Nature Reserve.

4.1. SITE PHOTOGRAPHS

The following photographs were taken during the site inspections and illustrate the current state of the surrounding areas where the N14/R31 will be constructed.

The entrance to the former Kuruman Game Reserve

Scarttered vegetation within the study area.

Water ponds within the study area

Intersection to the N14 and surrounding line servitudes.

 Densely vegetated area where the proposed road will be constructed.	 Existing road that will be widen.
 Road to be upgraded as part of the construction of the N14/R31 bypass	 Farms occupied along the road to be contracted.

5. POLICIES AND LEGISLATIONS

A description of the policy and legislative context within which the development is proposed including—

(i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and

(ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments;

This section serves to highlight key legislation and policy framework that has implications on the proposed activity. It must be noted that this list is not exhaustive but notes, at high level, the critical laws and policies that have been considered.

5.1. NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998 (NEMA)

The objective of NEMA is to provide co-operative governance by establishing principles for decision makers on matters affecting the environment, institutions that promote co-operative governance and procedures for coordinating environmental functions exercised by the organs of state. Chapter 1 of the Act establishes several principles related to the environment in South Africa. These principles are designed to provide a general framework for environmental planning and guidelines for the interpretation, administration, and implementation of the Act. The principles include several internationally recognized environmental law norms and some principles peculiar to South Africa, i.e., the:

- Preventive principle.
- Precautionary principle, and
- Polluter pays principle.

Environmental management must place people and their needs at the forefront of its concerns, and serve their physical, psychological, developmental, cultural, and social interests equitably. Development must be socially, environmentally, and economically sustainable. Sustainable development requires the consideration of all relevant factors including the following:

- The disturbance of ecosystems and loss of biological diversity are avoided or minimized and remedied.

- Pollution and degradation of the environment are avoided, or, minimized and remedied.
- Disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or, minimized and remedied.
- Waste is avoided, or, minimized and re-used or recycled where possible and otherwise disposed of in a responsible manner.
- Use and exploitation of non-renewable natural resources is responsible and equitable.
- The development, use and exploitation of renewable resources and the ecosystem of which they are part of do not exceed the level beyond which their integrity is jeopardized.
- A risk-averse and cautious approach is applied, and
- Negative impacts on the environment and on the people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimized and remedied.

Implications for the proposed development

The principles advocated in NEMA serve as guidelines for relevant decision makers in ensuring the protection of the environment. Therefore, the proposed development must be consistent with these principles.

- Where this is not possible, deviation from these principles would have to be very strongly motivated.
- The activity may not take place without the required authorization; and

5.2. THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, 1996 (ACT NO 108 OF 1996)

The Constitution is the most important piece of legislation that provides a framework for environmental management in South Africa. There are various sections that have implications for environmental management, hence for sustainable development. Section 24(b) (i) encourages prevention of pollution and ecological degradation. Section 24(b)(iii) promotes ecologically sustainable development. According to chapter 2 of the Bill of rights, section 24 says:

Everyone has the right:

a) To an environment that is not harmful to their health or well-being; and

b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that

- Prevent pollution and ecological degradation;
- Promote conservation; and
- Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Implications for the proposed development:

- Obligation to ensure that proposed activity will not result in pollution and/or ecological degradation;
- Obligation to ensure that where possible conservation is promoted; and
- Obligation to ensure that the proposed activity is ecologically sustainable, while demonstrating economic and social development.

5.3. NATIONAL ENVIRONMENT: AIR QUALITY ACT 39 OF 2004

The objective of this Act is:

a) *"To protect the environment by providing reasonable measures for - i. The protection and enhancement of the quality of air in the Republic;*
b) *The prevention of air pollution and ecological degradation, and*
c) *Securing ecologically sustainable development while promoting justifiable economic and social development; and b. Generally to give effect to the section 24(b) of the Constitution in order to enhance the quality of ambient air for the sake of securing and environment that is not harmful to the health and well-being of people."* The Act emphasizes that the key to ensuring that air quality is improved is by the minimization of pollution through vigorous control, cleaner technologies, and cleaner production practices.

Air Emissions

The control of atmospheric emissions of noxious, hazardous and nuisance causing materials is controlled by the Atmospheric Pollution Prevention Act 45 of 1965 and its amendments.

Dust Control

In terms of the Atmospheric Pollution Prevention Act 45 of 1965, Section 27 - 35; industries should adopt the "best practicable means" for preventing dust from becoming dispersed or causing a nuisance. The act also empowers owners or occupiers present in the vicinity of the source of dust/nuisance to take or adopt necessary steps or precautions against the nuisance. Where steps have not been prescribed, owners must adopt the "best practicable means" as described by the developer, for the abatement of the nuisance. Should the developer not comply with the necessary steps to prevent owners/occupiers from the effects

of dust, the developer would be found guilty and be liable to pay a dust control levy to the minister.

Vehicular Emissions

The Atmospheric Pollution Prevention Act 45 of 1965, Section 36 - 40, regulates atmospheric pollution by fumes emitted by vehicles. The act authorizes local authorities to examine any vehicle that emits noxious and offensive gases. Should the examination process reveal noncompliance, the owners of the vehicle will be advised to take required steps in prevention of air pollution by fumes. Vehicle's owners are required by law to take necessary steps for preventing the emission of the noxious or offensive gases. Failure to comply with the requirements of the law is considered an offence.

5.4. NATIONAL WASTE MANAGEMENT STRATEGY (FIRST DRAFT FOR PUBLIC COMMENT MARCH 2010)

The National Waste Management Strategy was first established in 1999 to address South Africa's waste management challenges and gave effect to the suite of policies and legislation which preceded it, including the Constitution (1996), the Environmental Management Policy for South Africa (1998), the Draft White Paper on Integrated Pollution & Waste Management (1998), the National Water Act (1998) and NEMA (1998). The overall objective of the strategy was to reduce the generation of waste and reduce the impact of all forms of waste on economic development, health, and the quality of environmental resources. The 1999 NWMS sought to achieve three key goals:

- Develop strategies for integrated waste management;
- Develop action plans to implement the strategies; and
- Build capacity within DEA and DW&S to implement the action.

The new NWMS however will have to deal with the following items:

- Strategies, objectives, plans, guidelines, systems, and procedures relating to the protection of the environment and the generation (including avoidance and minimization of such generation), re-use, recycling, recovery, treatment, disposal, use, control and management of waste in order to achieve the objectives of the Waste Act,
- Mechanisms, systems and procedures for giving effect to the Republic's obligations in terms of international agreements National norms and standards for waste management, including planning and national norms for service delivery,
- Practical measures for achieving co-operative governance in waste management matters,

- Guidance on raising awareness regarding the impacts of waste on health and the environment,
- Approaches for securing compliance with the requirements of the Waste Act.

5.5. NATIONAL WATER ACT, 1998 (ACT NO.36 OF 1998)

Water Supply

The National Water Act 36 of 1998 ensures that water resources are adequately protected, used, developed, conserved, and controlled. The Act deals with the development of strategies to facilitate the proper management of water resources, provides for the protection of the water resource, the regulation of the use of water, for financial provision, catchment management agencies, water use associations, Advisory committees, international water management, government waterworks, dam safety, access to and rights over water, monitoring and assessment and information, appeals and dispute resolution. Under the Act, a facility is required to obtain the necessary permits for water usage and the disposal of wastewater from the authority responsible for the administration of the Act, namely the Department of Water & Sanitation (DWS). The Act stipulates that if an industry is acquiring water from a municipality or other local supplier, it is the responsibility of that supplier to obtain the necessary permits. Any private well or borehole sunk for the abstraction of groundwater has to be reported to the regulatory authority.

Wastewater

The National Water Act is the principal piece of South African legislation governing wastewater management. Under the Act there are several important issues to note:

- Industrial and sanitary wastewater cannot be directly or indirectly discharged to stormwater drainage systems, surface or groundwater.
- Persons storing chemicals and oils must take the necessary precautions to prevent leakage into stormwater drains or water courses, unless specifically authorized by the regulatory authority;
- It is generally prohibited to allow stormwater to enter sewer systems;
- Industrial effluents may be discharged to sewer only with the permission of the regulatory authority. There are site effluent discharge limits that if exceeded can result in a fineable offence;
- It is an offence to willfully or negligently pollute surface water or groundwater;
- In the event of a pollution incident, the offending party is obliged to report the incident to the regulatory authority;
- The regulatory authority can take the necessary steps to prevent the pollution of water resources and can recover the costs of clean-up from the polluter. Local by-

laws can also require a facility that stores or handles environmentally hazardous materials that could pollute stormwater runoff, rivers, water courses etc. to take 'adequate precautions' to prevent the spillage or seepage of such materials into the environment.

Pollution

Section 19 of the National Water Act deals with pollution prevention and remedying effects, and in particular the situation where pollution of a water resource occurs or might occur as a result of activities on land. The party who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources. If these measures are not taken, the catchment management agency concerned may do whatever is necessary to prevent the pollution or to remedy its effects, and to recover all reasonable costs from the persons responsible for the pollution.

Section 31A of the Environmental Conversation Act empowers the regulatory authority to undertake action if a person or company carries out any activity that results in significant damage to the environment e.g. surface and groundwater pollution. The costs of remedial work can be recovered from the polluter. Currently there are no soil and groundwater clean-up guidelines. For groundwater, DWS uses a range of standards depending on the final use of the water. It is unlikely that the project will affect any groundwater users. For the cleanup of soil, the Department has accepted the use of risk assessments as the basis for establishing remediation criteria.

Implications for the proposed development:

- Any proposed water uses must be specified and registered and/or licensed;
- Any modifications to drainage lines on site must be investigated in terms of water use requirements;
- The developers are responsible for taking reasonable measures to prevent pollution of water resources that it owns, controls occupy or uses on the land in question;
- The developers are required to remedy a situation where pollution of a water resource occurs following an emergency incident and where it is responsible for the incident or owns or is in control of the substance involved;
- The developers must take all reasonable measures to minimise the impacts of the incident, undertake clean-up procedures, remedy the effects of the incident, and take measures as directed by the catchment agency; and
- Waste created during construction needs to be controlled adequately to negate the impacts on ground and surface water.

5.6. NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008

The legislation most pertinent to the management of waste in South Africa is the National Environmental Management Waste Act, (Act 59 of 2008). The Act was promulgated to provide for institutional arrangement and planning matters, to provide for national norms and standards for regulating management of waste by all spheres of government, and to provide for the licensing and control of waste management activities and all matters connected therewith. In essence, it provides the much-needed legislative framework for the management of waste in South Africa.

Chapter 1, Section 2 of the Act describes the objectives of the Act as follows:

a) *"to protect health, well-being and the environment by providing reasonable measures for*
   i. *minimising the consumption of natural resources,*
   ii. *avoiding and minimising the generation of waste,*
   iii. *reducing, re-using, recycling, and recovering waste,*
   iv. *treating and safely disposing of waste as a last resort.*
   v. *preventing pollution and ecological degradation.*
   vi. *securing ecologically sustainable development while promoting justifiable economic and social development.*
   vii. *promoting and ensuring the effective delivery of waste service.*
   viii. *remediating land where contamination presents, or may present, a significant risk of harm to health or the environment.*
   ix. *achieving integrated waste management reporting and planning.*

b) *to ensure that people are aware of the impact of waste on their health, wellbeing and the environment.*

c) *to provide for compliance with the measures set out in paragraph (a)*

d) *generally, to give effect to section 24 of the Constitution to secure an environment that is not harmful to health and well-being."*

The Act requires the drafting of a national waste management strategy for achieving the objectives of the Act. The Act sets waste service standards, covering areas such as tariffs, quality of service and financial reporting. The Act requires that each municipality designate a waste management officer. The Act requires each municipality to produce an Integrated Waste Management Plan (IWMP) and to submit this plan to the MEC for approval. The approved IWMP must be included in the municipal Integrated Development Plan (IDP). Before finalizing the IWMP the municipality is required to follow the consultative process as defined in section29 of the Municipal Systems Act. This can be done either as a separate process or as part of the consultative process relating to its IDP.

5.7. ENVIRONMENT CONSERVATION ACTS NO. 73 OF 1989

The main purpose of this Act is to provide for the protection of the natural environment (Section 16) to control environmental pollution by prohibiting littering and controlling the removal of littering and controlling waste management (Section 20) where the owner of a disposal site is required to apply for a permit from the minister of Water Affairs to operate such a facility. The Act further provides for the control of activities which may have a detrimental effect on the environment (Section 21). The Act defines a disposal site as:
"A site used for the accumulation of waste with the purpose of disposing or treatment of such waste." Sections 24 to 28 of the Act contain regulations regarding waste management, littering, noise, vibration and shock, environmental impact reports, limited development areas and general regulatory powers.

5.8. NATIONAL FORESTS ACT (ACT 84, 1998),

In terms of The National Forests Act (Act 84, 1998), trees in natural forests or protected tree species (as listed in Government Gazette Notice 1012 of 27 August 2004) may not be cut, disturbed, damaged, destroyed and their products may not be possessed, collected, removed, transported, exported, donated, purchased, or sold - except under license granted by the Department of Agriculture, Forestry and Fisheries.

Implications for the current development
DAFF would have to be contacted to obtain a permit or license to remove any protected or indigenous trees species. The site of development is dominated

5.9. HERITAGE RESOURCES ACT (ACT NO 25 OF 1999),

In terms of Section 38 of the Heritage Resources Act (Act No 25 of 1999), a Heritage Impact Assessment must be undertaken for the following developments:

- Any development or other activity which will change the character of a site
- Exceeding 5 000 m2 in extent; or
- Involving three or more existing erven or subdivisions thereof; or
- Involving three or more erven or divisions thereof which have been consolidated within the past five years; or
- The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resource authority;
- The re-zoning of a site exceeding 10 000 m2 in extent; or

- Any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature, and extent of the proposed development.

Heritage Management

The National Heritage Resource Act (Act No. 25 of 1999) was introduced to ensure protection of South Africa's important heritage features. As such the act covers 4 billion years of history. The act covers the following areas of heritage value:

- Archaeology;
- Paleontology;
- Meteorites.

All the above-mentioned materials that are discovered are thus property of the state. Tools used to conserve and manage these resources are the formal regulated EIA processes as well as permits issued by the South African Heritage and Resources Agency (SAHRA) to restrict and/or regulate development within a heritage environment.

Implications for the proposed development:

- Any artefacts uncovered during the construction phase must be reported to SAHRA;
- No person may alter or demolish any structure or part of a structure, which is older than 60 years or disturb any archaeological or paleontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority. The age of the stable building on site needs to be determined; and
- SAHRA was informed of the proposed development and provided an opportunity to comment. This may result in the need for a basic heritage assessment.

5.10. OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO 85 OF 1993)

The OHSA stated that every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health and safety of his employees. Personal Protective Equipment's (PPE) refers to any equipment worn to protect the user whilst they are working. It includes an array of equipment such as safety glasses/goggles/visors, gloves, lab coats, respiratory masks, ear plugs/ear defenders and safety shoes. PPE should be worn after all other methods of reducing risk have been carefully considered. PPE only protects the wearer from harm, and is liable to failure due to incorrect use, damage or being forgotten entirely. The PPE that should be used must be specified in the Risk Assessment for the activity.

Directive by the minister of employment and labour in terms of Regulation 10 (8) of the regulations issued by the minister of Cooperative governance and traditional affairs in terms of Section 27 (2) of the disaster management act, 2002 (act no. 57 of 2002) has determined that it is necessary to adopt and implement occupational health and safety measures to (reduce and eliminate) the escalation of COVID-19 infections in workplaces as set out in the Schedule.

5.11. NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, (ACT NO. 10 OF 2004)

The objective of the act is within the framework of the National biodiversity Act, to provide for, the management and conservation of biological diversity within the republic; the components of such biodiversity, the use of indigenous biodiversity resources in a sustainable manner, and the fair and equitable sharing among stakeholders of benefits arising from bioprospecting involving indigenous biological resources. To provide for a South Africa National Biodiversity Institute to assist in achieving the objectives of this act.

The National Environmental Management: Biodiversity Act 10 of 2004 currently has negligible influence over environmental assessment and management. Nonetheless it has potentially major significance in terms of introducing mandatory biodiversity considerations at scale to planning and authorization processes relating to land use. Besides giving effect to the Convention on Biological Diversity and other ratified international agreements relating to biodiversity, NEMBA closely details with the IEM aspects of NEMA by providing for the regulation of restricted activities in areas defined by threats to ecosystems or species. In summary, the NEMBA provides for a form of ‘tailor-made’ environmental impact assessment dispensation in certain areas, or involving specifically listed activities, that is, informed by the prerogatives of the conservation and sustainable use of biodiversity. These provisions, which are contained in sections 52 and 53 are directly linked to the integrated environmental management provisions of the NEM Second Amendment Act. Reference needs to be made to chapter 5 of NEMA to illustrate the implications of the NEMBA for the regulation of agricultural land-use change. The most directly applicable provisions of chapter 5 of NEMA are those that relate to the identification of activities (own emphasis) which may not be commenced without environmental authorization, and the identification of geographical areas (own emphasis) in which specified activities may not be commenced without prior authorization.

