

Draft Scoping Report & Plan of Study for Environmental Impact Assessment

**Application for the proposed removal of natural vegetation on
Erven 359 Kakamas North Settlement, Gordonia Administrative District.
Department of Agriculture, Environmental Affairs, Rural Development and
Land Reform Reference number: NC/EIA/01/ZFM/KA!/KAK1/2022.
29 April 2022.**



Prepared for:

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PROJECT DETAILS:

TITLE: Proposed agricultural development, Erven 359, Kakamas-North Settlement

APPLICANT: *Bakenrant Boerdery Pty. Ltd.*

DEPARTMENTAL REF NO: NC/EIA/01/ZFM/KA!/KAK1/2022

PROCESS: Scoping and EIA

REPORT STATUS: Draft Scoping Report + Plan of Study for EIA

REPORT DATE: 29 April 2022

APPOINTED EAP:

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EXECUTIVE SUMMARY

Project background: *Bakenrant Boerdery Pty. Ltd.* (hereafter referred to as the Applicant) appointed The Eco Balance Planning Co. as the independent environmental assessment practitioner (EAP) to coordinate and facilitate the Scoping and Environmental Impact Assessment process for an application for Environmental Authorisation (EA) for the proposed agricultural development on Erven 359, Kakamas-North Settlement, Kai !Garib Local Municipality, ZF Mgcawu District Municipality, Northern Cape.

Project scope: The following developments are proposed:

- Alternative 1: The development of four parcels of land (approximately 110 hectares) for agricultural purposes (table grapes). Area 1 consists of 25.5 ha, Area 2 of 31.7 ha, Area 3 of 15 ha, and Area 4 of 35 ha.
- Preferred Alternative 2: The development of the same four parcels of land but only within the Low and Very low ecological sensitive areas (i.e. excluding the Medium and High sensitivity areas including the recommended buffers) Preferred Alternative 2 amount to 63.82 hectares.

Project location: The study area falls within the Kai !Garib Local Municipality approximately 82 km south-west of Upington and 17 km north-west of Kakamas. The study area lies adjacent to the east of the road to Riemvasmaak and to the north of the Orange River. The other major roads in the area are N14 and the R 359. The study area is located to the north of existing agricultural developments on currently undeveloped land. The site can be accessed via the Kakamas - Riemvasmaak access road.

Erven 359, Kakamas-North Settlement (copy of title deed attached Appendix 1) with the coordinates of the centre point of the property 28°37'11.88"s & 20°28'03.76"E.

The National Environmental Management Act, 1998 (No. 107 of 1998) makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the relevant authorities based on the findings of an environmental assessment. The process of applying for environmental authorisation for specific developments are governed by the NEMA and the Environmental Impact Assessment Regulations, 2014, as amended. There are three published listing notices (GNR 324, 325 and 327 of April 2017) that include activities which require environmental authorisation before commencing. Activity 15 of Listing Notice 2 (GNR 325 of 2017) is triggered and therefore a Scoping / EIA process will be required. GNR 325 of 2017 Activity 15: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or(ii) maintenance purposes undertaken in accordance with a maintenance management plan. Apart from Activity 15 of Listing Notice 2 (GNR 325 of 2017), Activities 19 and of Listing Notice 1 (GNR 327 of 2017) and Activity 12 Listing Notice 3 (GNR 324) are also trigger by the proposed development.

National Water Act (No. 36 of 1998) is to protect South Africa's water resources and aquatic ecosystems. Provisions are included in the Act requiring that a Water Use Licence be issued by the National Department of Water and Sanitation (DWS) prior to commencing or participating in activities defined as a water use in terms of Section 21 of the NWA. The Water Use License Application associated with the proposed development includes the following: 21(a) Taking of water.

Vegetation: According to the Vegetation Map of South Africa, Lesotho and Swaziland (SANBI, 2018) (VEGMAP), the vegetation types occurring in the study area are Kalahari Karroid Shrubland and Lower Gariep Broken Veld.

Potential botanical impacts include: Loss of vegetation type and ecological processes – including indigenous vegetation and ecologically important species.

Drainage lines: There are several drainage lines throughout the site, mostly flowing from the higher ground towards the southwest and west. These drainage lines are all non-perennial, small and dry.

Potential impacts in drainage lines: Disturbance and modification or loss of habitat and its associated biota and increased potential for alien vegetation infestation and erosion.

Specialist Studies: The need for the following specialist studies were identified and are being undertaken as part of the process (Should additional specialist studies be required, these will be undertaken as part of the EIA phase):

- Botanical Impact Assessment
- Phase 1 Heritage Impact Assessment (Archaeology and Palaeontology)
- Soil Suitability Study

Public Participation Process: Relevant commenting authorities identified to date (other than the Competent Authority), which have been included in the process include:

- Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform
- National Department of Agriculture, Forestry and Fisheries
- Department of Water and Sanitation
- Kakamas Water Users Association
- Ngwao-Boswa Jwa Kapa Bokone / SAHRA (South African Heritage Resource Agency)
- ZF Mgcawu District Municipality
- Kai !Garib Local Municipality

Task undertaken during the Draft Scoping Phase:

- Interested and Affected Parties (I&APs) are identified throughout the process. The names and contact details of I&APs are entered into an I&AP list which will be maintained / updated throughout the environmental process.
- Notification letters describing the proposed development, the activities that will be triggered (in terms of the 2014 EIA Regulations, as amended), and an invitation to comment on the Draft Scoping Report be circulated to all potential I&APs and Commenting Authorities along with a copy (digital and/or hardcopy) of the documents.
- Neighbouring landowners will be requested to inform those residing on their farms of the application and the opportunity to comment.
- A1 sized site notices describing the proposed development, the activities that will be triggered, the public participation process, and an invitation to comment on the Report, will be placed at the farm entrances to the sites.
- The EAP will notify Department of Agriculture, Environmental Affairs, Rural Development & Land Reform of the commenting period for the Draft Scoping Report & Plan of study for EIA and provide them with the required hard- and digital copies (whichever is relevant in terms of the Covid Regulations).
- An advertisement describing the proposed development, the activities triggered (in terms of the 2014 EIA Regulations, as amended), details of the public participation process and an invitation to comment on the Draft Scoping Report will be placed in the local newspaper (Gemsbok Newspaper).
- The Draft Scoping Report will be available for a 30 day commenting period.
- All comments received during this commenting period will be included in the Comments & Response Report. This table summarises the comments received, and each comment is responded to and integrated into the Scoping Report where applicable.

Tasks undertaken during the statutory post-application Scoping Phase:

- Official notification letters will be distributed (via post, email, etc.) to all registered I&APs informing them of the statutory process and the availability of the post-application/statutory Draft Scoping Report for comment.
- Registered neighbouring landowners will be requested to inform those residing on their farms of the application and the opportunity to comment.
- The post-application/statutory Draft Scoping Report and Plan of Study for EIA will be circulated for comment to all registered I&APs and Commenting Authorities for an additional 30 day commenting period. Their comment will be requested in terms of Section 24O of NEMA (Act 107 of 1998).
- All comments received during this commenting period will be included in the Comments and Response Report.

Environmental Impact Assessment process: The following is a list of main tasks to be performed as part of the EIA process (in terms of Chapter 6 of the 2014 EIA Regulations, as amended) after receiving approval for the Scoping Report and Plan of Study for EIA.

- Update and maintain Interested & Affected Parties (I&AP) database / register.
- Compile the draft Environmental Impact Assessment Report (EIR), EMPr and MMP based on specialist input.
- Notify the competent and commenting authorities of the commenting period on the draft EIR (including EMP) and circulate copies of the documents to them by means of letters, email or whichever way communication is preferred.
- Notify registered I&APs of the 30 day (minimum) commenting period and circulate copies of the documents to them.
- Receive comment, respond to comment and update Comments & Response Report (issues trail).
- Incorporate input and recommendations into EIR, finalise EIR and submit to the Department (Department of Agriculture, Environment Affairs, Land Reform and Rural Development for decision-making).
- Notify authorities and registered I&APs of the outcome of the Department's decision and remind them of their right to appeal against the decision.