5.12. NATIONAL ROAD TRAFFIC ACT (ACT 83 OF 1996)

This Act is relevant if the applicant intends to transport, load, off-load or package dangerous goods as listed in SANAS Code of Practice 10228.

5.13. SPATIAL PLANNING AND LAND USE MANAGEMENTS ACT 16 OF 2013

SPLUMA sets the principle that all land development applications must be submitted to the municipality as the authority of first instance without prescribing in detail how spatial planning and land use management issues are to be dealt with within municipal areas. SPLUMA seeks to promote consistency and uniformity in procedures and decision making for all land development within its authority. SPLUMA is a national framework act that requires provincial legislation to enable municipalities to enact spatial planning and land use management by-laws. The municipal SPLUMA by-laws prescribe how land use applications and appeals are dealt with. Municipalities all basically have similar spatial planning and land use management by-laws. These by-laws have many requirements and procedures regarding spatial planning and land development. One such requirement is that municipalities are required to issue SPLUMA certificates before a property can be registered or transferred in the deeds office.

5.14. DISASTER MANAGEMENT ACT, 2002 (ACT NO.57 OF 2002)

The Disaster Management Act 2002 (Act No.57 of 2002) establishes a multi-tier disaster management system for the Republic. In terms of the prescripts of section 43 of the Act SDM must, establish a disaster management centre for its municipal area in its administration. SDM must further establish and implement a framework for disaster management in the district. The Municipality must, in terms of section 53 of the Act prepare and approve a disaster management plan after which it must submit same to the national disaster management centre, the provincial disaster management centre.

5.15. PROMOTION OF ACCESS TO INFORMATION ACT (ACT NO. 2 OF 2000).

Section 32 of the Constitution enshrines the right of access to certain information, and the Promotion of Access to Information Act (PAIA) gives effect to that right. The Act maintains and protects South Africans' right to access any information held by the State and/or information held by another person that is needed to protect or exercise any rights. Access to information will be granted once certain requirements have been met. The Act also

recognizes that the right of access to information may be limited if the limitations are reasonable in an open and democratic society.

5.16. PROMOTION OF ADMINISTRATIVE JUSTICE ACT (ACT NO.3 OF 2000)

The Promotion of Administrative Justice Act (PAJA) aims to make the administration effective and accountable to people for its actions. It promotes South African citizens' right to just administration. Section 33 of the Constitution guarantees that administrative action will be reasonable, lawful, and procedurally fair and it makes sure that people have the right to ask for written reasons when administrative action has a negative impact on them. The objectives and purpose of PAJA are the as follows:

- It ensures that administrative procedures are fair;
- It gives people the right to ask for reasons; and
- It gives citizens the right to have administrative action reviewed by the courts 24 National Spatial Development Perspective (2006)

6. FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVES WITHIN THE SITE.

6.1. Details of The Development Footprint Alternatives Considered

With reference to the site plan provided and the location of the individual activities on site, provide details of the alternatives considered with respect to:

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

a) Activity location

The proposed site for construction is located on the outskirts of Kuruman town. The purpose of this N14/R31 Bypass road is to relieve the traffic within town especially during off pick hours. The total length of the bypass road to be constructed is 15km and will intersect four times on to both N14 and R31. The proposed bypass road will be constructed on existing road and a portion of the road will be construct on a communal land that is under the administration of Ga segonyana local Municipality, in Northern Cape.

b) Types of activity to be undertaken

The mining permit is only required for excavating gravel material to be used in the upgrading of gravel road to a surfaced road of approximately 11.4 km from road P124-1 to Molatedi Village under the jurisdiction of Moses Kotane local Municipality. No other infrastructure will be required for this project, the aggregate material will be excavated using construction machinery like excavators, put on the side to be hauled, loaded and transported using trucks to the road and stockpiled to be used during construction.

c) Design or layout of activity

The borrow pit was designed to optimally mine the desired amount of material needed keeping in mind the possible environmental effects associated with the proposed activities. TLB, trucks, shovels and excavators will be used to mine the gravel material and the material will further be hauled by trucks to the construction site. No other alternative technologies can be used because of the nature of the mineral. The total surface area applied for miming is 4.1 ha, however proposed clearing of vegetation will only be minimal, as they will only clear where they need to mine.

d) Technology alternatives

There are no technology alternatives since the proposed one for the borrow pit is considered to have a low environmental impact if managed correctly and comply with standard practice of open cast mining operations. They will only use construction trucks which will only be at the borrow pit during operations.

e) Operational alternative

Procedure to be used during the implementation of the construction phase of the road is the one whereby gravel material will be mined from the borrow pit and transported to the road by trucks. No other alternative infrastructure will be required.

f) Option of not implementing the activity.

The option of not implementing the activity is referred to as a no-go alternative. Should the borrow pit not be implemented, the applicant will import material which will result in the increase in costs. Without the implementation to utilize the borrow pit, there will be no construction of the road, since it is depended on material from the borrow pit. A socio-economic problem will be experienced if the proposed activity does not proceed. The economic status of the community will either stay at a constant level or degrade, since there will be no job creation for the people and business opportunities for the SMME's and other businesses in the village. The safety of the pedestrians most especially school children will still be in danger in cases where drivers will be ignoring the rules of the road, looking at the fact that there are no speed humps, pedestrian crossings and side walk pavement for them to walk in. Dust emissions from the gravel road will continue, putting the people's health at risk, especially those residing closer to the road.

Not allowing the project to proceed will leave the road the at state prone to accidents, resulting from wet, slippery and degraded road during rainy seasons. The village is about 110km away from the nearest town and the access road to the main roads leading to the town in mainly gravel road. If the implementation of the project could be stopped, it will deprive the community easy access to their desired destinations. There will also be no easy access for tourist wishing to visit Madikwe game reserve or Molatedi Dam.

The option of not implement the project and utilisation of the borrow pit for upgrading of the road will put the drivers at the risk of regularly driving their cars in a road that will increase the rate at which the condition of the car is degrading. Amongst all the poverty status of the community will not degrade as job creation will not be implemented. Therefore, the no-go option will not be taken forward into the assessment phase.

7. NEED AND DESIRABILITY

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location)

A. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location

The proposed upgrade of the road will positively contribute to the social, safety and economic environment to Kuruman and its neighbouring community. The proposed development forms part of the projects and programs identified as priorities at both local and district municipality to develop environmentally sound and safe roads to the community.

The construction of the proposed bypass road is aimed to deviate the traffic in Kuruman town. Subsequent to the completion of the road there will be minimal traffic congestion within the town. Kuruman town is mainly expanding towards the northern site. This Bypass will also unlock the vacant area in the south and western site of the town for possible residential, business and industrial use.

During the unfortunates where the is a need to close the N31 or R31 within the town road user will be able to use the N14/R31 bypass to reach to their destination on a more open road than residential road. This bypass road will also be an easy access to farms occupied on the southwesten side of the town.

The economic status of the community will be elevated as there will be job creation once the project commences. This project will also benefit the Small, Medium and Micro-sided Enterprises (SMMEs) most especially those whom their business is based on construction.

The proposed road extension will ultimately be a public amenity. The proposed section of road is a public facility and will improve the road infrastructure in this area. There may be temporary employment opportunities during the construction period of this road

The project for the establishment of the borrow pit will contribute to the development of environmentally sound and safe roads in South Africa for the benefit of the community and other stakeholders.

Community development and participation:

- Contributing to environmentally sound and safe roads and serving historically disadvantaged communities.
- Finding creative ways of using our resources and skills to contribute to development.

The need for environmentally sound and safe roads has therefore significantly increased as the economic development has diversified. The establishment of the borrow pit and the upgrade of the roads will therefore address economic diversification, employment opportunities and the need for community safety area.

8. DETAILS OF THE PUBLIC PPARTICIPATION PPROCESS UNDERTAKEN IN TERMS OF RREGULATION 41 OF THE REGULATIONS

Public participation is a process that is designed to enable all interested and affected parties (I&APs) to voice their opinions and concerns that enable the practitioner to evaluate all aspects of the proposed development, with the objective of improving the project by maximizing its benefits while minimising the adverse effects. I&APs include all interested stakeholders, technical specialists, and the various relevant organs of state who work together to produce better decisions.

The primary aims of the public participation process are:

- To inform I&APs and key stakeholders of the proposed application and environmental studies;
- To initiate meaningful and timeous participation of I&APs;
- To identify issues and concerns of key stakeholders and I&APs with regards to the application for the development (i.e. focus on important issues);
- To promote transparency and an understanding of the project and its potential environmental (social and biophysical) impacts (both positive and negative);
- To provide information used for decision-making;

- To provide a structure for liaison and communication with I&APs and key stakeholders;
- To ensure inclusivity (the needs, interests and values of I&APs must be considered in the decision-making process);
- To focus on issues relevant to the project, and issues considered important by I&APs and key stakeholders; and
- To provide responses to I&AP queries.

The public participation process must adhere to the requirements of Regulations 41 and 42 (GNR 982) under the NEMA (as amended). In order to achieve a higher level of engagement, a number of key activities have taken place and will continue to take place. These included the following:

- The identification of stakeholders is a key deliverable at the outset, and it is noted that there are different categories of stakeholders that must be engaged, from the different levels and categories of government, to relevant structures in the non-governmental organization (NGO) sector, to the communities of wards of residential dwellings which surround the works;
- The development of a living and dynamic database that captures details of stakeholders from all sectors;
- The fielding of queries from I&APs and others, and providing appropriate information;
- The convening of specific stakeholder groupings/forums as the need arises;
- The preparation of reports based on information gathered throughout the BA via the PPP and feeding that into the relevant decision-makers;
- The PPP includes distribution of pamphlets or Background Information Documents (BIDs) and other information packs; and
- Where appropriate site visits may be organised, as well as targeted coverage by the media.

8.1. IDENTIFICATION METHOD OF ALL PROJECT STAKEHOLDERS

The following stakeholder identification methods were conducted in undertaking the public participation process to ensure a proper representation of stakeholders interested in or affected by the project, the following identification methods were used to develop a stakeholder database:

- Conducting desktop studies in and around the project to verify landownership and obtain contact details.
- Responses received from newspaper advertisements and site notices.
- Responses from distribution of the Background Information Document (BID); and
- and one-on-one consultations with stakeholders to identify additional I&APs.
- Stakeholders for the project are grouped into the following categories:
    - Government: National, Provincial, District and Local authorities;
    - Land occupiers: Directly affected and adjacent land occupiers; Communities: Surrounding communities.
    - Non-Governmental Organizations (NGOs): Environmental and social organisations;
    - Business: small medium enterprises and formal organisations.

8.1.1. Community as I&AP's

The proposed construction of N14/R31 bypass road is within ward 1 of Ga-segonyana local municipality. The Kuruman Community of Ward 1 are the immediate affected community for this project. Regrettably the Public Participation meeting with the community could not be convened as a result of the covid-19 restrictions not allowing mass gatherings. Community was reached through, newspapers advertisements, placement of onsite notices and distribution of the background information document.

8.1.2. Identification of I&AP'S

I&APs will be invited to participate in the process through newspaper advertisements, onsite notices and notification of adjacent landowners/occupiers. The notices will request potential I&APs to submit names and comments or concerns on any aspect of the proposed construction of the N14/R31 bypass road. This comments and concerns from the I&APs incorporated in the final basic Assessment Report . This process is aimed to attract I&APs representing from various sectors of society including:

- Government (national, provincial, and local).
- Environmental NGOs.
- Sibanye Thembelani Mine
- Directly affected communities.
- Businesses

The I&APs for this project were identified using information from the public participation meeting and by identifying services provided closer to the site of construction. Notices were placed on various newspapers inviting the public to register as interested and affected

parties. Organizations were also identified whom the consultant considered to be interested in or affected by this project. An I&APS can be defined as:

a) any person, group of persons or organization interested in or affected by activity; and
b) any organ of state that may have jurisdiction over any aspect of the activity.

The list of I&APs is attached as Appendix I: List of I&AP's.

8.1.3. State Of Organs As I&APs

The following organs of state and authorities were identified and consulted for the public participation process:

- The Department of Water and Sanitation DWS-Kimberly
-
- Department of Agriculture and Forestry (DAFF- Upington/Kimberley).
- The South African Heritage Resources Agency (SAHRA).
- Ga-Segonyana Local Municipality
- Ga-segonyana Community Services
- John Taolo Gaetsewe District Municipality
- NC-Department of Roads and Public Works
- SANRAL (South African National Roads Agency)
- Eldorado Lodge
- Oasis Casino
- Kuruman Country Club
- Telkom.
- Eskom.

8.1.4. Background Information Document (Bid)

The Background Information Document describing the development was distributed to the identified organs of state, handed to community and community leaders who registered as I&APS during the meeting. Background Information Documents was handed to community members and got the chance to get the comments from the members. The background information document is attached as (Appendix K : Background Information Document) and it entails the following:

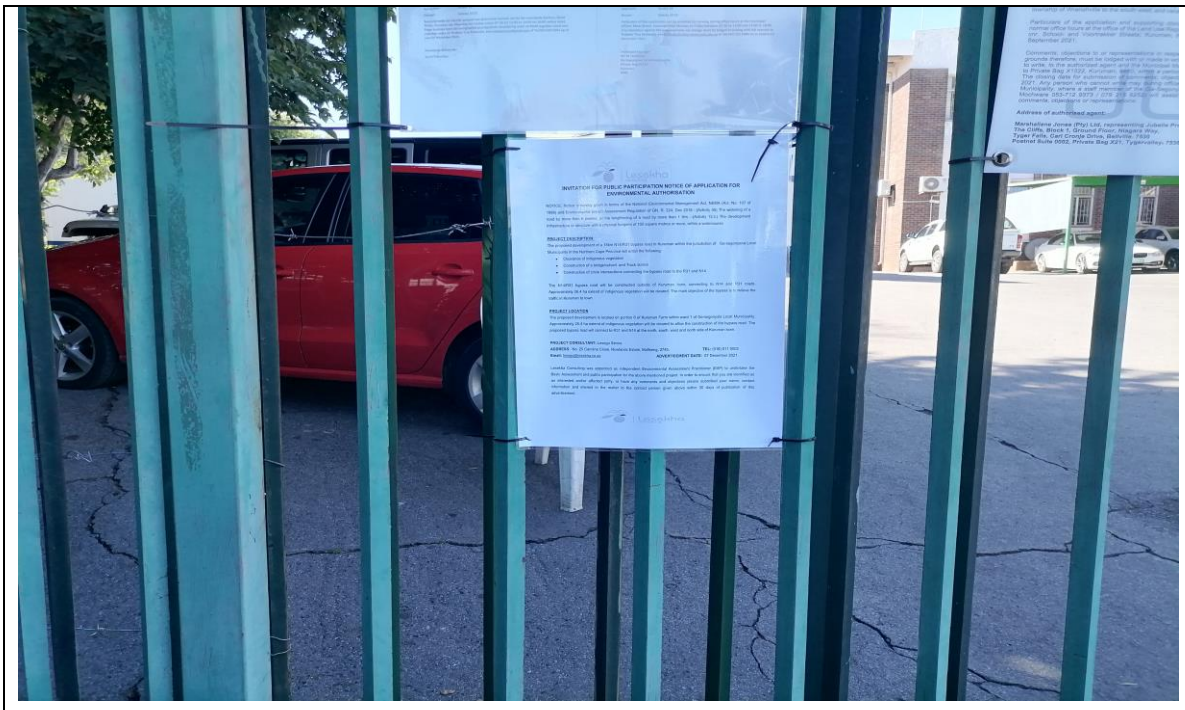
- The location and a description of the project, the legislative processes and requirements that will be followed.
- The competent authorities.
- The consultation and registration process including contact details of the responsible person representing the EAP.