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ABBREVIATIONS:

AGIS	Agricultural Geo-reference Information System
CBA	Critical Biodiversity Area
DAFF	Department of Agriculture, Fisheries & Forestry
DEA	Department of Environmental Affairs (National)
DAEALR&RD	Department of Agriculture, Environment Affairs, Land Reform and Rural Development
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ELU	Existing Lawful Water Use
EMF	Environmental Management Framework
EMP	Environmental Management Programme / Plan
ESA	Ecological Support Area
FSP	Fine-scale Plan
GDPR	Gross Domestic Product Regional
GN	Government Notice
IDP	Integrated Development Plan
LUPO	Land Use Planning Ordinance
NEMA	National Environmental Management Act (No. 107 of 1998), as amended
NEMWA	National Environmental Management: Waste Act (No. 59 of 2008)
NFEPA	National Freshwater Ecosystem Priority Area
NHRA	National Heritage Resources Act (No. 25 of 1999)
NID	Notice of Intent to Develop
NWA	National Water Act (Act 36 of 1998)
NT	Near Threatened
PPP	Public Participation Process
PSDF	Provincial Spatial Development Framework
RMMP	River Maintenance Management Plan
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
SDF	Spatial Development Framework
V&V	Verification & Validation
WUA	Water Users Association
WUL	Water Use Licence

GLOSSARY

"**Activity**" means an activity identified in terms of NEMA EIA 2014 Regulations and as amended April 2017.

"**Alternatives**", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to property, activity, design or technology.

"**Applicant**" means a person who has submitted or intends to submit an application.

"**Associated Infrastructure**," means any building or infrastructure that is necessary for the functioning of a facility or activity or that is used for an ancillary service or use from the facility.

"**Biodiversity**" The variety of life occurring in an area, including the number of different species, the genetic wealth within each species, and the natural habitat where they are found.

"**Borehole**" Includes a well, excavation or any artificially constructed or improved underground cavity that can be used for the purpose of:

- intercepting, collecting or storing water in or removing water from an aquifer;
- observing and collecting data and information on water in an aquifer; or
- re-charging an aquifer.

"**Cultural significance**" This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

"**Cumulative impact**" in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

"**Environmental Impact Assessment**" in relation to an application to which scoping must be applied, means the process of collecting, organizing, analysing, interpreting and communicating information that is relevant to the consideration of that application.

"**Environment**" The environment has been defined as "The external circumstances, conditions and objects that affect the existence and development of an individual, organism or group". These circumstances include biophysical, social, economic, historical, cultural and political aspects

"**Environmental Assessment Practitioner**" Person or company, independent of the applicant (developer), that manages the environmental assessment process of a proposed project on behalf of the applicant

"**Environmental Impact Report**" In-depth assessment of impacts associated with a proposed development. This forms the second phase of an Environmental Impact Assessment and follows on from the Scoping Report.

"Environmental Management Programme" means a programme presenting management and mitigation measures in relation to identified or specified activities envisaged.

"Heritage resources" This means any place or object of cultural significance. It includes archaeological resources.

"Interested and Affected Party" means an interested and affected party contemplated in section 24(4) (d) of the Act, and which in terms of that section includes -

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

"Public Participation Process" means a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters; "Registered Interested and Affected Party", in relation to an application, means an interested and affected party whose name is recorded in the register opened for that application in terms of regulation 57.

"Species of Conservation Concern" All those species included in the categories of endangered, vulnerable or rare, as defined by the International Union for the Conservation of Nature and Natural Resources.

"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.

"The Act" The National Environmental Management Act, 1998 (Act No. 107 of 1998)

1 INTRODUCTION

1.1 Project background

Bakerant Boerdery Pty. Ltd. (hereafter referred to as the Applicant) appointed The Eco Balance Planning Co. as the independent environmental assessment practitioner (EAP) to coordinate and facilitate the Scoping and Environmental Impact Assessment process for an application for Environmental Authorisation (EA) for the proposed agricultural development on Erven 359, Kakamas-North Settlement, Kai !Garib Local Municipality, ZF Mgcawu District Municipality, Northern Cape (**Figure 1**).

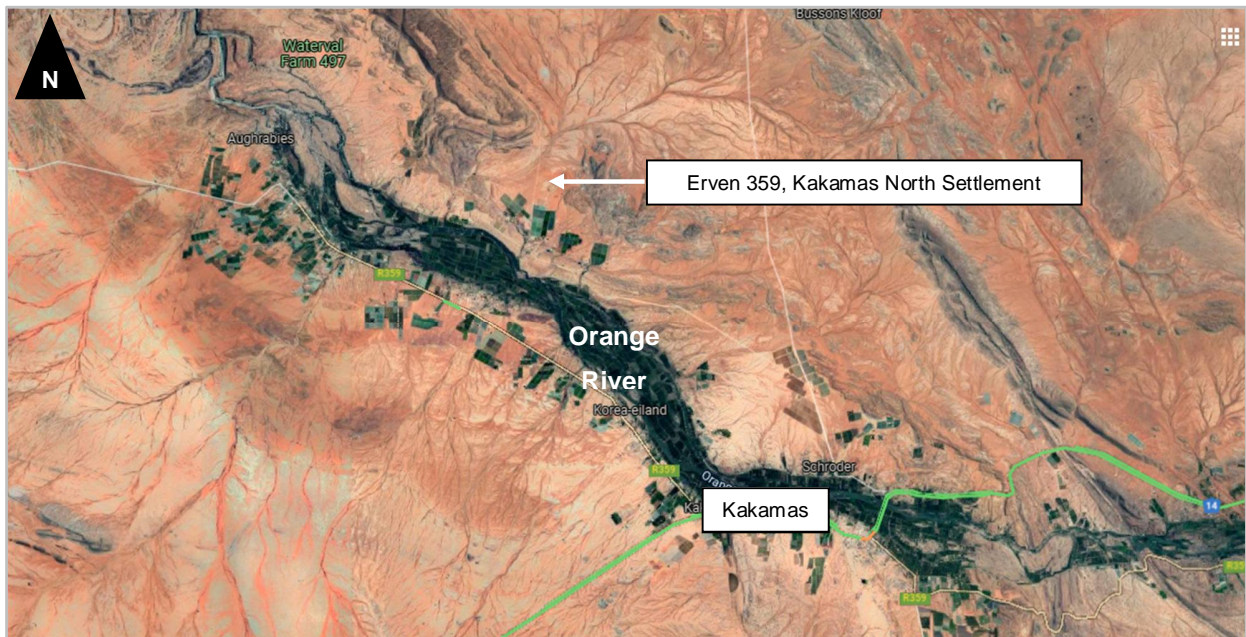


Figure 1. Erven 359 north west of Kakamas.



Figure 2. The property boundaries of Erven 359 north of Augrabies.