8.1.5. Onsite Notices

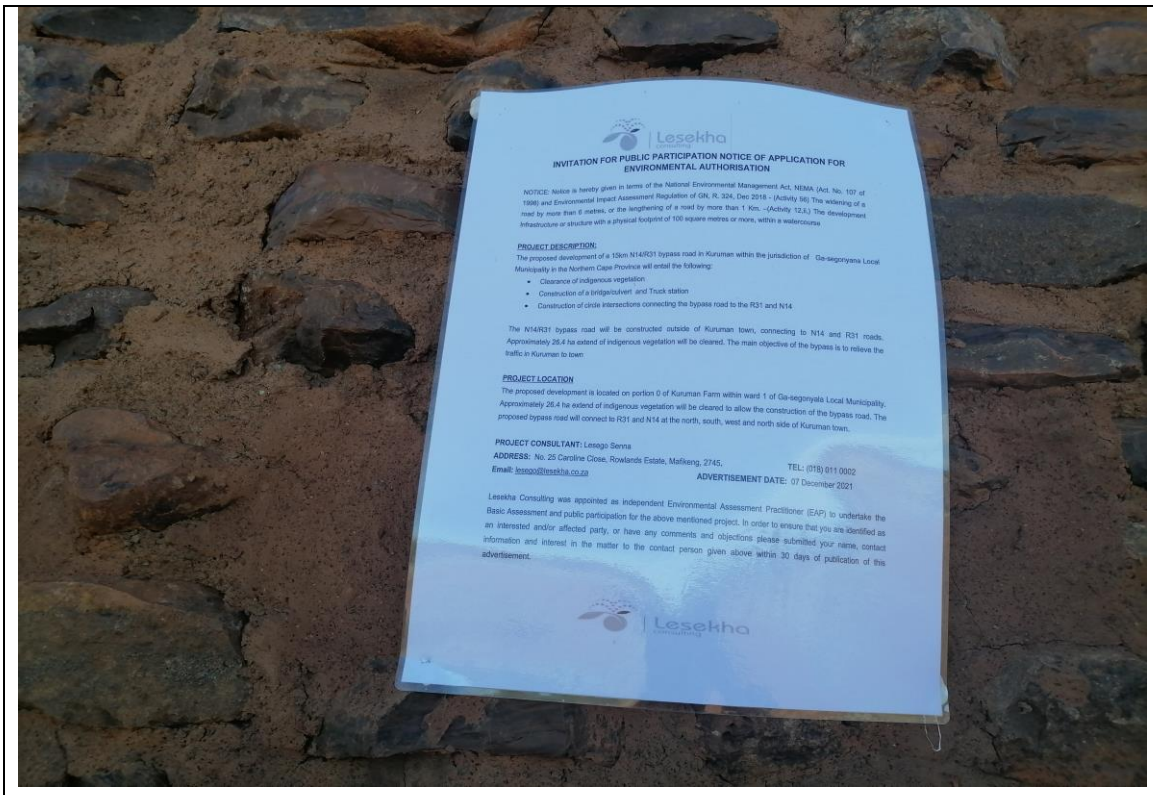
Onsite notices were placed in prominent places within the community where people visit including, the library, Traffic Department, municipality some intersections where the road will be constructed. frequently. The site notices contained a brief project description, information about the required legislation, the competent authorities, and details of the EAP.

A2 onsite notices were placed in prominent places to inform the people about the project and allows gave then period of 30 days to give their comments and concerns. The onsite notices were placed as per the guidance of the community leaders. The following are photographs the onsite notices which were placed within the community and also attached in the report as Appendix O: Onsite Notices.

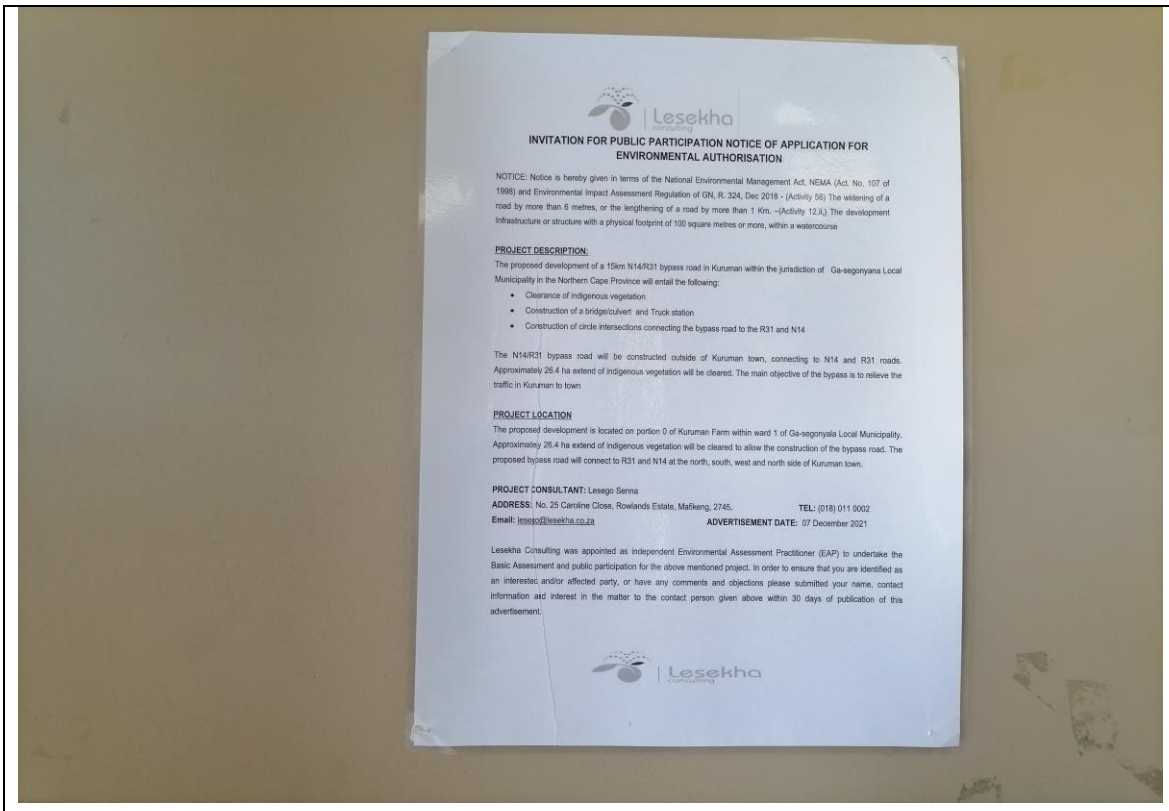
Figure Kuruman Library



Ga-segonyana Local Municipality



Intersection Number 5 of the road on R31.



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INVITATION FOR PUBLIC PARTICIPATION NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION

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PROJECT DESCRIPTION:

The proposed development of a 15km N14/R31 bypass road in Kuruman within the jurisdiction of Ga-segonyana Local Municipality in the Northern Cape Province will entail the following:

- Clearance of indigenous vegetation
- Construction of a bridge/culvert and Truck station
- Construction of circle intersections connecting the bypass road to the R31 and N14

The N14/R31 bypass road will be constructed outside of Kuruman town, connecting to N14 and R31 roads. Approximately 26.4 ha extend of indigenous vegetation will be cleared. The main objective of the bypass is to relieve the traffic in Kuruman to town

PROJECT LOCATION

The proposed development is located on portion 0 of Kuruman Farm within ward 1 of Ga-segonyala Local Municipality. Approximatey 26.4 ha extend of indigenous vegetation will be cleared to allow the construction of the bypass road. The proposed bypass road will connect to R31 and N14 at the north, south, west and north side of Kuruman town.

PROJECT CONSULTANT: Lesego Senna
ADDRESS: No. 25 Caroline Close, Rowlands Estate, Mafikeng, 2745, **TEL:** (018) 011 0002
Email: lesego@lesekha.co.za **ADVERTISEMENT DATE:** 07 December 2021

Lesekha Consulting was appointed as independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment and public participation for the above mentioned project. In order to ensure that you are identified as an interested and/or affected party, or have any comments and objections please submitted your name, contact information and interest in the matter to the contact person given above within 30 days of publication of this advertisement.

Lesekha consulting

First intersection of the road on N14

8.1.6. Newspaper Advertisement

An advert was placed with a local newspaper (Noordtkaap Bulletin) on the 25th November 2021 to invite interested and affect parties to give in their comments and concerns on the project. The following is the tearsheet with the advert that was placed on Noordtkaap bulletin newspaper. The newspaper tearsheet is also attached as Appendix J : Newspaper advert.

10 NUUS NEWS NoordkaapBulletin 25 November 2021

Geklassifiseerd

• BUSINESS NOTICE •

ALIENATION, SALES, CHANGES OF PARTNERSHIP, NAME, ADDRESS, ETC.

Notice is hereby given in terms of section 34(1) of the Insolvency Act, No. 24 of 1936, to interested parties and creditors of the intended transfer in terms of a contract of businesses, and/or goodwill, goods or property forming part of businesses, after a period of 30 days from the last publication of the relevant advertisements.

The information, where applicable, is given in the following order: (1) Township or district, division, county; (2) seller, trader, partnership; (3) business or trade, kind, name and/or style, and the address at which carried on; (4) purpose and intent (alienation, sale, abandonment, change or dissolution of partnership, removal or change of address, change of name, cancellation of sale, etc.); conditions, and date or period of time if other than 30 days; (5) purchaser, new proprietor and/or owner or partner, or contracting party; (6) business and address, if other than under (3); notes, comment; (7) advertiser and/or agent, address and date.

NORTHERN CAPE

(1) Northern Cape. (2) The Seller is Kaxu CSP O and M Company (Pty) Ltd; (3) The Business is Operation and Maintenance of a Concentrated Solar Power Plant, The address at which it is carried is Portion 4 (A portion of Portion 1) of the Farm Scuit-Klip No.92, Khai-Ma Municipality, Kenhardt Division, Northern Cape Province; (4) Transfer of business to new owners; (5) The Purchaser is Atlantica South Africa Operations (Pty) Ltd; (6) The Business is Operation and Maintenance of a Concentrated Solar Power Plant, The address is office 103 Ancorley Building, 45 Scott Street, Upington, Northern Province; (7) Adams & Adams, Lynwood Bridge, 4 Daventry Street Lynnwood Manor, Pretoria, 0081, South Africa.

JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY

JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY	MASEPALA WA SEDIKA WA JOHN TAOLO GAETSEWE	JOHN TAOLO GAETSEWE DISTRIKSMUSIPALITEIT
NOTICE INAUGURAL COUNCIL MEETING	**KITSISO KOPANO YA LEKGOTLA**	**KENNISGEWING RAADSVERGADERING**
Notice is hereby given that there will be an Inaugural Council Meeting of the newly elected Council, scheduled to take place on Thursday, 25 November 2021 at 09:00 in the Council Chamber of the District Municipality.	Baagibaitsisewe fa go tla ma le kopano ya goikanisiwa ga Balekgotla ba basha e e tla tshwarwang ka Labone, 25 Ngwanaatsele 2021 mo Dikagong tsa Lekgotla-kokoano tsa Masepala wa Sedika ka 09:00.	Kennis geskied hiermee dat die inhuldigings-vergadering van die nuut verkose Raad gehou sal word op Donderdag , 25 November 2021 om 09:00 in die Raadsaal van die Distriksmunisipaliteit.
NB: Municipality is obliged to fully comply with level 2 COVID 19 regulations relating to meetings and gatherings.	**NB:** Masepala o ikamanya le melawana ya level 2 COVID 19 e e mabapi le dikopano le dikokoano.	**NS.** Die Distriksmunisipaliteit is verplig om te voldoen aan Vlak 2 COVID 19 Regulasies.
MR D MOLAOLE MUNIPAL MANAGER JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY, P.O. BOX 1480 4 FEDERALE MYNBOU STREET **KURUMAN** 8460	MR D MOLAOLE MOTSAMAISE-MOGOLO WA MASEPALA WA SEDIKA WA JOHN TAOLO GAETSEWE LEBOKOSE LA POSO 1480 SETERATA SA FEDERALE MYNBOU 4 **KURUMAN** 8460	MNR D MOLAOLE MUNISIPALE BESTUURDER JOHN TAOLO GAETSEWE DISTRIKSMUNIPALITEIT POSBUS 1480 4 FEDERALE MYNBOU STRAAT **KURUMAN** 8460

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Certificates & Diplomas: (Mining & Industrial)

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To all our valued customers – Thank you for your continual support in 2021 Have a blessed Christmas and a Happy and prosperous New Year

Courses available
Safety Officers/COMSOC® Level 1, 2 & 3
Incident Cause Analysis Method (ICAM®)
Environmental Management
ISO 45001:2018 courses
Occupational Certificate QCTO: Safety, Health and Quality Practitioner Level 5 - 256 Credits
Minerals Council SA, Chamber of Mines Basic, Elementary and Advanced Mine Valuation
COMSOC® is a Registered Trademark of Skillfull No: 2013/13447/8
ICAM® is a Registered Trademark of Skillfull No: 2015/15290

UPCOMING EVENTS:

- Safety Officers/COMSOC®2 Full Time: 29th November – 10th December 2021
- Safety Officers/COMSOC®1: 10th January – 21st January 2022
- Safety Officers/COMSOC®2 Full Time: 31st January – 11 February 2022

We will be closed for the Holiday Season:
10th December 2021 – 5th January 2022
We offer various payment plans
Contact our client services department for enquiries / Course Schedule:
Tel: 018 786 4300 / 018 786 2812 (08h00 – 16h00)
Email-info@skillfull29.co.za / Or visit us at www.skillfull29.co.za

COMSOC® SABS ISO 9001 IAO Saiosh South African Institute of Occupational Safety and Health Corporate Member

Lesekha consulting

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PROJECT CONSULTANT: Lesego Senna
ADDRESS: No. 25 Caroline Close, Rowlands Estate, Mafikeng, 2745. **TEL:** (018) 011 0002
Email: lesego@lesekha.co.za
ADVERTISEMENT DATE: 25 November 2021

Lesekha Consulting was appointed as independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment and public participation for the above mentioned project. In order to ensure that you are identified as an interested and/or affected party, or have any comments and objections please submitted your name, contact information and interest in the matter to the contact person given above within 30 days of publication of this advertisement.

Lesekha consulting

DIE VERSKIL TUSSEN DINK JY WEET EN WÉÉT JY WEET
Die nuwe Landbou.com-aanbieding
Ontdek 'n wêreld van landboukennis teen slegs **R149 per maand.**
• Jou **weeklikse digitale Landbouweekblad**, 50 uitgawes per jaar
• 'n Nuwe toonaangewende **weerplatform** • **Luisterfunksie** by artikels spaar jou tyd
• **Toegang** tot ons **omvangryke artikelargief**
Besoek **Landbou.com** vandag om aan te sluit.
Landbou.com Boer vooruit.

Figure 8: Newspaper Article

8.1.7. Reply Form/Comment Sheet

A reply form and Comment Sheet was also provided to stakeholders to use for formal registration as I&APs and/or to submit comments. The reply forms were handed together

with the BID during to the community members and sent to all the IAPs identified for the project. Comments received from the I&APs have been recorded in the comments and response sheet are attached in the is attached as Appendix P: Comments and response sheet. Stakeholder comments were closely considered and addressed, where applicable, by the project team. T

8.2. SUMMARY OF ISSUES RAISED BY I&APS

The following are the issues raised by the interested and affected parties during the public participation process. The IAPs were consulted during the site inspection and responded with comments by filling the reply to forms. Organs of state were also consulted to give in their comments and concerns pertain to the project..

Interested and Affected Parties	Organization	Date of comments received	Issues raised	EAP's response to issues as mandated by the applicant
AFFECTED COMMUNITY (Kuruman)				
No comments received.				

Organs of State Consulted.

Interested and Affected Parties	Organization	Date of comments received	Issues raised	EAP's response to issues as mandated by the applicant
Organs of State				
Ms. Setshego Thebe ThebeS@dws.gov.za	DWS	N/A	N/A	N/A
Ms Jacky Mans JacolineMA@daff.gov.za	DAFF	N/A	N/A	N/A
Mr. Willy Pike: wpike@ncpg.gov.za Ms. Natasha Corns ncorns@ncpg.gov.za	NC-DPWR	N/A	N/A	N/A
Ms Mary Leslie mleslie@sahra.org.za	SAHRA	N/A	N/A	N/A
Ms. Nicole Abrahams abrahamsn@nra.co.za	SANRAL	N/A	N/A	N/A

Ms. Yvonne Oosthuizen YvonneO@openserve.co.za	Telkom	N/A	N/A	N/A
M.M. Tsatsimpe mtsatsimpe@gmail.com	Ga-Segonyana Local Municipality	N/A	N/A	N/A
M.A. Keetile moetikeetile@gmail.com	Ga-segonyana Community Services	N/A	N/A	N/A
Mr Mbulelo Dala dalaME@eskom.co.za	Eskom	N/A	N/A	N/A
Mr. Ditebogo Sebuasengwe sebuasengwed@taologaetsewe.gov.za mrditebogo@gmail.com	John Taolo Gaetsewe District Municipality	N/A	N/A	N/A
Mr. Athi City athi@oasiscasino.co.za	Oasis Casino	N/A	N/A	N/A
Ricken Stienkamp Clubkurumangolfclub@gmail.com	Kuruman Country	N/A	N/A	N/A
Cornie de Jager cornie@eldoradolodgekuruman.co.za admin@eldoradolodgekuruman.co.za	Eldorado Lodge	N/A	N/A	N/A

9. DESCRIPTION OF THE RECEIVING ENVIRONMENT

The environmental attributes associated with the alternatives. (The environmental attributes described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)

This section describes the biophysical and socio-economic environment that may be affected and the baseline conditions which are likely to be affected by the proposed activity. This description has not been informed by any specialist studies to be undertaken for this assessment but includes information obtained from various literature sources. A summary of the affected environment is provided, and more detailed studies focused on significant environmental aspects of the development will be provided during the impact assessment phase. The three components to the environment are recognised as:

- Physical Environment
- Biological Environment
- Socio-Economic Environment.

Only those elements of the environment that have a direct bearing on the impact assessment process of the project are discussed. The severity of the potential impacts is largely determined by the state of the receiving environment.

9.1. BIO-PHYSICAL ENVIRONMENT

The receiving environment to identify and confirm the preferred site, through a detailed site selection process, which includes an identification of impacts and risks inclusive of identification of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment.