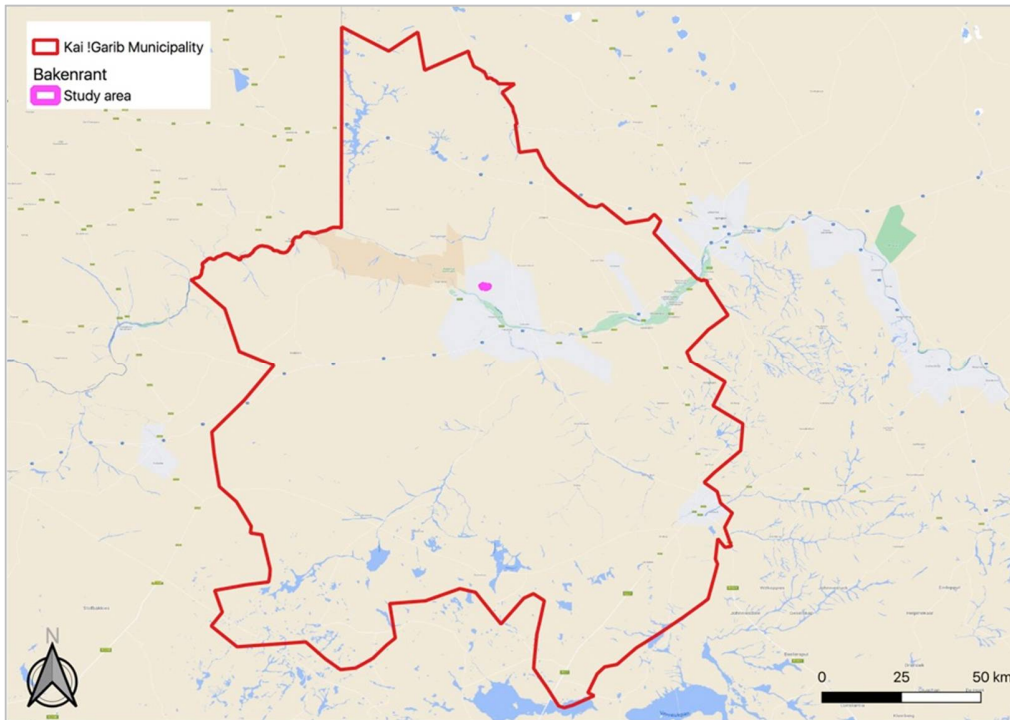


Figure 3. The study area in relation to the Kai !Garib municipal boundary and the towns overlaid on a Google Maps™ image.

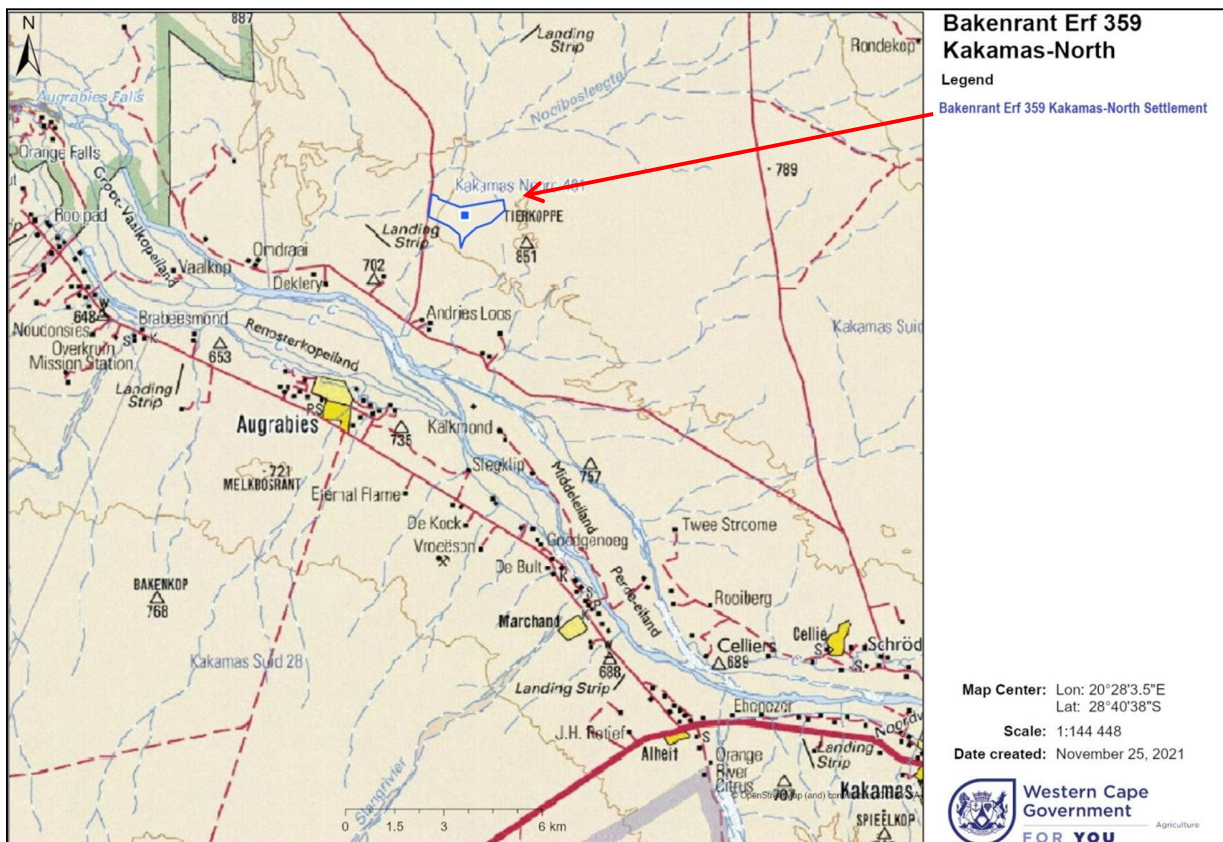


Figure 4. Locality Map Erven 359 Kakamas North Settlement.

1.2 Description of the proposed project

Layout Alternative 1: The development of four parcels of land (approximately 110 hectares) for agricultural purposes (table grapes). Area 1 consists of 25.5 ha, Area 2 of 31.7 ha, Area 3 of 15 ha, and Area 4 of 35 ha (**Figure 5**).

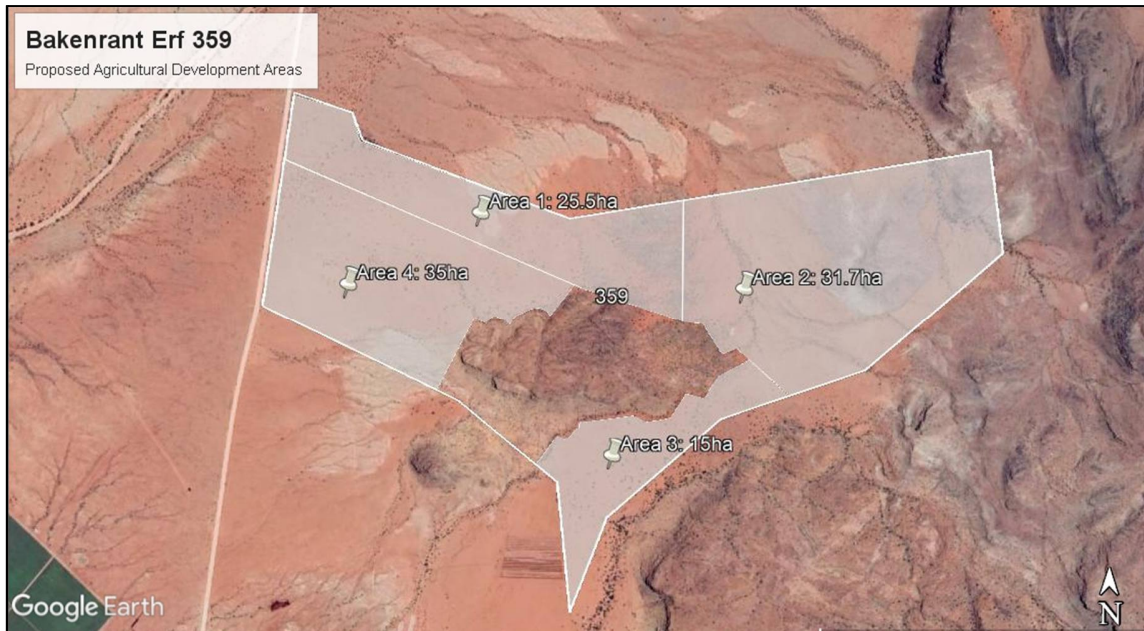


Figure 5. Erven 359 Proposed agricultural development areas for Layout Alternative 1.

Layout Alternative 2 (preferred alternative): The development of the same four parcels of land but only within the identified Low and Very low ecological sensitive areas (i.e. excluding the Medium and High sensitivity areas including the recommended buffers). Preferred Layout Alternative 2 amount to 63.82 hectares (**Figure 6**).

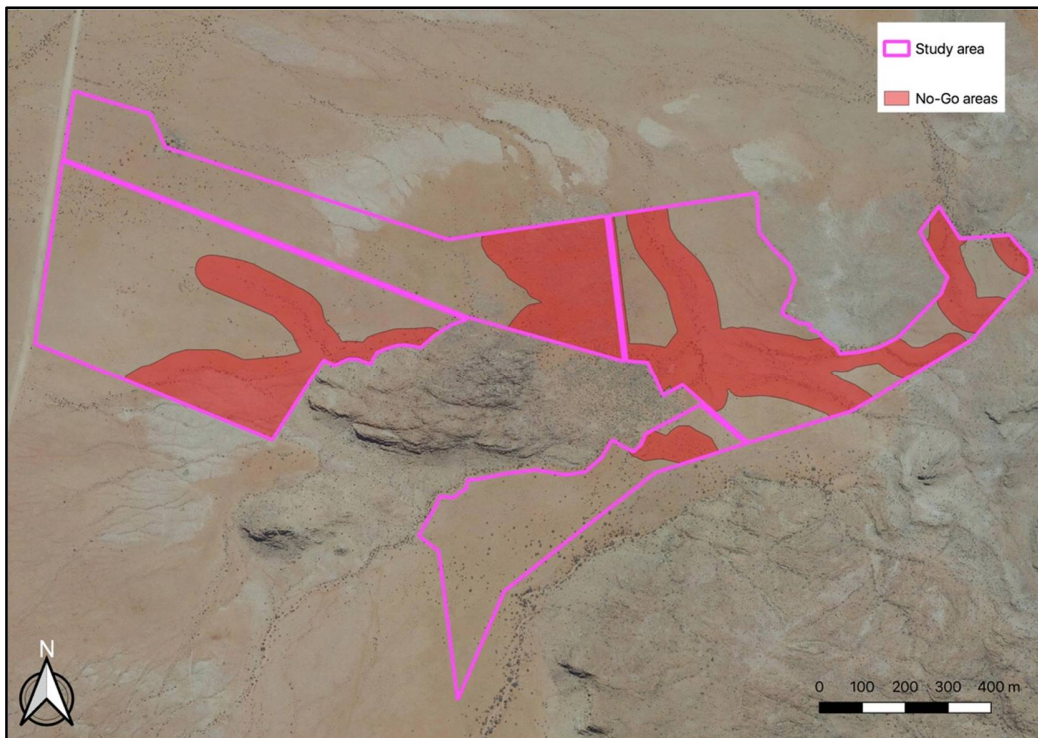


Figure 6. The red coloured polygons indicate the no-go (i.e. no development) areas.



Figure 7. Preferred Layout Alternative 2 in green coloured polygons. This layout alternative excludes the identified No-Go areas which has a High Botanical Sensitivity rating.

Irrigation pipeline

An irrigation pipeline (diameter 500mm and length of approximately 3400m) is included in the proposal in order to supply water to the proposed table grapes.

The pipeline will abstract water from an existing abstraction point at the Orange River with coordinates 28°38'35.80'S 20°26' 07.90"E . The first section of the pipeline will be within a servitude located on Farm 412 (Kakamas North Settlement). Hereafter the pipeline will follow an existing private gravel track leading in a northern direction until it reaches Erven 359 (Kakamas North Settlement).

The pipeline will cross two provincial roads at two different locations. The first crossing is located at 28°38'25.76'S & 20°26'15.10"E and is the point where it leaves Farm 412 and enters Farm 401. The second road crossing is located at 28°37'08.65'S & 20°27'20.95"E and is where the pipeline leaves Farm 401 and enters Erven 359. Consent to cross Main Road 589 and Divisional Road 3270 will be sought from the ZF Mgcawu District Municipality (Department Roads & Public Works) who is the responsible authority for both roads.

On entering Erven 359, where the development is proposed, the pipeline will divide into an irrigation network supplying each new table grape block with irrigation water.

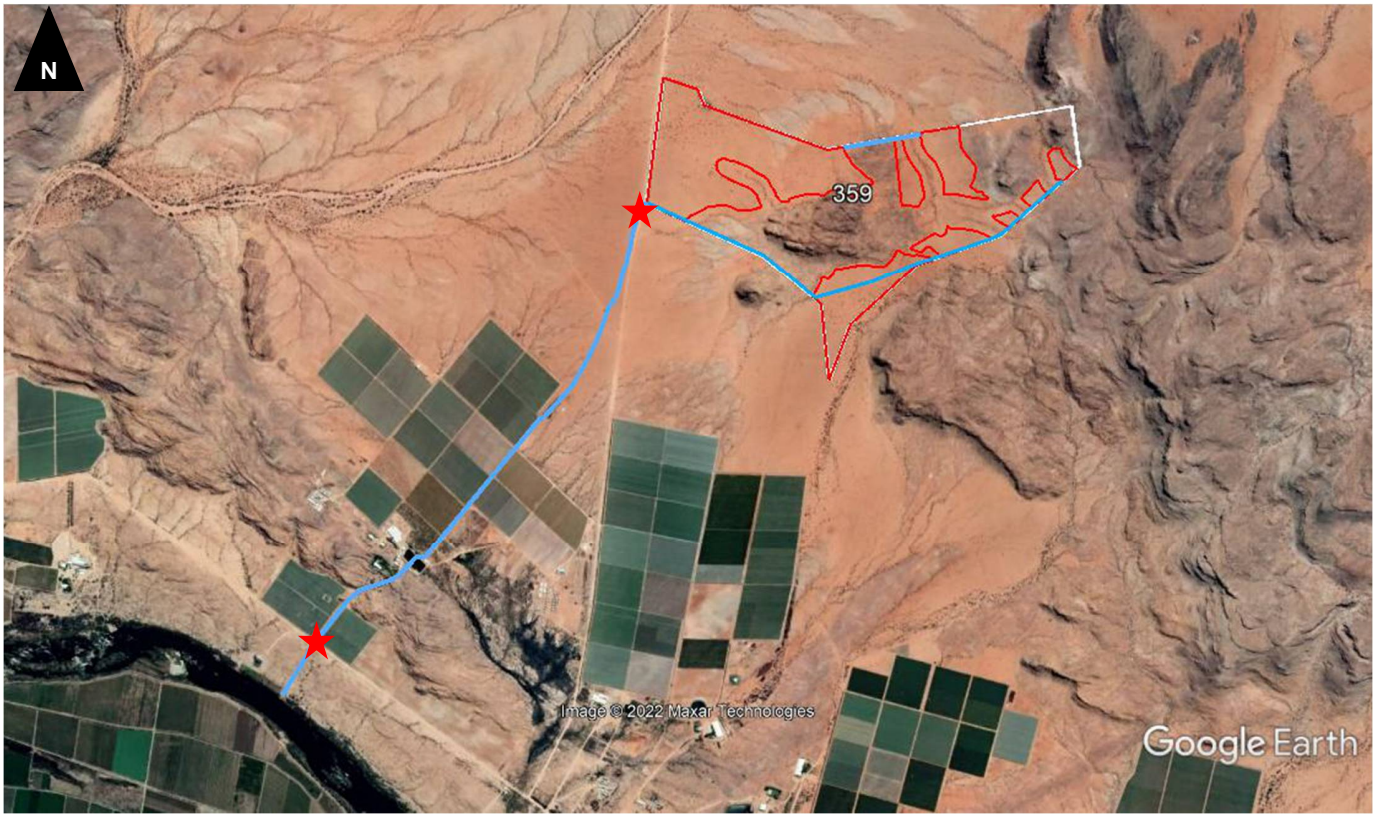


Figure 8. The proposed pipeline (blue line) connecting the Orange River with the proposed development sites on Erven 359 with road crossings indicated as red stars.