9.1.1. VEGETATION

According to Mucina & Rutherford (2006), the local vegetation types are as follows:

- Kuruman Vaalbosveld (SVk 8),
- Kuruman Thornveld (SVk 9) &
- Kuruman Mountain Bushveld (SVk 10)

The conservation status for the above vegetation types are tabulated below:

Table 3: Conservation Status

Vegetation unit	Conserved	Transformed	Target	Status
Kuruman Vaalbosveld	None	None	16%	Least Threatened
Kuruman Thornveld	None	2%	16%	Least Threatened
Kuruman Mountain Bushveld	None	Very little	16%	Least Threatened

During site visit occurrence of protected trees were identified on the study area. Tempering or removal protected, and red data plant species should be avoided where it cannot be avoided be minimized during the construction phase. The red data species (*Drimia sanguinea*) was identified within the study area where section 4 of the road will be constructed. The alignment of the road should deviate from any red data species that can be identified onsite. Applications for such activities (Removal or disturb protected trees) should be made to the Department of Environment Forestry and Fisheries. The following map illustrates the distribution and abundance of indigenous, red data and protected plants species within the study area.

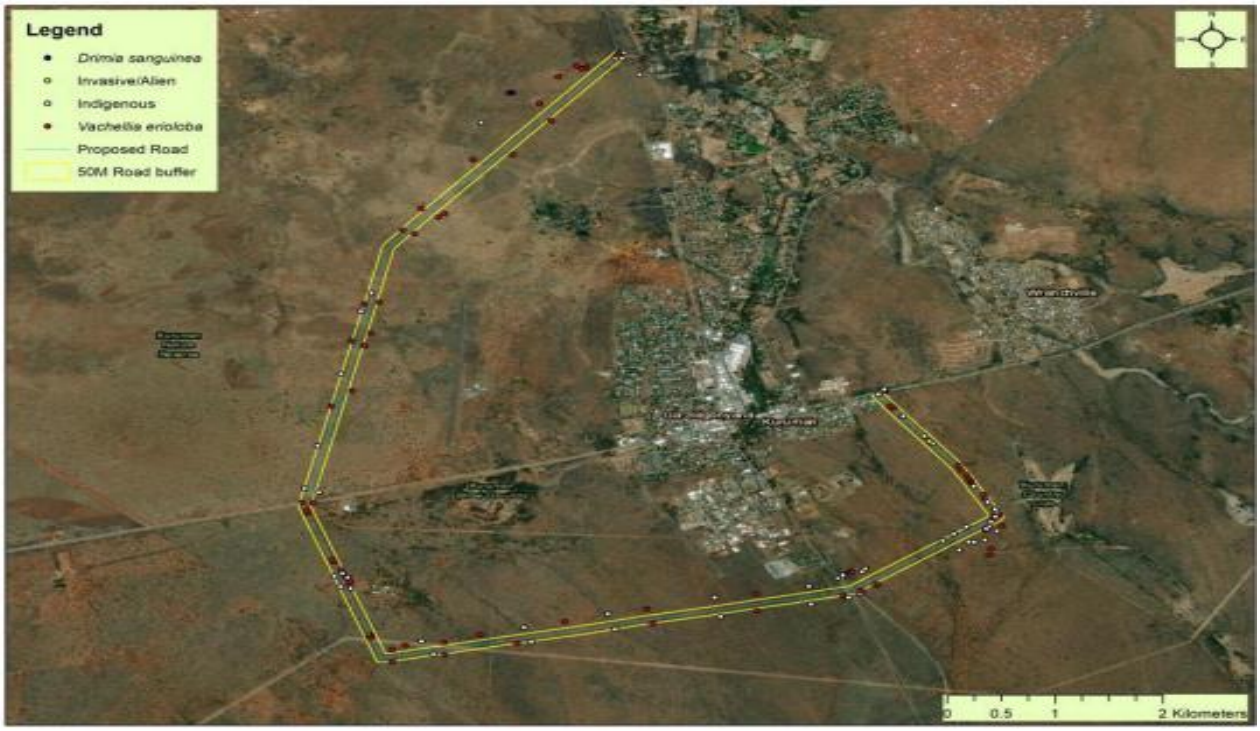


Figure 11: Location of the identified protected trees

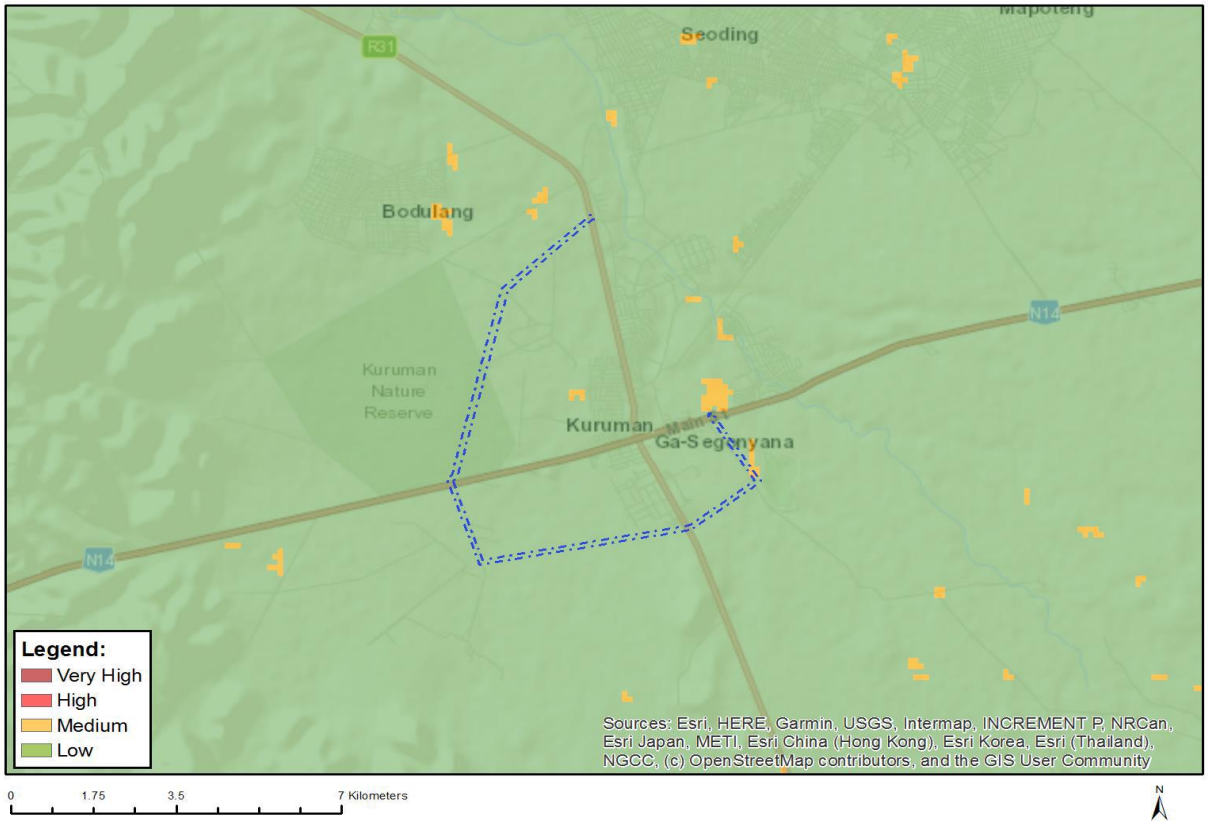


Figure 12: Animal species sensitivity of the proposed site

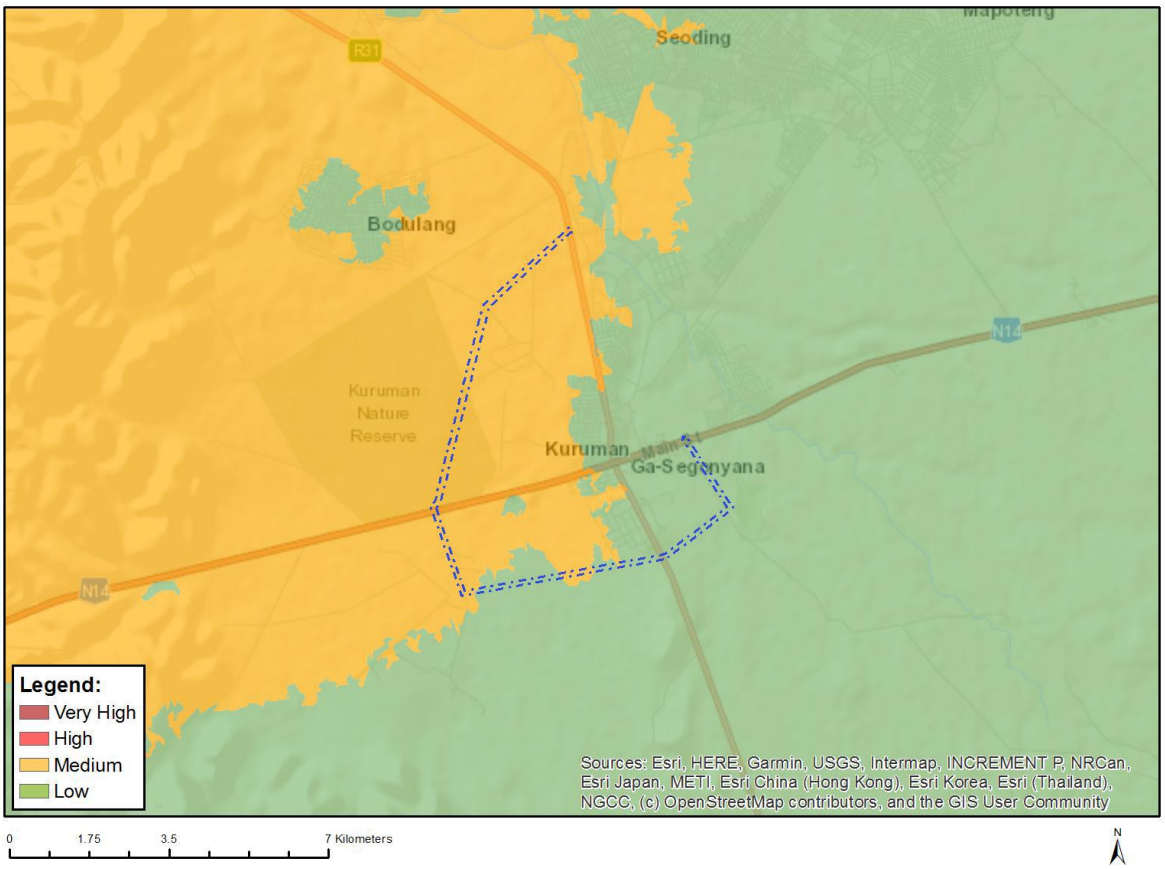


Figure 13: Plant species sensitivity of the site

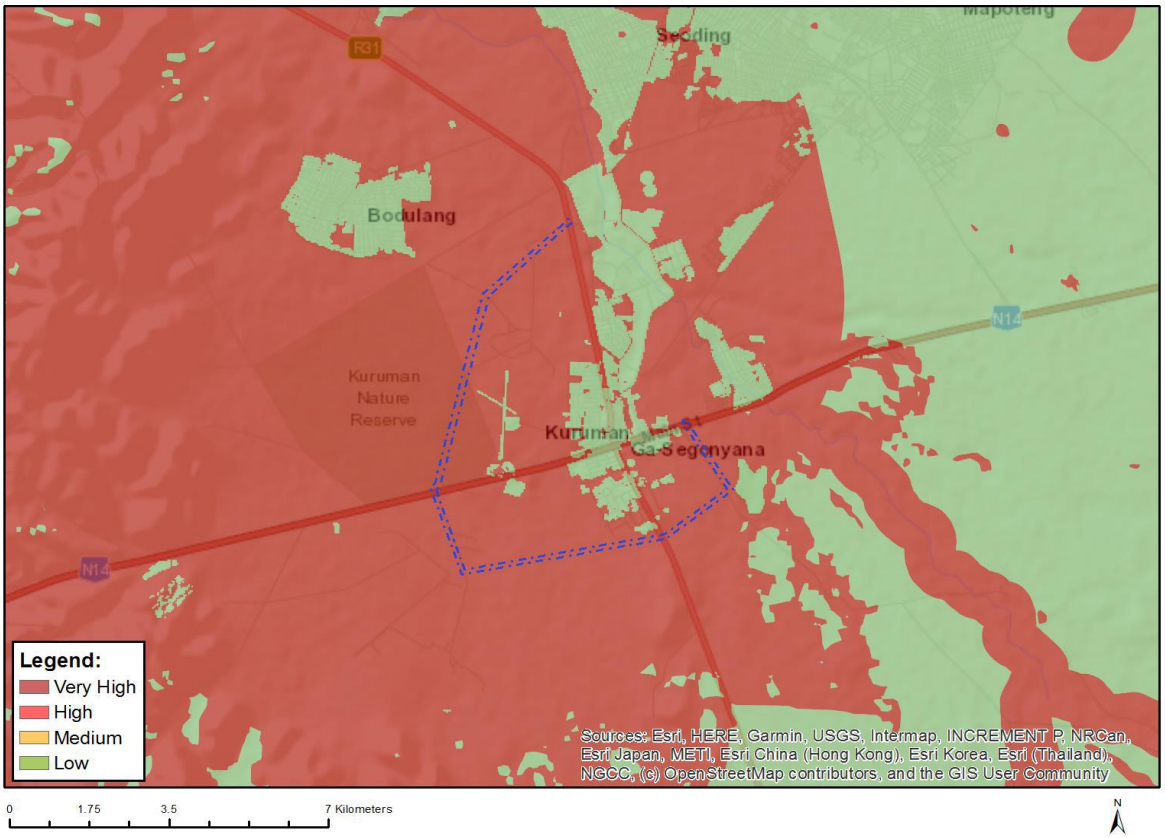


Figure 14: Terrestrial biodiversity sensitivity

According to the desktop screening tool the area has high sensitivity in term of terrestrial biodiversity. This is because of dense vegetation cover. The presence of indigenous and protected tree species such as *Vachellia erioloba* (came thorn) and the red data list species *Drimia sanguinea* increases the sensitivity of the site. The site does not fall in any Critical Biodiversity Area (CBA). The desktop study illustrated that the area unique animal species which may occur in a close range from the study area, however the names cannot be disclosed to protected from possible hunting/harvesting.

9.1.2. PROTECTED SPECIES

The site survey has indicated that there are both Red listed species and protected plant species within the study area, with high abundance of the taxa *Vachellia erioloba* (protected) and a single spotted species of *Drimia sanguinea* (red list). According. to the desktop screening tool, the area has high sensitivity in term of terrestrial biodiversity. This is because of highly dense vegetation cover with the abundance of these protected plants. mitigation measures provided in the report should be adhered to minimize the risk of the impact.

Animal Species

The area is a natural habitat to rodents, reptiles, and avifauna; however, the list of these species is not explicit because of seasonal migration/hibernation. A list of animal species that may occur in the area should be taken in consideration to avoid this disturbance.

Invasive species

Three invasive species; *Eucalyptus camaldulensis*, *Melia azedarach*, and *Opuntia ficus-indica* were recorded in the project footprint and due to their minimal extend of occurrence within the project footprint, the species do not pose danger of encroaching the area if properly removed.

9.1.3. HYDROLOGY OF THE SITE

The following points were noted during the environmental screening within the proposed study area. Drainage is generally towards the Northern Western direction. Irrespective of how the road design is maneuvered the road will still transverse the non-perennial stream identified onsite. Upon mitigation of the crossing of the non-perennial stream an application

for the Water Use License must be done in terms of section 21(c) and (i) of the National Water Act, Act 36 of 1998.

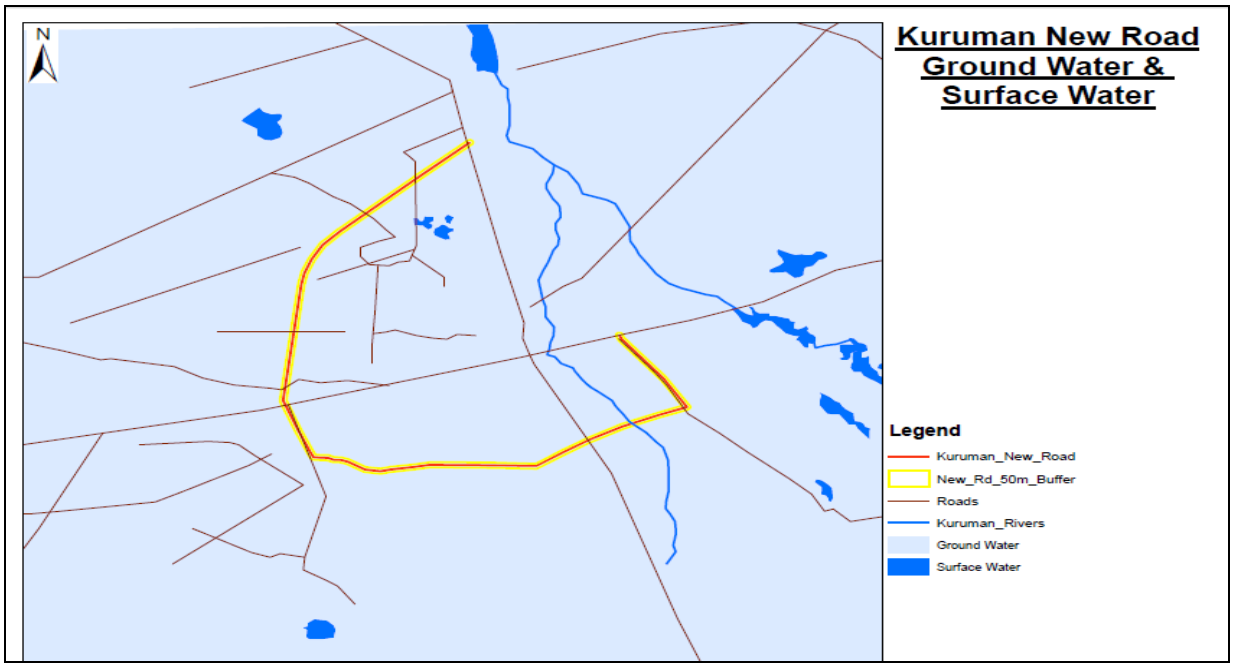


Figure 1: Ground and surface water of the study area

9.2.4. ARCHAEOLOGICAL AND PALEONTOLOGICAL FINDINGS

No significant archeological or paleontological findings were noted during field survey that was undertaken by Reach Archeology on the 20th of October 2021. Old buildings were noted on areas around the site.