1.3 Property detail and location

The study area falls within the Kai !Garib Municipality approximately 82 km south-west of Upington and 17 km north-west of Kakamas. The study area lies adjacent to the east of the road to Riemvasmaak and to the north of the Orange River. The other major roads in the area are N14 and the R359. The study area is located to the north of existing agricultural developments in currently undeveloped land (**Figure 9**). The site can be accessed via the Kakamas - Riemvasmaak access road; Divisional Road 3270.

Erven 359, Kakamas-North Settlement can be located by the following coordinates:

Table 1. Coordinates of the property.

28°36'52.30"S	20°28'47.36"E
28°37'02.48"S	20°28'47.54"E
28°37'14.44"S	20°28'31.77"E
28°37'19.50"S	20°28'15.07"E
28°37'29.89"S	20°28'02.16"E

28°37'39.47"S	20°27'57.93"E
28°37'26.26"S	20°27'56.38"E
28°37'17.93"S	20°27'44.68"E
28°37'08.57"S	20°27'21.55"E
28°36'52.30"S	20°27'32.20"E
28°36'52.30"S	20°27'33.04"E
28°36'52.30"S	20°27'57.41"E
28°36'52.30"S	20°27'47.36"E

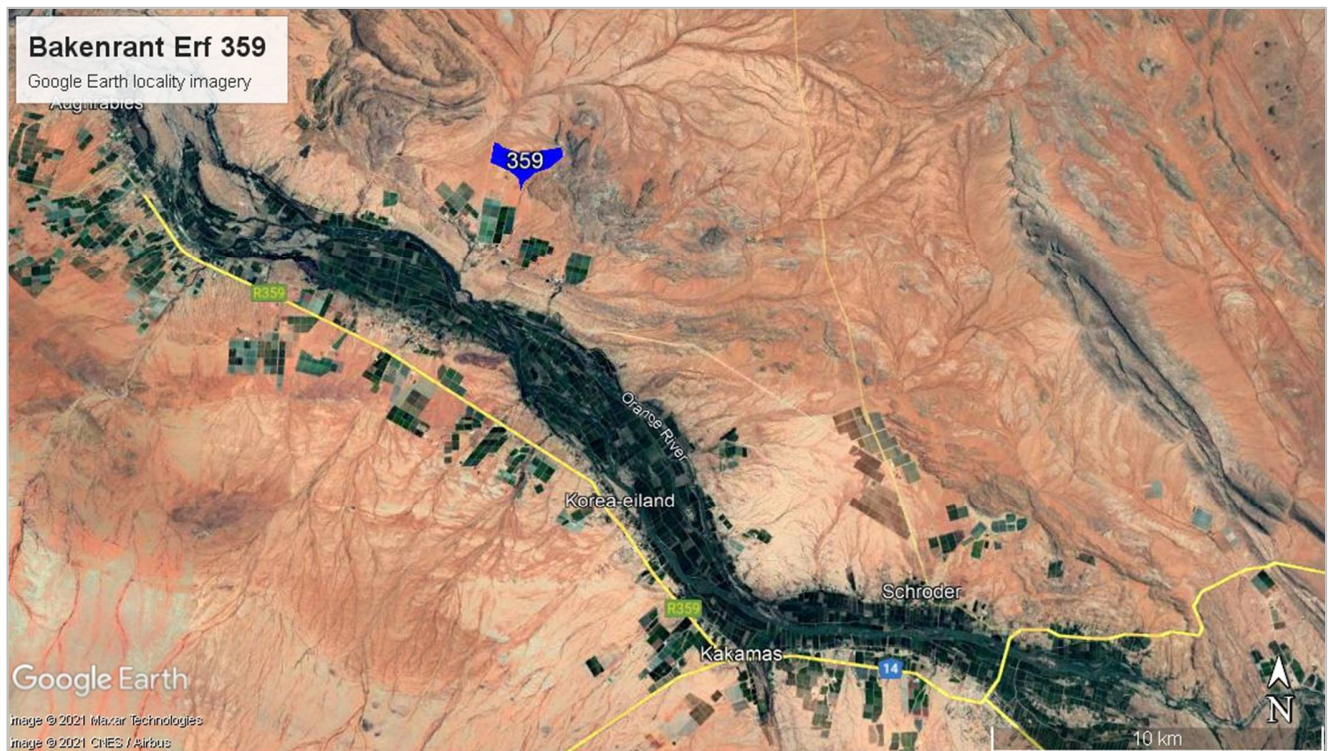


Figure 9. Erven 359 Google Earth locality imagery.

1.4 Surveyor General 21-Digit Code

Erven 359 Kakamas North Settlement : C0036 0000 00000359 00000.

2 APPLICANT AND EAP INFORMATION

2.1 Details of the Applicant

The Applicant, *Bakenrant Boerdery Pty. Ltd.*, applies for Environmental Authorization to proposed agricultural development on Erven 359 Kakamas-North Settlement (**Table 1**).

Table 2. Details of Applicant

Name of landowner	<i>Bakenrant Boerdery Pty. Ltd.</i>
Name of applicant:	<i>Bakenrant Boerdery Pty. Ltd.</i>
Name of contact person for applicant:	Mr. F. Burger
Company registration number:	2018/407711/07
Company / Trading name (if any):	<i>Bakenrant Boerdery Pty. Ltd.</i>
Postal address:	P.O. Box 808, Kakamas, 8870
Telephone:	054 451 8202
E-mail:	frans@bakenrant.co.za

2.2 Role, Competence and Details of the Environmental Assessment Practitioner (EAP)

The Applicant appointed The Eco Balance Planning Co. (Susan de Kock) as the independent environmental assessment practitioner (EAP) to coordinate and facilitate the Scoping and Environmental Impact Assessment process

2.2.1 Role of EAP

The role of the Environmental Assessment Practitioner (EAP) is to manage the application for Environmental Authorisation on behalf of the Applicant. The EAP must adhere to all relevant legislation and guidelines, ensuring that the reports contain all the necessary and relevant information required by the competent authority to make a decision. It is the responsibility of the EAP to perform all work relating to the application in an objective, appropriate and responsible manner. The EAP must comply with Regulation 13 of the EIA Regulations RN R. 982 of 2014 as amended GN R. 326, 2017, detailing the requirements for an EAP.

2.2.2 EAP Contact details

The EAP's contact details are as follow:

The Eco Balance Planning Co.

Susan de Kock

P.O. Box 1593, Upington, 8800

Tel: 082 679 6780

Fax: 0872 34 34 34

Email: susandekock@oranjenet.net.

2.2.3 EAP Competence

See CV attached as **Appendix 3.**

2.2.4 EAP Declaration of Independence

In terms of Regulation 13 of GN R. 326 an EAP, appointed in terms of regulation 12(1), must be independent and have expertise in conducting environmental impact assessments, including knowledge of the Act, the Regulations and any guidelines that have relevance to the proposed activity. The EAP must ensure compliance with the Regulations and perform work relating to the applicant in an objective manner, even if this results in views and findings that are not favourable to the application. The EAP must take into account, to the extent possible, the matters referred to in Regulation 18 when preparing the application and any report, plan or document relating to the application and disclose all material information in the possession of the EAP that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority in terms of the Regulations, unless access to that information is protected by law, in which case it must be indicated that such protected information exists and is only provided to the competent authority.

It should be noted that Susan de Kock may tender for any subsequent ECO-work related to this study should the proposed project be authorized by the Department of Agriculture, Environment Affairs, Land Reform and Rural Development.

I, S. de Kock, do hereby declare that I am financially and otherwise independent of the client and their consultants, and that all opinions expressed in this document are substantially my own.