Figure15: Remnants of the entrance to Kuruman Game Reserve

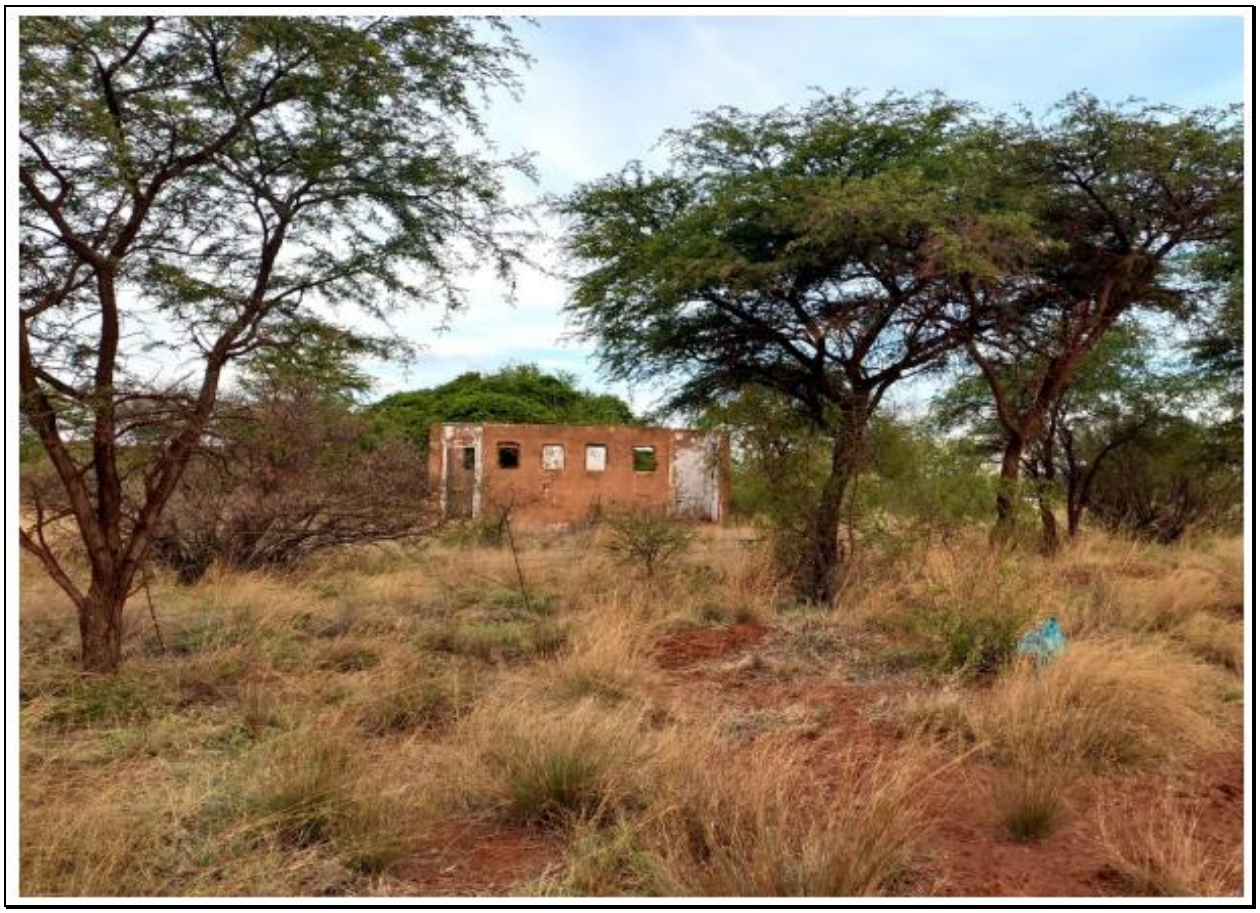


Figure 16: Remnants of buildings

Figure17: Demolished building remains

The site was screened for archaeological and paleontological sensitivities using the National Department of Environmental Affairs (DEA) screening tool. There site is of high archaeological and paleontological sensitivity.

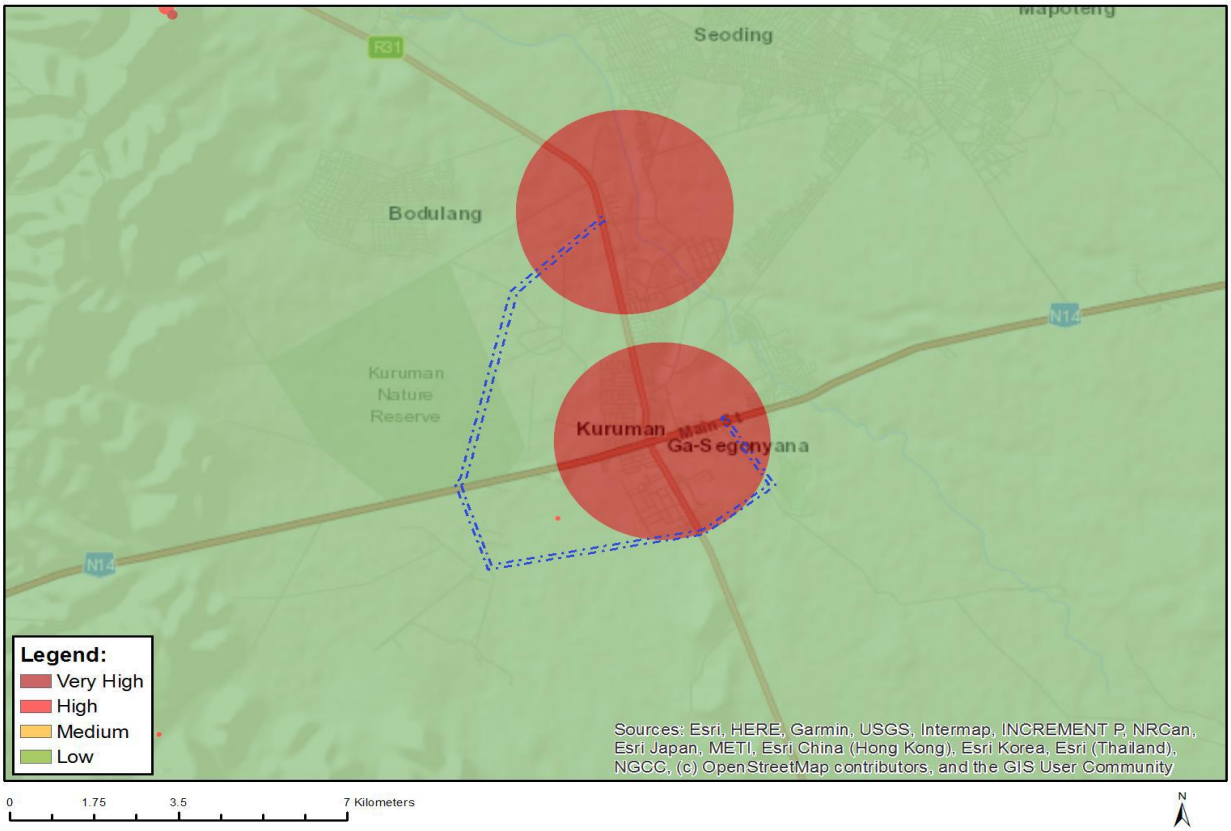


Figure18: Archaeological sensitivity of the site.

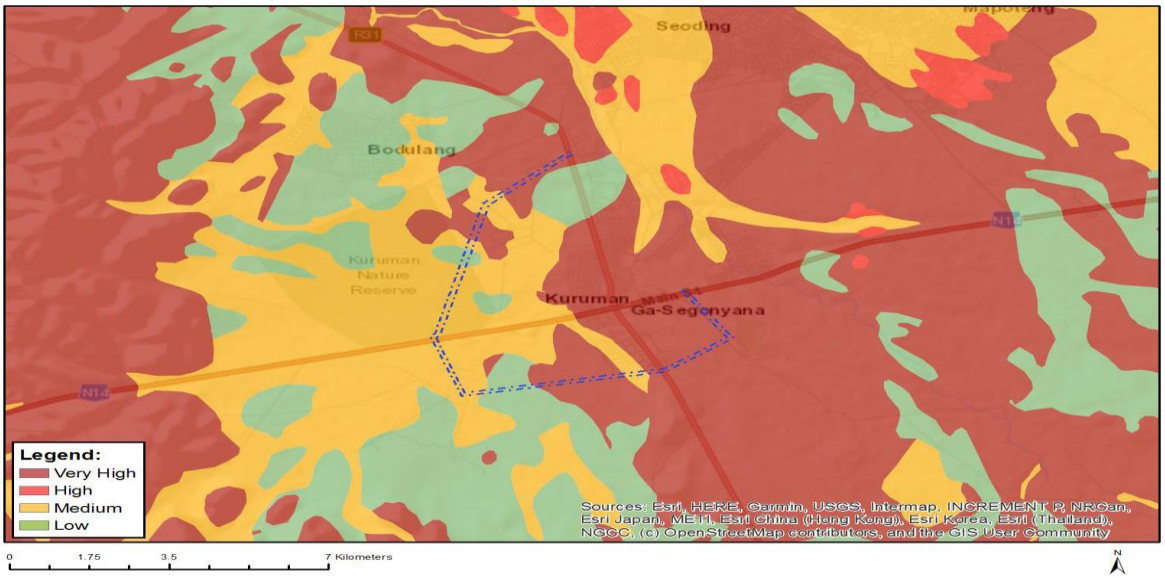


Figure 19: Paleontological sensitivity of the site

9.1.4. GEOLOGY

The geology of the study area is underlain by the Kalahari group with the surrounding of Campbell Rand Group and Asbestos Hills. Geology & Soils Carbonates and chert of the Vaalian Griqualand West Supergroup and Kalahari sediments form flat, rocky, sandy plains with shallow (0. 1-0.6 m) red aeolian sands, stony and underlain by rock.

Some Campbell Group dolomite and chert and mostly younger, superficial Kalahari Group sediments, with red wind-blown (0.3-1. 2 m deep) sand; locally, rocky pavements are formed in places. The Kuruman group and Asbestos Hills consist of banded iron formation, with jaspilite, chert and riebeckite asbestos of the Asbestos Hills Subgroup of the Griqualand West Supergroup (Vaalian). There is a possibility of dolomite in the areas, geotechnical specialists will assess the site and therefore report on the geology of the site.

9.1.5. TOPOGRAPHY

The general slope of the study area is flat with a slope of 1:80.

9.1.6. PROTECTED AREAS

Formally protected areas refer to areas protected either by national or provincial legislation whereas informally protected areas refer to privately owned reserves. Road 4 will be constructed on an area which was previously a protected area (Kuruman Nature Reserve) however this does not pose any fatal impacted on the area. the area is no longer considered to be of ecological significance, since animals were removed and there are no actives occurring on site.

The proposed area of development fall within a Critical Biodiversity Area (CBA) and an Ecological Support Area (ESA). Critical Biodiversity Areas are areas that must remain in good ecological condition to meet biodiversity targets. CBA areas have the following characteristics:

- Ecosystems and species fully or largely intact and undisturbed.
- These are areas with high irreplaceability or low flexibility in terms of meeting biodiversity pattern targets. If the biodiversity features targeted in these areas are lost then targets will not be met.
- These are biodiversity features that are at, or beyond, their limits of acceptable change.

Ecological Support Area are areas that must remain in at least fair ecological condition to meet biodiversity targets, support ecological functioning, or deliver ecosystem services. These mused be maintained in at least a semi-natural state as ecologically functional landscapes that retain basic natural attributes:

- Ecosystem still in a natural, near-natural state or semi-natural state, and has not been previously developed.
- Ecosystems moderately to significantly disturbed but still able to maintain basic functionality.
- Individual species or other biodiversity indicators may be severely disturbed or reduced.

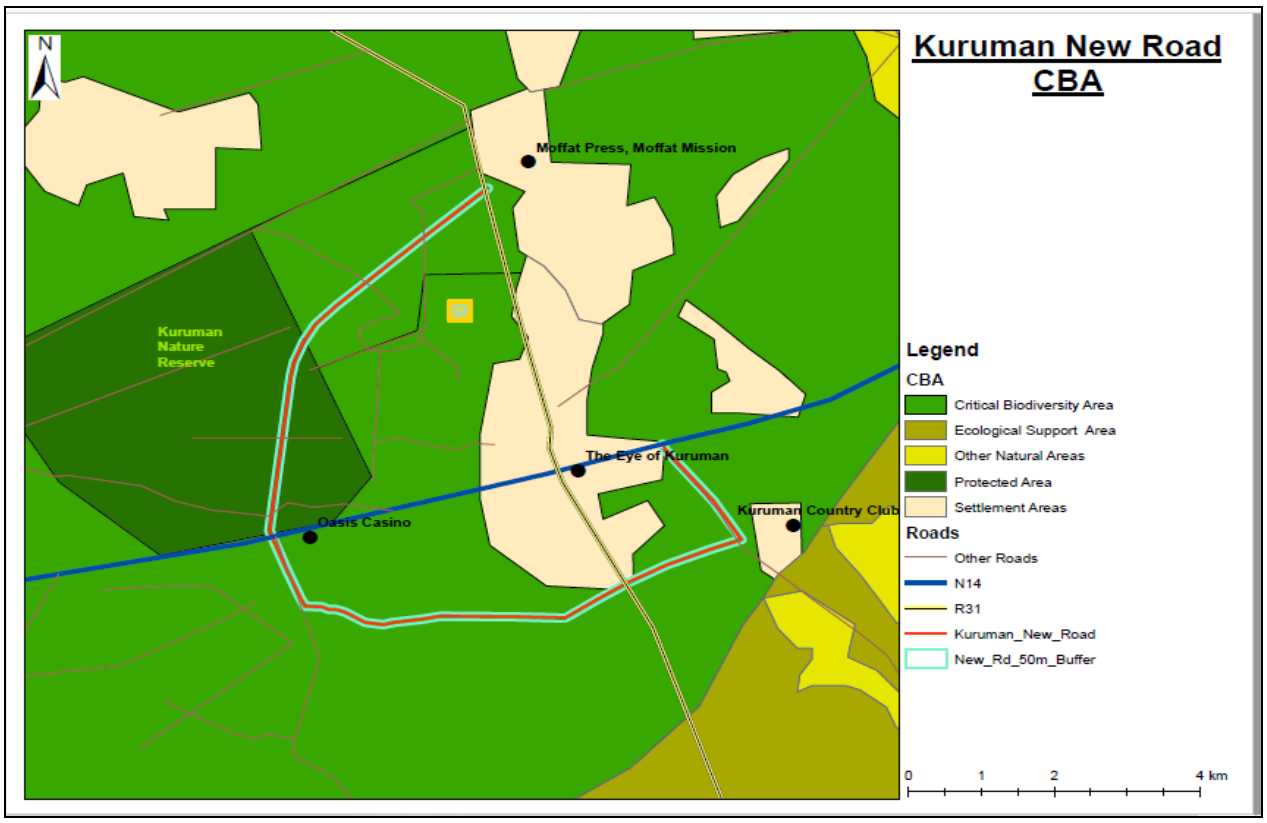


Figure 2: CBA map of the study area

9.1.8. LAND USE

The proposed bypass road will be constructed in a vacant area on the outskirts of Kuruman town. The site is used primarily for agricultural activities including sheep and cattle farming, there are no major activities on the area. The bypass will be constructed within a considerable distance from Kuruman Golf club, Kuruman, WWTW, Eldorado Hotel, Oasis Casino and Kuruman Airfield. The construction of this road will not only relieve the town from the traffic it will also unlock the vacant area for possible industrial and residential use.

9.1.9. SOCIO-ECONOMIC

Socio-economic concerns include residential/business displacement, community disruption, safety/security, and construction disruption. It is difficult at this stage in the process to determine socioeconomic impacts of the proposal. It does not appear that many (if any) residential or business displacements would occur. The community disruption caused by this project would likely be minimal, as one of the primary goals is to provide a complement to the existing downtown business and residential community.

Safety and security will need to be analyzed further as the planning progresses, and construction disruption will be inevitable but minimized as the plans are further developed. Construction of the bypass will potentially unlock the vacant areas on the south, west and northwestern, which will enable the municipality to develop industrial and residential areas.

10. IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

10.1. IMPACT ASSESSMENT METHODOLOGY

According to the DEA IEM Series guideline on "Impact Significance" (2002), there are a number of quantitative and qualitative methods that can be used to identify the significance of impacts resulting from a development. The process of determining impact significance should ideally involve a process of determining the acceptability of a predicted impact to society. Making this process explicit and open to public comment and input would be an improvement of the BA process. Lesekha Consulting approach to determining significance is generally as follows:

- Use of expert opinion by the specialists ("professional judgment"), based on their experience, a site visit and analysis, and use of existing guidelines and strategic planning documents and conservation mapping (e.g. SANBI biodiversity databases);
- Our approach is more a qualitative approach - we do not have a formal matrix calculation of significance as is sometimes done

10.2. SPECIALIST CRITERIA FOR IMPACT ASSESSMENT

The following methodology has been provided by the Lesekha Consulting for incorporation into assessments:

Assessment of Potential Impacts

The assessment of impact significance is based on the following conventions:

Nature of Impact: This review the type of effect that a proposed activity will have on the environment and should include "what will be affected and how?"

Spatial Extent: This should indicate whether the impact will be:

- Site specific;
- Local (<2 km from site);
- Regional (within 30 km of site); or
- National.

Duration: The timeframe during which (lifetime of) the impact will be experienced:

- Temporary (less than 1 year);
- Short term (1 to 6 years);
- Medium term (6 to 15 years);
- Long term (the impact will cease after the operational life of the activity); or
- Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

Intensity - it should be established whether the impact is destructive or innocuous and should be described as either:

- High (severe alteration of natural systems, patterns or processes such that they temporarily or permanently cease),
- Medium (notable alteration of natural systems, patterns or processes; where the environment continues to function but in a modified manner); or
- Low (negligible or no alteration of natural systems, patterns or processes); can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision making.

Probability - this considers the likelihood of the impact occurring and should be described as:

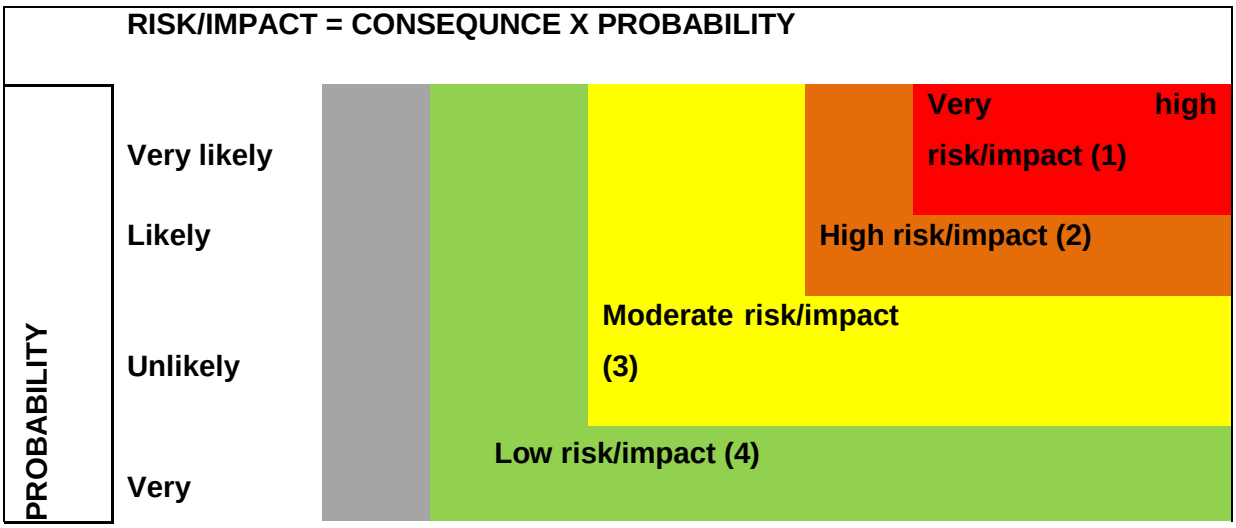
- Improbable (little or no chance of occurring);
- Probable (<50% chance of occurring);
- Highly probable (50 – 90% chance of occurring); or
- Definite (>90% chance of occurring).

Reversibility - this considers the degree to which the adverse environmental impacts are reversible or irreversible. For example, an impact will be described as low should the impact have little chance of being rectified to correct environmental impacts. On the other hand, an impact such as the nuisance factor caused by noise impacts from wind turbines can be highly reversible at the end of the project lifespan. The assessment of the reversibility of potential impacts is based on the following terms:

- **High:** impacts on the environment at the end of the operational life cycle are highly reversible,
- Moderate - impacts on the environment at the end of the operational life cycle are reasonably reversible,
- **Low -** impacts on the environment at the end of the operational life cycle are slightly reversible; or
- **Non-reversible** - impacts on the environment at the end of the operational life cycle are not reversible and are consequently permanent.

Irreplaceability - this review the extent to which an environmental resource is replaceable or irreplaceable. For example, if the proposed project will be undertaken on land that is already transformed and degraded, this will yield a low irreplaceability score; however, should a proposed development destroy unique wetland systems for example, these may be considered irreplaceable and thus be described as high. The assessment of the degree to which the impact causes irreplaceable loss of resources is based on the following terms:

- High irreplaceability of resources (this is the least favourable assessment for the environment),
- Moderate irreplaceability of resources,
- Low irreplaceability of resources; or
- Resources are replaceable (this is the most favourable assessment for the environment.



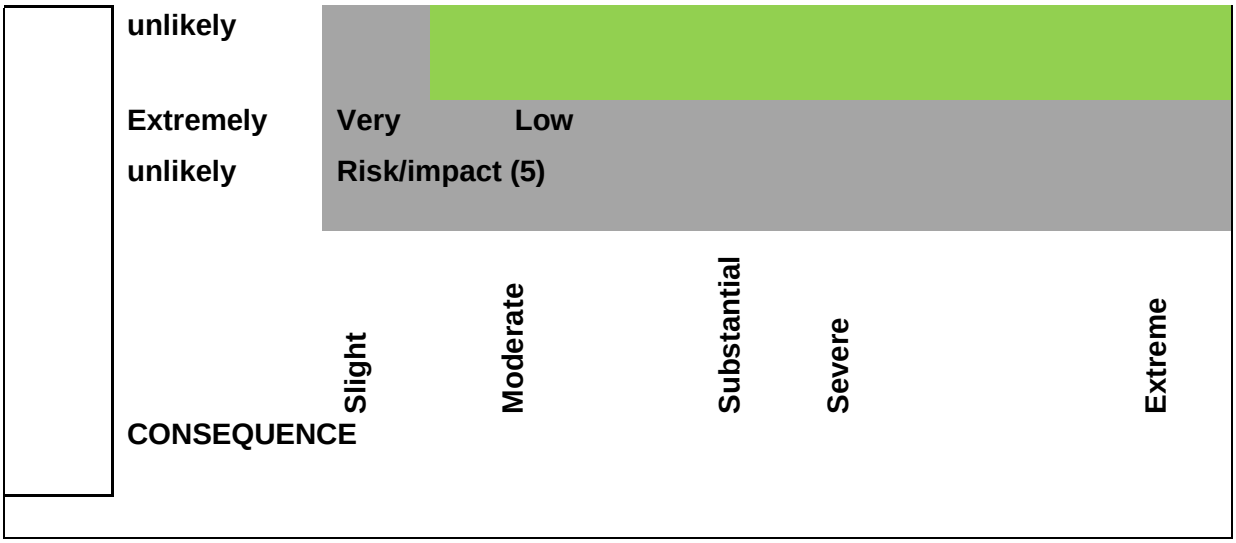


Figure 16: Guide to assessing risk/impact significance because of consequence and Probability.

The status of the impacts and degree of confidence with respect to the assessment of the

Significance is stated as follows:

Status of the impact: A description as to whether the impact will be:

- Positive (environment overall benefits from impact),
- Negative (environment overall adversely affected); or
- Neutral (environment overall not affected).

Degree of confidence in predictions: The degree of confidence in the predictions, based on the availability of information and specialist knowledge. This should be assessed as:

- High
- Medium; or
- Low.

Based on the above considerations, the specialist provides an overall evaluation of the significance of the potential impact, which should be described as follows:

- **Low to very low:** the impact may result in minor alterations of the environment and can be reduced or avoided by implementing the appropriate mitigation measures and will only have an influence on the decision-making if not mitigated.
- **Medium:** the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated; or
- **High:** Where it could have a “no-go” implication for the project unless mitigation or re-design is practically achievable. Furthermore, the following must be considered:
- Impacts should be described both before and after the proposed mitigation and management measures have been implemented.

- All impacts should be evaluated for the construction, operation and decommissioning phases of the project, where relevant.
- The impact evaluation should take into consideration the cumulative effects associated with this and other facilities which are either developed or in the process of being developed in the region, if relevant.

Management Actions:

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance these. Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

Monitoring:

Specialists should recommend monitoring requirements to assess the effectiveness of mitigation actions, indicating what actions are required, by whom, and the timing and frequency thereof.

Cumulative Impact:

Consideration is given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts are evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative, and will be graded as being of negligible, low, medium or high impact.

Mitigation:

The objective of mitigation is to firstly avoid and minimise impacts where possible and where these cannot be completely avoided, to compensate for the negative impacts of the development on the receiving environment and to maximise re-vegetation and rehabilitation of disturbed areas. For each impact identified, appropriate mitigation measures to reduce or otherwise avoid the potentially negative impacts are suggested. All impacts are assessed without mitigation and with the mitigation measures as suggested. Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur because of the construction phase for the various alternatives of the proposed

development. This must include an assessment of the significance of all impacts. Feasible site alternatives (i.e. location and property alternatives) do not exist for the proposed project. The No-Go alternative will be considered.

10.3. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES.

List the potential direct, indirect and cumulative property/activity/design/ technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

10.3.1. IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
Disturbance of the normal routine and loss of social cultural values	Local	Planning (short term)	High	High	A signboard must be placed in areas where demolition and construction activities will take place. Pedestrian conflict with site access and construction vehicles to be managed. Contractors must ensure that any damage to the pedestrian walkway or holding areas are repaired by attending to any damages (e.g. road signs or stormwater damage etc.) as soon as these develop. All neighboring landowners and those that are disturbed due to construction activities must be notified of construction activities	Low	Low

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
					and provided with regular feedback on the status of construction. The Contractor and the steering committee must appointment of local labour and to reduce labour disputes.		
Pollution of the non perennial stream.	Local	Planning (short term)	High	High	No development should take place within 50m from the banks of the stream. The stream must be delineated to protect it from pollution. No riparian vegetation must be cleared	Low	Low
INFRASTRUCTURE AND SERVICES							
Alignments that would interfere with existing Infrastructure and services..	Local	Planning /Design phase (short term)	High	High	Power lines were identified in Section 2 and 3 of the roads, a 9meter buffer should be considered from a 15kv line and	Low	Low

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
					21m buffer from a 132kv power line. Consultation with affected service providers regarding impacts on access to infrastructure and services and alternatives must be done.		
Compliance with Environmental Legislation, guidelines, by laws and other applicable policies	Local	Planning Phase	High	High	The planning and design of the , must consider, and comply with all relevant environmental legislation and policies as detailed in of this report. Before the commencement of the construction activity the following Authorization must be acquired. Environmental Authorisation. Water Use License. Mining Permit. Permit to remove protected trees and indigenous trees	Low	Low

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
Access to the National Road.	Local	Planning phase	High	High	SANRAL and the Department of Public Works and roads must be consulted and to give consent of connecting the road to N14 and R31 to the Municipality. This consent letter must be obtained prior to the construction commencing to avoid ceasing of the activities.	Low	Low
Stormwater	Local	Planning	High	High	The storm water Infrastructure as per the layout is planned in such a way that it is able to take increased storm water runoff into consideration. Storm water diversion measures such as ponding pools are recommended to control peak flows during thunderstorms. Areas of ecological value such as wetlands, downstream of the site, could be sensitive to any	Low	Low

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
					alteration of localised drainage patterns. The introduction of roads and impermeable areas of hard standing could increase rates of run-off and therefore the risk of localized flooding and contamination.		
Setting up the construction camp	Local	Planning (short term)	High	High	• If there are already building structures on the site, one must be used to house the site office to avoid new disturbances. The area used for site camp including laydown areas must be kept neat at all times • Temporary chemical toilets must be provided for the employees. • A service plan for the maintenance of the toilets must	Low	Low

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
					be provided by the Contractor and is to be approved by the Engineer and ECO to ensure toilets are properly serviced and hygienic. • Bins must be provided at convenient intervals for the disposal of waste within the camp. The bins must be covered. Bins should have liner bags for efficient and safe disposal of waste. • Recycling and the provision of separate waste receptacles for different types of waste should be encouraged. Where possible, plastics, paper, glass and cans should be separated from other domestic waste for recycling. If waste is to be recycled, appropriately		

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANNING PHASE							
Nature of Impact (potential)	**Extent of Impact**	**Duration of Impact**	**Probability before mitigation**	**Mitigatory Potential**	**Mitigation measure**	**Probability after mitigation**	**Significance after mitigation**
					labelled waste receptacles must be made available.		
Appointment of irrelevant people who might fail to meet the set objectives for the proposed project.	Local	Planning (short term)	High	High	The project managers together with the appointed professionals will ensure that the correct planning has been put into place by appointing all relevant expects to tackle different tasks involved in the proposed project.	Low	Low

10.3.2. PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

6.1. DESCRIPTION OF IMPACT MANAGEMENT: CONSTRUCTION PHASE

10.3.3. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided.	Can impact be managed or mitigated?	Potential mitigation	risk Significance	Ranking
ACCESS TO SITE												
Access to site	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The contractor must ensure that the access roads leading to the construction are in good conditions.	Very Low	5
GEOLOGY AND SOILS												
Destabilisation of surface geology because of excavations. Potential erosion, degradation, and loss of topsoil due	local	Short term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	All site disturbances must be limited to the areas where structures will be constructed. Cleared areas are effectively stabilised to prevent and control erosion. Excess rocks and boulders that are excavated from	Moderate	3

to construction activities as well as stormwater runoff.										the site can be used for erosion protection work on site. Suitable excavated material is to be stockpiled next to excavations for use as backfill. Excess material because of excavation and construction rubble must be removed, and appropriately disposed of. Areas susceptible to erosion must be protected by installing the necessary temporary and/or permanent protective materials. Any tunnels or erosion channels developing during the construction period shall be backfilled and compacted, and affected areas restored to proper conditions. Soil stockpiling areas must be sufficiently situated away from the drainage areas.		
SOIL EROSION AND POLLUTION												

Erosion of stockpiled material (sand and steel etc).	Local	Short-term	likely	moderate	Very low	High	Low	Yes	Yes	Material must be stockpiled in such a way that it cannot fall or cause injury or damage to properties or the natural environment. Stockpiles must not exceed 2m in height and must be covered if exposed to heavy wind or rain. Alternatively, low walls or berms must be constructed around the stockpiles. On completion of the construction all exposed soil must be re-vegetated, preferably with indigenous vegetation. Implementation of erosion control measures is essential.	Very low	5
Topography												
Alteration of topography due to excavations, stockpiling of soil, building material, debris, and waste	Local	Short-term	likely	Slightly	Very low	High	Low	Yes	Yes	Limit excavations to areas required for construction purposes. Avoid placing of stockpiles and other services on areas likely to pose obtrusive visual impact. Precautionary	Very low	5

material on site.										measures and design from the engineer must be implemented vegetation of re-profiled slopes; Temporary stabilisation of slopes using geotextiles; and Installation of gabions and re no mattresses.		
GROUND ANDSURFACE WATER												
Pollution or Contamination of surface and groundwater due to excavations, spillages, leakage, incorrect storage, and handling of chemicals, oils, lubricants, cement, fuels and other hazardous materials. Erosion of the banks and wetland/water	Local	Short term	Likely	Moderate	Very low	Moderate	Moderate	Yes	Yes	Adequate stormwater drainage must be constructed. Stormwater drains are to be located and covered with metal grids to prevent blockages. All hazardous substances must be stored on an impervious surface in a designated bunded area able to contain 110% of the total volume of materials stored at any given time. All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the	Moderate	3

courses pollution.										contractor lay-down areas or without precautionary measures implemented. Ensure the establishment of stormwater diversion berms around the contractor lay down area and other potential contaminated areas (e.g. diesel storage tanks or refuelling station). Care must be taken to ensure that no contaminated water from the construction site enters the natural watercourse. Preventative measures including establishing sumps from where contaminated water can be either treated in situ or removed to an appropriate waste site. Excess or spilled concrete must be confined within the works area and then removed to a waste site.		