2.2.5 EIA Team

The following parties are the project team members:

- EAP The Eco Balance Planning Co. Susan de Kock
- Botanical and Ecological Specialist - Capensis. Greg Nicolson
- Heritage Specialists - Ubique Heritage Consultants. Heidi Fivaz and Jan Engelbrecht

3 THE EIA PROCESS

3.1 The principles of environmental management

The principles of environmental management as set out in section 2 of The National Environmental Management Act (No. 107 of 1998) (NEMA) will be considered. The principles pertinent to the proposed development include:

- People and their needs are placed at the forefront while serving their physical, psychological, developmental, cultural and social interests.
- Development is socially, culturally, environmentally and economically sustainable.
- The use of non-renewable natural resources is responsible and equitable.
- The negative impacts on the environment and on people's environmental rights are anticipated and prevented, and where they cannot be prevented, are minimised and remedied.
- The interests, needs and values of all interested and affected parties are taken into account in any decisions through the Public Participation Processes.
- The social, economic and environmental impacts of the activity are considered, assessed and evaluated, including the disadvantages and benefits.
- The effects of decisions on all aspects of the environment and all people in the environment are considered, by pursuing what is considered the best practicable environmental option.

3.2 EIA Terms of Reference

Susan de Kock is appointed as environmental consultant with the following Terms of Reference:

- Undertake an environmental evaluation of the applicable options and sites to get an understanding of biophysical characteristics and natural processes prevailing and to assess the proposed development proposals in terms of environmental characteristics by assessing the constraints and opportunities of the situation;
- Identify any anticipated impacts that might be considered at this early stage of the EIA process to suggest any specialist studies that may be required to provide additional information on the significance of impacts and mitigation that may be required to reduce negative impacts and enhance positive impacts of the proposed development;
- Coordinate specialist studies to inform the compilation of initial environmental opportunities and constraints;
- In association with the specialists, assist the appointed consulting engineers (if applicable) with the development of the optimum site development that will have the least impact on the biophysical and social environment;
- Undertake the applicable Scoping and EIA process in terms of the regulations of the NEMA to provide the relevant information for the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform and any other government officials, to be able to make informed decisions and to issue an environmental authorisation for the proposed development;
- Undertake a comprehensive public participation process as part of the Scoping and EIA process, providing the relevant information to the public, I&APs, government officials, and other stakeholders, and to allow for adequate time for the public to respond to such information. Comments and concerns raised by I&APs must be taken into consideration in assessing the impacts of the proposed development;
- Assess alternative development options in order to reduce the significance of impact that may arise. Prescribe the necessary mitigation to enhance any positive impacts and reduce negative impacts that may arise as a result of the proposed development;
- Make the necessary environmental management recommendations for the construction and operational phases of the proposed development.

3.3 Procedures required for an Application for Authorisation

The procedures required for an Application for Authorisation to Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform would involve the following key steps:

- site visit(s) and the collection of relevant site information needed for the Application;
- coordination of pre-application meetings with relevant authorities, if necessary (including Department of Agriculture, Environment Affairs, Rural Development & Land Reform and SAHRA); in order to establish their requirements;
- public participation, including advertising, the erection of notice boards and the notification of adjacent and/or directly affected property owners;
- coordination of specialists' input or studies required;
- submission of relevant completed application forms;
- completion of draft and final reports including draft Environmental Management Programmes for public review;
- completion of final reports (including a Comments & Response Report) for public review;
- submission of the reports to the relevant authorities for consideration;

- notification of all I&APs of the outcome of the application.

3.4 Objectives of the Scoping Report

In terms of Appendix 2 of the GNR 326 EIA Regulations, the objectives of the scoping process is to, through a consultative process:

- Identify the relevant policies and legislation relevant to the activity;
- Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- Identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks;
- 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;
- Identify the key issues to be addressed in the assessment phase;
- Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent to further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
- Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

4 ENVIRONMENTAL LEGISLATIVE REQUIREMENTS

This report has been prepared in compliance with the requirements of the following legislation:

- The National Environmental Management Act (No. 107 of 1998) (NEMA);
- The Environmental Impact Assessment (EIA) Regulations contained in Government Notice (GN) No. 983, 984 and 985 of 2014 as promulgated in terms of the NEMA (EIA Regulations) as amended up to and including GN 324, 325, 326 and 327 in GG 40772 of 07 April 2017.

The purpose of these regulations is to regulate procedures and set criteria as contemplated in the NEMA to enable the submission, processing, consideration and decision-making regarding applications for environmental authorisation of activities and matters pertaining thereto. The structure of this report is based on Appendix 2 (*Contents of a Scoping Report*) of GN R. 326 of the EIA Regulations as amended, which specifies the required content of a scoping report.

In terms of the NEMA EIA Regulations, the proposed development triggers the listed activities indicated within **Table 2**. The key legal requirements and obligations related to the proposed development are briefly highlighted below.

4.1 The Constitution of the Republic of South Africa

The Constitution of the Republic of South Africa states that everyone has a right:

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

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

- (i) prevent pollution and ecological degradation;
- (ii) promote conservation; and
- (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

4.2 National Environmental Management Act (No. 107 of 1998), as amended

The National Environmental Management Act, 1998 (No. 107 of 1998) (NEMA) makes provision for the identification and assessment of activities that are potentially detrimental to the environment and which require authorisation from the relevant authorities based on the findings of an environmental assessment. NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). These powers are often delegated to the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform

The process of applying for environmental authorisation for specific developments are governed by the NEMA and the Environmental Impact Assessment Regulations, 2014, as amended. And there are in turn three published listing notices (GNR 324, 325 and 327 of April 2017) that include activities which require environmental authorisation before commencing with a development that triggers one or more of these activities. Provision is made for two types of processes dependent on the type of activities triggered by the proposed development, i.e. Basic Assessment and Scoping and EIA.

- Activities within Listing Notice 1 (GNR 327 of 2017) requires Basic Assessment
- Activities within Listing Notice 2 (GNR 325 of 2017) requires a Scoping and EIA process
- Activities within Listing Notice 3 (GNR 324 of 2017) requires Basic Assessment

The listed activities associated with the proposed development are listed below:

Table 3 - Listed activities in the NEMA EIA Regulations that might potentially be triggered.

Government Notice R. 327 Activity No(s):	Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 1 (GN No. R. 327)	Describe the portion of the development as per the project description that relates to the applicable listed activity.
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	An irrigation pipeline with a diameter of 500mm is included in the development.

Government Notice R. 325 Activity No(s):	Describe the relevant Scoping and EIA Activity(ies) in writing as per Listing Notice 2 (GN No. R. 325)	Describe the portion of the development as per the project description that relates to the applicable listed activity.
15	<p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</p> <ul style="list-style-type: none"> (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan. 	<p>More than 20 hectares of indigenous vegetation will be cleared for agricultural purposes. The vegetation within the study area is fairly homogenous and a good representation of intact Kalahari Karroid Shrubland.</p> <p>Alternative 1: removal of 110ha indigenous vegetation.</p> <p>Preferred Alternative 2: Development of the Low and Very low ecological sensitive areas (i.e. excluding the Medium and High sensitivity areas including the recommended buffers) whereby 63. 82ha of indigenous vegetation will be cleared / removed.</p>
Government Notice R. 324 Activity No(s):	Describe the relevant Basic Assessment Activity(ies) in writing as per Listing Notice 3 (GN No. R. 324)	Describe the portion of the development as per the project description that relates to the applicable listed activity.
12	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. g. Northern Cape ii. Within critical biodiversity areas identified in bioregional plans.</p>	<p>More than 300 square metres of indigenous vegetation will be removed for agricultural purposes.</p> <p>The study area is mapped as followed: Critical Biodiversity Area 1: 14.5ha or 13.2%; Critical Biodiversity Area 2: 95.5ha or 86.8%.</p>

Activity 15 of Listing Notice 2 is triggered as indicated above, therefore a Scoping / EIA process will be required.

4.3 National Environmental Management: Biodiversity Act (No. 10 of 2004)

Chapter 4 of NEMBA deals with threatened and protected ecosystems and species and related threatened processes and restricted activities. The need to protect listed ecosystems is addressed. Section 73 of the act furthermore deals with Duty of Care relating to invasive species, while 76 calls for development of invasive species monitoring, control and eradication plans by all organs of state in all spheres of government, as part of environmental management programmes required in terms of Section 11 of NEMBA.

Ecosystem threat status is derived from two sources. These include the following:

1. The National List of Ecosystems that are Threatened and in Need of Protection (Government Gazette, 2011).
2. The National Biodiversity Assessment 2018 (NBA) (SANBI 2019).

According to the Vegetation Map of South Africa, Lesotho and Swaziland (SANBI, 2018) (VEGMAP), the vegetation types occurring in the study area are Kalahari Karroid Shrubland and Lower Gariiep Broken Veld. Kalahari Karroid Shrubland and Lower Gariiep Broken Veld are listed as Least Threatened in The National List of Ecosystems that are Threatened and in Need of Protection. The ecosystems are listed as Least Concern in the NBA both with 99.3% still intact (Nicolson, G. 2021).

4.4 National Heritage Resources Act (No. 25 of 1999)

The protection of South Africa's heritage resources is controlled by the National Heritage Resources Act (No. 25 of 1999). Ngwao-Boswa Jwa Kapa Bokone, the authority who enforces this Act in the Northern Cape, was identified as a statutory body with an interest in this development. However, Ubique has confirmed that SAHRA (South African Heritage Resource Agency) is dealing with heritage matters in the Northern Cape.

The following triggers in terms of the NHRA are applicable to this proposed development and therefore require that SAHRA must be given an opportunity, together with the rest of the I&APs, to comment on the environmental application.

Section 38 of the NHRA states the following:

- “38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as
- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
 - (c) any development or other activity which will change the character of a site (i) exceeding 5 000m² in extent.

UBIQUE Heritage Consultants were appointed by Eco Balance Planning Co. as independent heritage specialists in accordance with Section 38 of the NHRA and the National Environmental Management Act 107 of 1998 (NEMA) to conduct a cultural heritage assessment to determine the impact of the proposed agricultural development of Erven 359 on any sites, features, or objects of cultural heritage significance.

No significant heritage sites or features were identified within the surveyed sections of the areas earmarked for agricultural development. UBIQUE Heritage Consultants indicated that proposed development can continue. Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground-truthing and/or specialist mitigation are required (Engelbrecht, J. & Fivaz, H. 2021).

4.5 Conservation of Agricultural Resources Act (No. 43 of 1983)

The Department of Agriculture, Fisheries and Forestry (DAFF) Directorate: Land Use and Soil Management administers and implement the Conservation of Agricultural Resources Act, (CARA) 43 of 1983. The Act is regarded as one of the principle Acts governing the protection of agricultural natural resources. The main aim of the Act is to control the utilization of natural agricultural resources to ensure the conservation of soil, water and vegetation, as well as the combating of alien and invasive plants. According to Section 1 of the Act, conservation of natural agricultural resources includes the protection, recovery as well as the reclamation thereof.

The objectives of CARA are provided for the conservation of the natural agricultural resources by the maintenance of the production potential of the land, by combating and prevention of erosion and weakening or destruction of the water resources, and by protecting the vegetation and combating weeds and invader plants.

A permit is required when cultivating virgin soil. This application is in process with DAFF.

4.6 National Water Act (No. 36 of 1998)

The main objective of the National Water Act (NWA) (No. 36 of 1998) is to protect South Africa's water resources and aquatic ecosystems. Provisions are included in the Act requiring that a Water Use Licence be issued by the National Department of Water and Sanitation (DWS) prior to commencing or participating in activities defined as a water use in terms of Section 21 of the NWA.

The following water use activities associated with the proposed development may trigger one relevant section of the NWA:

- Section 21 (a) – taking of water.

HDL Consulting will be responsible for the Water Use License Application.

4.7 Other relevant policies and guidelines

Table 4. *Relevant policies and guidelines*

RELEVANT POLICIES / GUIDELINES	ADMINISTERING AUTHORITY
Northern Cape Provincial Development and Resource Management Plan / Provincial Spatial Development Framework (PSDF)	Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform
IDPs & SDFs for the ZF Mgcawu District Municipality and Kai !Garib Local Municipality	ZF Mgcawu District Municipality and Kai !Garib Local Municipality
BGIS website	SANBI
2016 The Northern Cape Critical Biodiversity Areas Map	Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform
Cape Farm Mapper website	DAFF

5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

This chapter provides a brief description of the existing biophysical environment within the immediate vicinity of the proposed activity and in some instances of the wider municipal area. It draws on knowledge retrieved from sources like the municipal and provincial Integrated Development Plans (IDP) and Spatial Development Frameworks (SDF), the SANBI BGIS website, the Cape Farm Mapper website, the Screening Report, specialist reports as well as discussions with various role-players and site visits. It serves to present the context against which the positive and negative impacts of the proposed activity can be assessed.

5.1 Topography and drainage

The terrain in the study area consists of flat sandy plains combined with klipveld. It is mountainous in the central southwest and northeastern parts of the site and outside the development footprint. The terrain has a slight slope towards the west and southwest. There are several waterways throughout the site, mostly flowing from the higher ground towards the southwest and west. These are all non-perennial small dry waterways. Minor natural erosion is visible on the slopes of the mountainous areas; however, no significant erosion on the development footprints (Engelbrecht, J. & Fivaz, H. 2021).

5.2 Geology and soils

The geology of Kalahari Karroid Shrubland is described in the VEGMAP (Mucina and Rutherford, 2006) as: "Cenozoic Kalahari Group sands and small patches also on calcrete outcrops and screes on scarps of intermittent rivers (mekgacha). In places Dwyka Group tillites outcrop. The soils are deep (>300 mm), red-yellow, apedal, freely drained, with a high base status, typical of Ae land type" (Mucina et al. in Mucina and Rutherford, 2006). Quartz, quartzite and homfels are visible on the surface combined with some dolomite outcrops. The rocky outcrops form part of another vegetation type namely Lower Gariiep Broken Veld and are characterised by shallow soils and exposed rocky areas (Engelbrecht, J. & Fivaz, H. 2021) and (Nicolson, G. 2021)

5.3 Climate & Rainfall

Climate in the broad sense is a major determinant of the geographical distribution of species and vegetation types. However, on a smaller scale, the microclimate, which is greatly influenced by local topography, is also important. Within areas, the local conditions of temperature, light, humidity and moisture vary greatly and it is these factors which play an important role in the production and survival of plants (Tainton, 1981). The spatial and temporal distribution of rainfall is very complex and has great effects on the productivity, distribution and life forms of the major terrestrial biomes (Barbour et al. 1987). Aspects like topography, slope and altitude may result in differences in precipitation and water availability to plants within the study area.

The climatic conditions of the area can be described as follows: The summers are sweltering, the winters are short and cool, and it is dry and mostly clear year round. Over the course of the year, the temperature typically varies from 4°C to 36°C and is rarely below 0°C or above 41°C.

Average Temperature: The hot season lasts for 3.9 months, from November 21 to March 16, with an average daily high temperature above 33°C. The hottest month of the year is January, with an average high of 36°C and low of 21°C. The cool season lasts for 2.8 months, from May 24 to August 18, with an average daily high temperature below 24°C. The coldest month of the year is July, with an average low of 5°C and high of 21°C.

Rainfall: The rainy period of the year lasts for 3.8 months, from December 28 to April 21, with a sliding 31-day rainfall of at least 13 millimeters. The month with the most rain is March, with an average rainfall of 24 millimeters. The rainless period of the year lasts for 8.2 months, from April 21 to December 28. The month with the least rain is August, with an average rainfall of 1 millimeter.

5.4 Vegetation

This section of the report is quoted from the Botanical impact assessment for proposed agricultural expansion at Bakenrant Farm perseel 359, Gordonias, Kai !Garib Municipality, Northern Cape Province compiled by Greg Nicolson, August 2021.