										Stream banks stabilization and prevention of further erosion to be implemented.		
STORM WATER AND DRAINAGE SYSTEMS												
Poor storm water Management during construction can lead to erosion and loss of soil.	Local	Short term	Likely	Slight	Very low	High	Low	Yes	Yes	Storm water control must be implemented during construction; however, this is a temporary impact of the proposal. A drainage system must be established for the construction camp. Contaminated stormwater must not be allowed to enter the river. The drainage system must be regularly checked to ensure an unobstructed water flow. To reduce erosion and loss of soil/slit during rain, slit traps should be used on slopes and areas that are likely to erode during development. Storm water drainage systems must be able to control the volume, speed and location of	Very Low	5

										runoff expected. The site surface must be engineered and shaped in such a way that rapid and efficient evacuation of runoff is achieved. Improve existing alignments and drainage systems. Provide containment areas for potential pollutants at construction camps, refuelling depots, asphalt plants and concrete batching plants. Appropriate waste management practices must be implemented during construction. The transport, storage, handling, and disposal of hazardous substances must be adequately controlled and managed. If vegetation is to be removed, it must be done in phases to ensure that a minimum area of soil is exposed to potential erosion at any one time. Storm-		

										water outfalls must be designed to reduce flow velocity and avoid stream bank and soil erosion. Disturbed surfaces must be re-vegetated immediately after completion of construction activities in each area.		
POLLUTION OF SURFACE AND GROUNDWATER												
Pollution or Contamination of surface and groundwater due to excavations, spillages, leakage, incorrect storage and handling of chemicals, oils, lubricants, cement, fuels, and other hazardous materials.	Local	Short term	Likely	Moderate	Very low	Moderate	Moderate	Yes	Yes	Adequate stormwater drainage must be constructed. Stormwater drains are to be located and covered with metal grids to prevent blockages. All hazardous substances must be stored on an impervious surface in a designated bunded area able to contain 110% of the total volume of materials stored at any given time. All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs	Very low	4

										may be undertaken beyond the contractor lay-down areas or without precautionary measures implemented. Ensure the establishment of stormwater diversion berms around the contractor lay down area and other potential contaminated areas (e.g. diesel storage tanks or refuelling station). Care must be taken to ensure that no contaminated water from the construction site enters the natural watercourse. Preventative measures including establishing sumps from where contaminated water can be either treated in situ or removed to an appropriate waste site. Excess or spilled concrete must be confined within the works area and then removed to a waste		

										site. Stream banks stabilization and prevention of further erosion to be implemented. Enforcement and adherence to speed limits on onsite roads to prevent the liberation of dust. Dust suppression measures including regular application of water must be implemented. Water used for this purpose must be used in quantities that will not result in the generation of run-off. All site workers to wear PPE to avoid any exposure to contaminated dust particles.		
Pollution or Contamination of surface and groundwater due to excavations, spillages, leakage, incorrect storage	Local	Short term	Likely	High	Moderate	Moderate	Yes	Yes	Yes	Adequate stormwater drainage should be constructed. Stormwater culverts and drains are to be located and covered with metal grids to prevent blockages. All hazardous substances must	Low	4

and handling of chemicals, oils, lubricants, cement, fuels and other hazardous materials. Erosion of the banks and wetland/water courses pollution.										be stored on an impervious surface in a designated bunded area able to contain 110% of the total volume of materials stored at any given time. All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor lay-down areas or without precautionary measures implemented. Ensure the establishment of stormwater diversion berms around the contractor lay down area and other potential contaminated areas (e.g. diesel storage tanks or refuelling station). Care must be taken to ensure that no contaminated water from the construction site enters the		

										natural watercourse. Preventative measures including establishing sumps from where contaminated water can be either treated in situ or removed to an appropriate waste site. Excess or spilled concrete should be confined within the works area and then removed to a waste site. Stream banks stabilization and prevention of further erosion to be implemented.		
Erosion and sedimentation impacts are linked to alterations in hydrological regimes because of increased storm water flood peaks and altered terrestrial surfaces in the catchment	Local	Short term	Very likely	Severe	High	Low	Moderate	Yes	Yes	Increases in peak discharge may significantly increase stream power, thereby increasing the risk of erosion (localised scouring and incision) and resultant sedimentation of watercourses. Local site factors such as soil erodibility, vegetation cover, gradient of local slopes and regional rainfall/runoff intensity will affect the probability and	Low	5

area of wetlands/rivers										intensity of erosion impacts. Typical results of erosion & sedimentation on water resources may include: - Locally increased channel slopes. - Loss of in-stream biotope diversity due to scouring or blanketing of sites with sediment. - Localised scouring at stormwater discharge points into watercourses. - Lowering of the local water table and subsequent desiccation of adjacent wetland and riparian areas. No development should be done within 50m from the edge of the river.		
IMPACT ON FLORA												
Site clearing for construction activities leading to loss of species	Local	Short term	Very likely	Severe	High	Low	Moderate	Yes	Yes	Conduct a search and rescue operation for all conservation important plants on the site. This operation must be conducted	Low	4

diversity and habitat characteristics.										during the summer period when vegetative and reproductive growth is evident; Appoint an Environmental Control Officer (ECO) prior to commencement of construction phase. Responsibilities must include, but not necessarily be limited to, ensuring adherence to EMPr guidelines, guidance of activities, planning, reporting to authorities, etc.; Compile and implement environmental monitoring programme, the aim of which must be ensuring long-term success of rehabilitation and prevention of environmental degradation. Limit site clearing to those areas required for construction at a time.		
IMPACT ON FAUNA												

Loss of agricultural land	Local	Short term	Very likely	Slight	Medium	High	low	Yes	Yes	Due to the establishment of the informal settlement on the greater part of the site this impact is insignificant. Alternative grazing areas must be established.	Very low	5
ALIEN VEGETATION												
Risk of alien invasive Encroachment into disturbed areas.	Local	Short term	Very likely	Slight	Medium	High	low	Yes	Yes	At present, a few alien species were identified however it must be controlled during construction, if it will be found. The establishment or spread of alien plant species on site must be monitored and the correct removal and disposal of alien plant species must be followed. Rehabilitation of disturbed areas must commence as soon as construction activities are completed in those areas.	Low	4
REMOVAL OF ENDANGEREDVEGETATION												
Removal of endangered Vegetation	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	There are no protected areas, no irreplaceable areas, and no reserved areas on site or in the	Very Low	5

										immediate vicinity of the site. No evidence of faunal species was observed during the site visit. It is expected that there is a very low probability of finding any red-data species on the site as the adjacent sites are already occupied by the existing housing and the proposed site is in a high-density urban area. Disturbance of indigenous fauna and flora, and the natural ecology in the surrounding areas must be avoided where possible. Gathering of firewood, fruit, medicinal plants, crops or any other natural material or the collecting of animals on site or in areas adjacent to the site is not allowed.		
WASTE MANAGEMENT												
Improper storage and disposal of	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Due to the nature of the activity, waste is anticipated to be	Low	4

solid waste										minimal. All solid waste generated during the construction process must be placed in a designated waste collection area within the site camp and must not be allowed to blow around the site, be accessible by animals, or be placed in piles adjacent to the skips/bins. All solid waste must then be disposed of at the nearest licensed landfill and safe disposal certificates must be always obtained and kept on site during construction. Separate skips/ bins for the different waste streams must be available on site. The waste containers must be appropriate to the waste type contained therein and where necessary must be lined and covered. This must be monitored by the ECO. Littering is not permitted on the		

										site and general housekeeping must be enforced. General waste bins must be readily available for litter disposal and general housekeeping. The EMPr must be followed during construction. All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. All excess material and rubble must go to an approved designated landfill and a safe disposal certificate must be obtained. Site workers will be trained in avoiding such impacts during induction training and regular toolbox talks.		
Littering around the site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Littering is not permitted on the site and general housekeeping must be enforced. General waste bins must be readily available for litter disposal and general housekeeping. The EMPr must	Low	4

										be followed during construction.		
Improper disposal of rubble i.e. burying or Neglecting building rubble resulting in direct Mechanical damage to Surrounding vegetation and untidiness of the site	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. All excess material and rubble must go to an approved designated landfill and a safe disposal certificate must be obtained. Site workers will be trained in avoiding such impacts during induction training and regular toolbox talks.	Very Low	5
Improper disposal of toilet waste from chemical toilets resulting in contamination of the surrounding environment	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Toilet facilities must be provided for all staff members as standard construction practice. These toilets must be regularly cleaned by a reputable company and maintained in a clean state. This must be monitored in an EMPr.	Low	4
Increase waste to Landfill site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Due to the nature of the activity, waste is anticipated to be minimal. Where possible, waste	Low	4

										streams will be separated and recycled to limit the amount of waste being added to the landfill site.		
Hazardous Substances & Materials (*Those hazardous substances and materials which are potentially poisonous, flammable, carcinogenic or toxic. These could include: Diesel, petroleum, oil, bituminous products. Cement, Solvent based paints, Lubricants, Explosives, Drilling fluids. Pesticides,*	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Hazardous storage and refuelling areas must be underlain with an impermeable liner to protect groundwater quality. If applicable; fuel tanks must meet relevant specifications and must be elevated so that leaks may be detected easily. Storage areas containing hazardous substances and materials must be clearly signed. If applicable; Staff dealing with these Materials and substances must be aware of their potential impacts and follow the appropriate safety measures. Handling, storage and disposal of potential hazardous materials, residues or their containers must be in accordance with DWS's	Low	4

herbicides. Liquid petroleum gas										requirements and specifications. Scheduled hazardous waste such as bitumen, tar, oils, etc., must be disposed of at approved facilities.		
Hazardous Areas due to Construction Activities	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Potentially hazardous areas such as trenches are to be demarcated clearly marked so that warning about these areas is visible during the day and night.		
Handling of Hazardous Materials	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	No vehicles transporting, placing or compacting asphalt or any other bituminous product may be washed on site. Powders, e.g. lime, must not be mixed during excessively windy conditions. All concrete mixing must take place on a designated, impermeable surface. No vehicles transporting concrete to Construction site may be washed on site. Hazardous substances and materials are to be transported in sealed containers or bags.	Low	4

NOISE POLLUTION												
Noise generated by construction workers, machinery and construction vehicles Disturbing surrounding residents.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Excessive noise must be controlled on site to avoid scaring of animals. Workers will be trained regarding noise generation on site and construction hours will be kept to working hours (07h00 to 17h00). The construction activities will be monitored by an ECO who will ensure compliance with the construction EMPr. All precautions must be taken to ensure that noise generation is kept to a minimum. If excessive noise is expected during certain stages of the construction, nearby residents must be notified prior to the event. All equipment and activities to comply with noise regulations. Adherence to Occupational Health and Safety Act.	Very Low	5

										Ear protection for workers that may be affected by noise.		
VISUAL IMPACT												
Visibility of dust, waste pollution and construction activities from surrounding roads and properties.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Apply dust control measures diligently, especially on provincial roads. Apply recommendations of specialist regarding colour and construction of site structures during the Construction Phase. Indigenous plants or trees must be retained where appropriate to provide screens to make the construction site less visually intrusive. Lighting on site is to be sufficient for safety and security purposes but shall not be intrusive to neighbouring residents. Part of the site is currently occupied by informal settlements and the other part is still vacant. The proposed development may	Low	4

										improve the appearance of the area which will become more visually appealing. During the construction phase, the inadequate storage of material, equipment and waste may result a potential visual impact.		
AIR QUALITY												
Dust pollution on site which would affect adjacent developments because of construction activities and vehicles on site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The only emissions that will be generated will be from construction vehicles which will be minimal and is not expected to significantly affect the surrounding communities or the environment. Enforcement and adherence to speed limits on onsite roads to Prevent the liberation of dust. Dust suppression measures including regular application of water must be implemented. Water used for this purpose must	Moderate	3

										be used in quantities that will not result in the generation of run-off. All site workers to wear PPE to avoid any exposure to contaminated dust particles.		
Dust generated from construction vehicles and other onsite activity.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Dust control measures (the use of a water cart / truck) must be used to wet exposed soil and thereby ensure that excessive dust levels are not experienced on site. The dust levels must be kept below the required SANBS standard to ensure minimal impact on the surrounding community and the environment. Areas that have been stripped of vegetation, existing exposed soil surface and sandy access route must be dampened regularly to avoid excessive dust, particularly during dry and windy conditions. The time that stripped areas are left open to exposure must be	Low	4

										minimized wherever possible. Maintenance of existing vegetation helps control dust and prevents soil erosion. The ECO can order areas of vegetation to be fenced off during construction that remain out of bounds. Construction vehicles must adhere to speed limit to avoid creating excessive dust. A speed limit of 30km/hr must be adhered to on all dirt roads. Contractor must provide appropriate arrangement for cooking and for heating requirements open fires not allowed. Spoil dumps need to be implemented Ensure that building type and design will be compactable to future planned adjacent developments		
SOCIO-ECONOMIC IMPACTS												

Potential temporary Employment during the Construction phase	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Positive impact Jobs will be created in the development phase and must be optimized during the implementation stages to contribute towards longer term economic sustainability in the project area. Anticipated benefit also includes skill transfer and enhancement. Various ad hoc works may arise during the construction phase and a plan must be developed for obtaining the services of local skills and people where possible. The development will enhance economic opportunities for vulnerable communities. Unskilled labour, such as earth works and establishment, might be sourced from the neighbouring community. Depending on the skills levels required, it is believed that different skills levels	Very Low	5

										will have differently structured salary packages, thereby creating lower income to higher income opportunities. It is believed that most of the employment opportunities would be restricted to the construction phase. The required skills might not be available in the local area, which means that the appropriate skills might have to be “imported", thereby causing a reduction in the job and income opportunities available to local.		
Various biophysical and sociological impacts due to poor staff conduct of contractor Staff Conduct on Site Social Environment &	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The contractor/developer must always ensure proper supervision of employees. Staffs needs to be made aware of the following general rules which must be always followed. No alcohol or drugs are to be present on site. No firearms are allowed on site or in vehicles transporting staff	Low	4

Affected Parties (I&APs).										to/from site, unless used by security personnel. Prevent excessive noise. No harvesting of firewood from the site or from the areas adjacent to it.		
HEALTH AND SAFETY												
Safety during construction is very trenches & excavation must not be left unbaricaded.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Excavations and open trenches during construction could act as a trap for children, reptiles and animals. Pro-active measures which include the placement and covering of pipelines portion by portion will be done, no excavation areas may be left overnight, as well as the placement of danger tape around open ditches.	Very Low	5
Health Impacts. Temporary accommodation of workers during construction phase would lead to the	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Health because of possibility of single men engaging in relations with local women, this could lead the increased risk of STD's, HIV and AIDS as well as unwanted pregnancies resulting in	Very Low	5

influx of job seekers to the area. Temporary workers combined with influx of unsuccessful job seekers can have several social impacts.										fatherless children. A potential increase in criminal and other illegal activities cannot be excluded. Contractors to procure products and services locally as far as possible. To mitigate the above-mentioned impacts local laboures will be hired, and there would be HIV awareness induction to educate labourers about safe sex practices. Influx of people not residing in Mbeki Sun looking for employment can be mitigated by requesting information from the project proponent on the construction process and the likely profile of a typical construction worker. Conduct a desk top study to determine the health profile of the area, including typical indicators such as HIV prevalence, etc. Interviews with municipal officials		

										and other authority figures (such as the South African Police Service) to determine the current extent of social problems in the area and initiatives to combat them.		
SECURITY												
Increase in crime in the area and increase in squatters on vacant land. -Migration of job seekers into the area in search of employment	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Proper management and planning. A limited number of workers along with security guards will be allowed to sleep on site, however within a cordoned-off secure area. All staff will carry identification, access control will be enforced and the site will be swept and a search will be done each night. The development will have 24-hour access control and security. If necessary, a Community Liaison Officer can be appointed. The CLO (Community Liaison Officer) to be consulted regarding employment	Low	4

										of members of the surrounding communities		
FIRE												
Uncontrolled fires from cooking and Veld fires	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	A designated area shall be assigned for fire making for the construction workers to prevent run-away veld fires do not occur.	Very Low	5
TRAFFIC												
Increase in construction traffic	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The access of large trucks will be investigated to provide a suitable access route that does not become a nuisance to existing residents. Construction vehicles and activities must aim to avoid peak hour traffic times (weekdays 7-8am and 5-6pm). Establish an all-weather site access and wheel wash or shakedown to prevent soil and materials from being trekked onto the road.	Very Low	5
HOUSEKEEPING AND MAINTENANCE												
Housekeeping Establishment and	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Storage areas of all the building materials and equipment. must	Very Low	5

maintenance of storage areas.										be designed, demarcated and fenced if necessary. Location of storage areas must consider prevailing winds, distance to water bodies, boreholes and on-site topography. Storage areas must be secure and be safe from access by children and animals. Fire prevention facilities must be present at all storage facilities. Contractors/Developer must ensure that storage facilities are cleaned and maintained regularly and that leaking containers are disposed of without spillage onto the soil		

7. IMPACT MANAGEMENT OUTCOMES

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE
1.Site rehabilitation and earthworks	Dust	Air quality	Construction	When there are visible clouds of dust on the construction site boundary, dust must be spurred by watering the area. All haul roads (only those being used at the time) will be watered with a water cart daily, with the exception of days when the roads are already wet as a result of rain. A speed limit of 30km/h will be enforced on all unpaved roads.
	Presence of equipment being unsightly	Visual	Construction	Implement good housekeeping practices, e.g. All raw materials must be stored in the designated areas. All waste generated must be disposed of as described below under Waste Management.
	The rubble dumps will make the land unavailable for other uses	Land use	Construction	Implement concurrent rehabilitation so that the land can be used for other purposes.

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE
	The presence of equipment and resources such as fuel at the site may attract would be thieves. Job seekers attracted to the area for job opportunities that may not be available and may resort to crime.	Crime and security	Construction	The entire construction area will be fenced with equipment and resources being contained within. 24 hour security will be available at the site.
	Those impacts associated with the behaviour of vehicles off-site. Potential impact that traffic has on the roads in the vicinity of site.	Social / traffic	Construction	No overloaded vehicles will be allowed to leave the site. Complaints regarding bad driving will be taken up directly with the drivers to increase awareness of the potential negative implications of bad driving. Any vehicle arriving to collect product, that is noted to be releasing unacceptable pollution (i.e. clouds of exhaust fumes or leaking oil), will not be allowed on-site. The driver will be informed of the reason the vehicle is being denied access and will not be allowed on-site until the necessary repairs have been undertaken.

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE
	Destruction of a cultural / heritage artefact	Cultural / heritage	Construction	If any evidence of archaeological sites or unmarked human burials are found during construction activities, the South African Heritage Resources Agency (SAHRA) must be alerted immediately, and an accredited professional archaeologist must be called in to inspect the findings and compile a report on the findings and be submitted to SAHRA for further decision making on this matter. During this time all construction activities must be stopped.
	Hydrocarbon spills and other contaminants infiltrating the groundwater	Ground Water	Construction	As and when spills occur, all contaminated material must be lifted and stored in containers that do not leak (the type of container will be determine by the volume of contaminated material to be stored). Dispose of contaminated material by one of the following methods: - Transportation to a bioremediation site. OR - Disposed as hazardous waste. Keep a record of the collection and disposal, ensuring the following documentation is obtained: - The bioremediation facility provides proof of acceptance and treatment. - The hazardous waste disposal company provides proof of

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE
				disposal at a suitably licensed
	Noise generated from vehicle / equipment operations	Noise nuisance		Operating hours will be restricted to daylight hours (8am to 5pm) only (Monday to Friday). Only maintenance activities may be undertaken on Sundays

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE
	Pollution from hydrocarbon spills, Erosion	Soil	Construction	If erosion is identified on the site, the following corrective action must be taken: Repair erosion (fill the gully), Identify the cause of erosion (e.g. source of fast water flow), Undertake appropriate remediation to avoid further erosion, i.e. divert the flow of storm water away from the affected area. As and when spills occur, all contaminated material must be lifted and stored in containers that do not leak (the type of container will be determine by the volume of contaminated material to be stored). Dispose of contaminated material by one of the following methods: - Transportation to a bioremediation site. OR - Disposed as hazardous waste. Keep a record of the collection and disposal, ensuring the following documentation is obtained: - The bioremediation facility provides proof of acceptance and treatment. - The hazardous waste disposal company provides proof of disposal at a suitably licensed facility
	Alteration of surface water flow by changing the current topography -	Surface water	Construction	Ensure that activities undertaken on site comply with the requirements of GN 704

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE
	Hydrocarbon pollution from construction equipment / maintenance activities			Ensure the separation of clean and dirty water areas. - Divert “clean” storm water away from the construction area via trenches / berms / diversions channels (suitable to influence the natural flow of run-off). - All stormwater structures will be inspected, on a monthly basis, for damage and necessary repairs implemented within 5 days. As and when spills occur, all contaminated material must be lifted and stored in containers that do not leak (the type of container will be determine by the volume of contaminated material to be stored). Dispose of contaminated material by one of the following methods: - Transportation to a bioremediation site. OR - Disposed as hazardous waste. Keep a record of the collection and disposal, ensuring the following documentation is obtained: - The bioremediation facility provides proof of acceptance and treatment. - The hazardous waste disposal company provides proof of disposal at a suitably licensed facility.

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE

11. ENVIRONMENTAL IMPACT STATEMENT

11.1. SUMMARY OF THE KEY FINDINGS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The proposed site for the construction of the N14/R31 bypass road in Kuruman is predominantly undisturbed vacant space, with a few Municipal grazing grazing farms. A large area of the proposed construction site is dominated by highly dense indigenous vegetation which include protected trees. The road will be crossing through a non-perennial stream and it will be the banks will be impeded during the construction of the culvert/bridge.

The potential impacts associated with the activities of the proposed development include the following:

11.1.1. Noise generation

Noise generation will emanate from the construction vehicle and the equipment's that will be used in the project. All reasonable measures need to be implemented to minimise noise levels to the nearby residents throughout the construction phase of the project. The development will be done within considerable distance from the outskirts of Kuman town. Only residence and business within the close proximity will be affected by the proposed construction, however the with the mitigation measures in place the impact will be minimal.

11.1.2. Air quality and dust emission

The project does not pose air quality impacts to the area and the neighbouring communities. The clearing and preparation for the construction there will be dust emissions from the activities. Air quality emissions will also include emission from the construction vehicles and machinery that will be used during the construction. The vehicles and machinery should be serviced to ensure that they do not have emissions that may have impact on the air quality of the area. Air quality emissions will be of low to very low significance. The recommended mitigation measures in this report should reduce the potential for these impacts on the ambient air quality.

11.1.3. Topography and Visual Alteration

Storage of material and equipment on site, vehicular activities, stockpiling of topsoil and buildings will alter the visual environment in the area. The impacts will be of moderate to low significance at the different phases and activities of the project. Change of sight to the sense of sight will not change, but will be better once the bypass road is constructed and the vacant has been unlocked for possible industrial, residential and other purposes. All reasonable measures need to be implemented to minimise and limit these impacts where

possible, incorporating the recommended mitigation measures of the specialists included in this report.

11.1.4. Soil erosion

Construction activities on site will result in exposed soil, which could result in soil erosion. Erosion can lead to destruction of natural habitats and sedimentation of nearby watercourses. This impact will have a low probability of occurrence with implemented mitigation measures and ultimately low impact.

11.1.5. Soil and water resources contamination

General road construction activities will be done for the proposed development. The potential impact of soil contamination will arise throughout the construction phase of the area. These contaminations will include fuels spillages , waste material on site, seepage of wastewater, spills etc. These possible contaminants need to be managed and prevented through an effective Emergency Response Plan and Stormwater Management Plan, as well as the development of an appropriate Groundwater Monitoring Plan to reduce the significance of these impacts.

11.1.6. Loss of vegetation and faunal habitat

A portion of the bypass road ill be constructed on an area that is not disturmed dominated by indigenous vegetation including protected trees. Vegetation loss should be avoided during the activities of the proposed development since. Recommended mitigation measures described in the assessment must be adhered to in order to reduce the impacts from moderate to low and special care must be taken to manage any species of special concern. Protected species should only be remove where it is only required.

11.1.7. Destruction of features of heritage importance

According to the Heritage study conducted the area I not critical. No heritage resources were observed within the close proximity to the proposed site of construction. If there are any heritage resources (palaeontology, possible archaeology and the cultural landscape) that will be encountered during the construction of the proposed development would be impacted when the site is cleared and then excavated. The impacts would be direct but of very low significance. It is recommended that the Environmental Control Officer (ECO) and staff must be made aware of the possibility of uncovering fossils such as wood in the gravels and large stromatolites in the dolomite bedrock. With this plan in place the significance of impacts would be reduced from low to very low.

11.1.8. Groundwater quantity and quality

It is expected that environmental impacts on groundwater will occur as result of potential manure and wash water being on site. The significance is expected to be of low significance and thus low risk of groundwater contamination on a local scale. Monitoring and the implementation of the recommended mitigation measures can reduce the potential hydrogeological impacts to the environment.

11.1.9. Surface water

There is a nonperennial stream that the proposed bypass will cross over. Since the stream is non perennial the contamination if the surface water system will be attenuated as there is no water flowing at most time. Construction within the proximity of the river should be lifted to dry season minimal possibilities of rain. Any spillage or chemical contamination within of close to the stream must be removed. Surface water impacts are therefore considered very low risk.

11.1.10. Land capability reduction

Removal of soil for excavation and site preparation during the construction and operation phase will impact the land capability in that it will prevent the support of vegetation growth thereof. The removed soil must be stockpiled and managed correctly to minimise this impact. Soil replacement during rehabilitation has the potential to impact on the land capability as it will support the growth of vegetation.

11.1.11. Establishment and spread of alien plant species

Alien invasive plants were identified within the proposed site of construction, on the other hand these plans are expected to colonise further once the area is disturbed. Alien invasive plant is, however with the implementation of mitigation measures this impact can be reduced from moderate to low. This must be mitigated through the establishment of an alien invasive management plan to ensure the establishment of indigenous vegetation.

11.1.12. Socio-economic

Based on the environmental assessment presented in this report it is the conclusion of this Basic Assessment that the proposed project will have relatively low impacts on the environment. With effective implementation management and mitigation measures, as well as recommended monitoring plans suggested in this report and those of the specialists, the potential environmental impacts reduced to low-very low. There will be potential impacts on vegetation and habitat, groundwater, soil, dust, air quality and visual environment as a result of earthworks associated with the activity, influx and movement of vehicles, infrastructure, waste and waste water generated by the project as a whole. The Environmental Management Programme supporting this BA outlines adequate methods and mitigation

measures that need to be implemented in order for the identified impacts to not pose any environmental flaws associated with the proposed development.

Assuming all phases of the project adhere to the conditions stated in the EMPr it is believed that the impacts associated with the proposed construction will have limited to no significant, adverse, long term environmental impact on the surrounding environment.
Positive impacts associated with construction include:

- Local economic growth and development;
- Employment opportunities and skills development; and

It is perceived that these impacts will be long term and have sustainable benefits. It must be ensured that the construction phase, in no way, hampers the health of any of the ecological systems, and that post-construction rehabilitation leaves the surrounding environments in an as good, if not better, state. After the construction phase of the project, the contractors must ensure that all hazardous materials are removed from the site.

11.2. PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR;

Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.

The EMPr addresses the environmental impacts associated with the project during Construction, Operation, Decommissioning and Post Closure Phases of the proposed project. The objectives of the EMPr will be to provide detailed information that will advise the planning design of the formalised settlement to avoid and/or reduce impacts that may be detrimental to the environment. The following environmental management objectives are recommended for the proposed development to construct the N14/R31 bypass road in in Kuruman:

- Alien plant monitoring must take place after construction and during the construction of the low cost houses and part of formalising the area..
- Development planning must restrict the area of impact to a minimum and designated areas only.
- Monitor and prevent contamination and undertake appropriate remedial actions.
- Limit the visual and noise impact on receptors.
- Avoid impact on possible heritage finds.

- Promote health and safety of workers.
- Limit dust and other emissions to within allowable limits.
- Manage soils to prevent erosion.
- Avoid any activities that will result in contamination to the Hex river.

11.3. ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

Any aspects which must be made conditions of the Environmental Authorisation
The following aspects as recommended by the EAP are emphasised to be included as conditions in the Environmental Authorisation:

In order to achieve appropriate environmental management standards and ensure that the findings of the environmental studies are implemented through practical measures, the recommendations from this study are included within an EMPr.
The EMPr must be used to ensure compliance with environmental specifications and management measures. The implementation of the EMPr for the life cycle phases of the project is considered to be vital in achieving the appropriate environmental management standards as detailed for this project. The proponent is not negated from complying with any other statutory requirements that is applicable to the undertaking of the activity. Relevant key legislation that must be complied with by the proponent includes inter alia:

- Provisions of the National Environmental Management Waste Act (No. 59 of 2008);
- Provisions of the National Water Act, 1998 (Act No 36 of 1998);
- Provisions of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).
- Provisions of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)
- Provisions of the National Environmental Management: Protected area Act , 2003 (Act 57 of 2003).
- Provisions of the Animal Diseases Act, 1991 (Act No. 35 of 1984).
- Provisions of the Animal Improvement Act 1998 (Act No. 62 of 1998).
- Provisions of the Animal Protection Act, 1962 (Act No. 71 of 1962)

11.4. DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.

(Which relate to the assessment and mitigation measures proposed)

- All information provided by Lesekha Consulting and their specialist consultants was correct and valid at the time it was provided;
- The EAP does not accept any responsibility in the event that additional information comes to light at a later stage of the process;
- All data from an unpublished research is valid and accurate; and
- The scope of this investigation is limited to assessing the potential environmental impacts associated with the proposed development to construct the N14/R31 bypass.
- of the limitations of each specialist study conducted for the proposed development.

11.5. OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

From the outcomes of this assessment, it is the view of the EAP that a positive environmental authorisation be issued for this project since it will have positive social and economic contribution, It is however acknowledged that there will be impacts on the biophysical environment; conversely with the implementation of the mitigation measures outlined in this report and the EMPr as well as through adequate environmental monitoring and enforcement those impacts can be successfully mitigated.

From the findings it is clear that the proposed project of development to construct the N14/R31 bypass is desirable since the development will contribute positively to the local communities. It is therefore concluded that the proposed project has sufficient merit for its approval. Impacts are localized and mostly associated with proximity to the site, however the overall impacts after implementation of mitigation measures are a low negative significance.

It is believed that the proposed project does not hold a fatal flaw that would restrict the project from taking place. The mitigation measures identified on the above, the development impacts are manageable and the project can be approved. The contractors on site must comply with the general findings and mitigation measures. The impacts are minimum and insignificant. The removal of protected and red data species should be minimal and application for removal should be done with the relevant authority. Dust depressant will be used to reduce dust generated during construction.

11.6. RECOMMENDATION OF PRACTITIONER

The EAP recommends that proposed project be granted an Environmental authorisation as from the environmental impact assessment findings, the magnitude of the impacts is low i.e.

natural and social functions and process are not affected or minimally affected. From the significance analysis of the impacts, none have higher impacts. This study therefore reflects that no social, environmental, economic or institutional reasons have been identified by this preliminary investigation as to why the proposed development should not proceed. Assuming compliance with the stipulated mitigation measure the perceived negative impacts of the proposed project will be minimized.

The activity is being undertaken on land that has been significantly transformed and will not pose a threat to the biodiversity of the area. The activity is consistent with the land use and operation of the property and its zonation. The activity is consistent with municipal and national commitments to the enhancing agricultural business.

11.7. SPECIALIST FOR THE BASIC ASSESSMENT PROCESS.

The following specialist studies were be commissioned:

- Biodiversity Study - assessment that fulfils the requirements of BA in terms of the NEMA 1998) and the associated regulations was conducted. During site visit occurrence of protected trees were identified on the study area. Tempering or removal protected, and red data plant species should be avoided where it cannot be avoided be minimized during the construction phase. The red data species (Drimia sanguinea) was identified within the study area where section 4 of the road will be constructed. The alignment of the road should deviate from any red data species that can be identified onsite. Applications for such activities (Removal or disturb protected trees) should be made to the Department of Environment Forestry and Fisheries. The following map illustrates the distribution and abundance of indigenous, red data and protected plants species within the study area.

- As required in terms of Section 38 of the National Heritage Resources Act 25 of 1999 (NHRA), the South African Heritage Resources Agency (SAHRA) were be notified of the intended development. A Heritage Impact Assessment which assesses the Cultural Heritage, Archaeology and Palaeontology of the proposed site was be undertaken and the report has been attached. No Heritage, Archaeology and Palaeontology were observed with the study area, however its ideal for the mitigation measures to be in place. Should any artifacts such as human remain be identified during construct the South African Heritage Resources Agency (SAHRA) should be notified.

12. SUMMARY AND CONCLUSIONS

Based on the preliminary investigations conducted to date as part of the Environmental Assessment Process, no environmental fatal flaws have been identified that my result from the proposed construction of the N14/R31 bypass road in Kuruman. Overall, the potential negative impacts associated with this development are considered minor in relation to the overall potential positive impacts on the environment and affected community. The site of construction is highly dense with indigenous vegetation including protected trees. The construction should be confined to the to minimize the ecological footprint.

The EMPr will be developed as part of the Basic Assessment Report and will be made available to I&APs for review. This draft Basic Assessment Report was prepared to ensure that the recognized Integrated Environmental Management procedures and the Basic Assessment process followed is in compliance with the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998), as amended and the Environmental Impact Assessment Regulations of 2014.

13. AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP

The EAP herewith confirms that:

a) The correctness of the information provided in the reports.
b) The inclusion of comments and inputs from stakeholders and I&APs; To be included in final Basic Assessment Report.
c) The inclusion of inputs and recommendations from the specialist reports where relevant; and
d) The information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. Parties are correctly reflected herein:

Signature of the Environmental Assessment Practitioner:

Lesekha Consulting
Name of company:
Date: February 2021