5.4.1 SA Vegetation Map

According to the Vegetation Map of South Africa, Lesotho and Swaziland (SANBI, 2018) (VEGMAP), the vegetation types occurring in the study area are Kalahari Karroid Shrubland and Lower Gariep Broken Veld (**Figure 10**). The landscape and vegetation of the vegetation types is described by Mucina et al. (in Mucina and Rutherford, 2006) as: Kalahari Karroid Shrubland: “Low karroid shrubland on flat, gravel plains. Karoo-related elements (shrubs) meet here with northern floristic elements, indicating a transition to the Kalahari region and sandy soils.”

Lower Gariep Broken Veld: “Hills and low mountains, slightly irregular plains but with some rugged terrain (e.g. downstream of the Augrabies Falls) with sparse vegetation dominated by shrubs and dwarf shrubs, with annuals conspicuous, especially in spring, and perennial grasses and herbs. Groups of widely scattered low trees such as *Aloe dichotoma* var. *dichotoma* and *Acacia mellifera* subsp. *detinens* occur on slopes of koppies and on sandy soils of foot slopes respectively”.

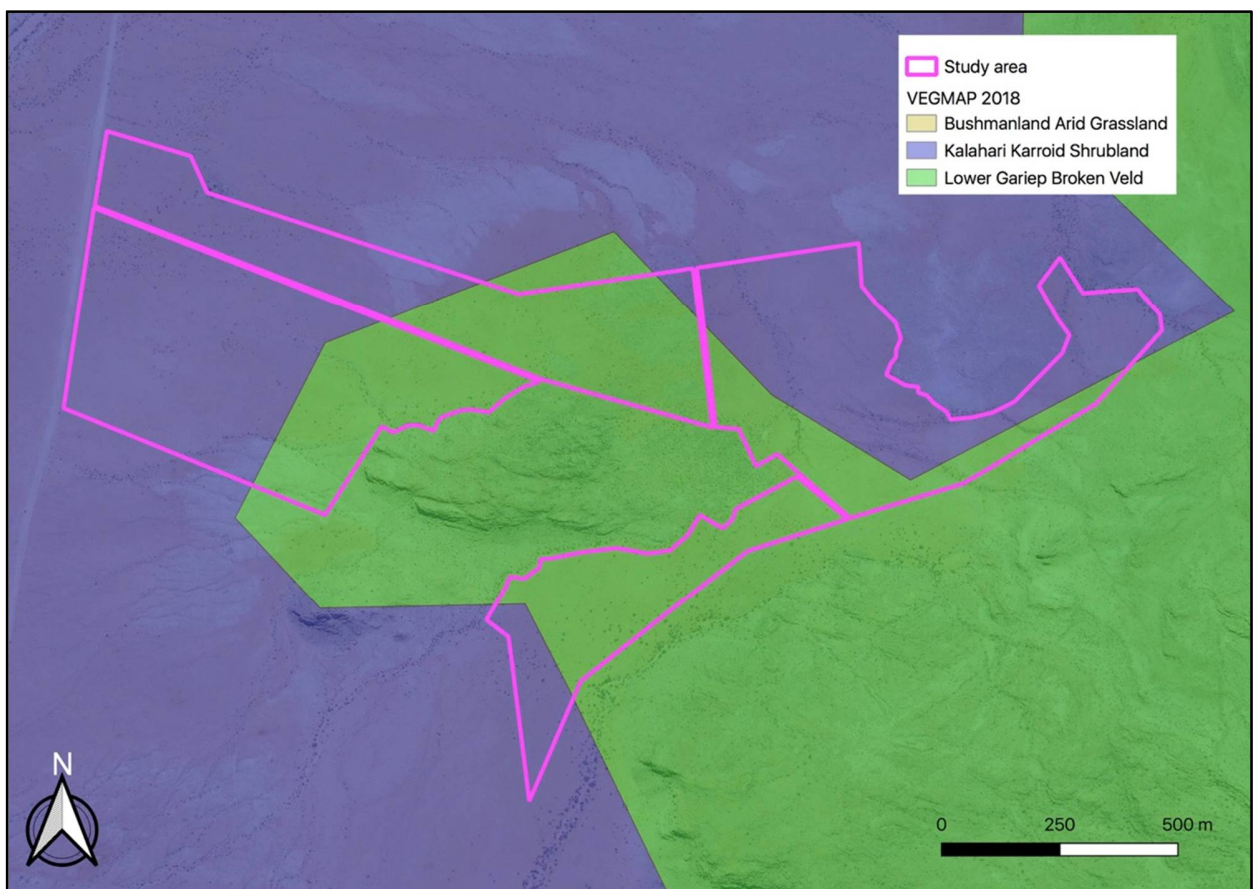


Figure 10. The study area superimposed on a portion of The Vegetation Map of South Africa, Lesotho and Swaziland (SANBI, 2018) overlaid on a CDNGI 25cm image (Nicolson, J. 2021).

5.4.2 Ecosystem threat status

Ecosystem threat status is derived from two sources. These include the following:

1. The National List of Ecosystems that are Threatened and in Need of Protection (Government Gazette, 2011).
2. The National Biodiversity Assessment 2018 (NBA) (SANBI 2019).

Kalahari Karroid Shrubland and Lower Gariep Broken Veld are listed as Least Threatened in The National List of Ecosystems that are Threatened and in Need of Protection. The ecosystems are listed as Least Concern in the NBA both with 99.3% still intact.

5.4.3 Critical Biodiversity Areas and Ecological Sensitive Areas

The conservation importance of all areas within the Northern Cape has been mapped in the Northern Cape Critical Biodiversity Area (CBA) Map (Northern Cape Department of Environment and Nature Conservation, 2016). The CBA map units are selected for conserving important habitats and biodiversity processes. The habitat categories are selected for various reasons and may include degraded or low quality vegetation, since they may serve as important biodiversity corridors between ecologically intact habitats. It is therefore important to ground-truth these areas and interpret the findings in relation to the objectives of the CBA Map. In this instance the study area is classified as CBA 1 and CBA 2 (Table 5 and Figure 11).

CBA	Natural vegetation Areas affected	Features associated with planning unit (hexagon)
Critical Biodiversity Area 1	14.5 ha or 13.2%	Bushmanland Arid Grassland Kalahari Karroid Shrubland Lower Gariep Broken Veld Conservation Areas All Rivers PA distance buffers 5km and 10km Large high value climate resilience areas NPAES PA and Focus Landscape structural elements Lower Gariep Alluvial Vegetation Threatened species Namakwa CBA2 and associated All natural wetlands
Critical Biodiversity Area 2	95.5 ha or 86.8%	Bushmanland Arid Grassland Kalahari Karroid Shrubland Lower Gariep Broken Veld Conservation Areas All Rivers PA distance buffers 5km and 10km Large high value climate resilience areas NPAES PA and Focus Landscape structural elements
Total	110 ha	

Table 5 - CBA Natural vegetation areas affected (Nicolson, J. 2021).



Figure 11. The study area in relation to the Northern Cape CBA Map (Northern Cape Department of Environment and Nature Conservation, 2016) overlaid on a CDNGI 25cm image (Nicolson, J. 2021).

5.4.4 Habitat condition on site

The vegetation communities and condition on the site are described below according to habitat categories provided in **Table 6**. The habitats mapped are represented in **Figure 12**.

Habitat category	Description
Intact vegetation	A true representation of the original vegetation type in terms of structure and species makeup. Minimal soil disturbance. Unlikely to have ever been ploughed. Disturbance may be evident.
Semi-intact	Resembles the original vegetation type in terms of structure and species makeup but has lower species diversity than intact vegetation. Dominated by disturbance-resilient species. Soils may have been heavily disturbed in the past. Restoration potential is high.
Degraded	Only a few species representative of the original vegetation type are present. The vegetation has undergone heavy disturbance. Restoration potential is either low or moderate.
Highly degraded	The original vegetation is usually absent and has been removed in the past. Only a few remnant or pioneer species are present. Soils usually ploughed in the past. Restoration

	potential is very low.
Transformed	No remnant species exist anymore. The landscape is altered irreversibly with no restoration potential. Examples include cultivated farmland and the built environment.

Table 6. Habitat category descriptions and criteria (Nicolson, J. 2021).

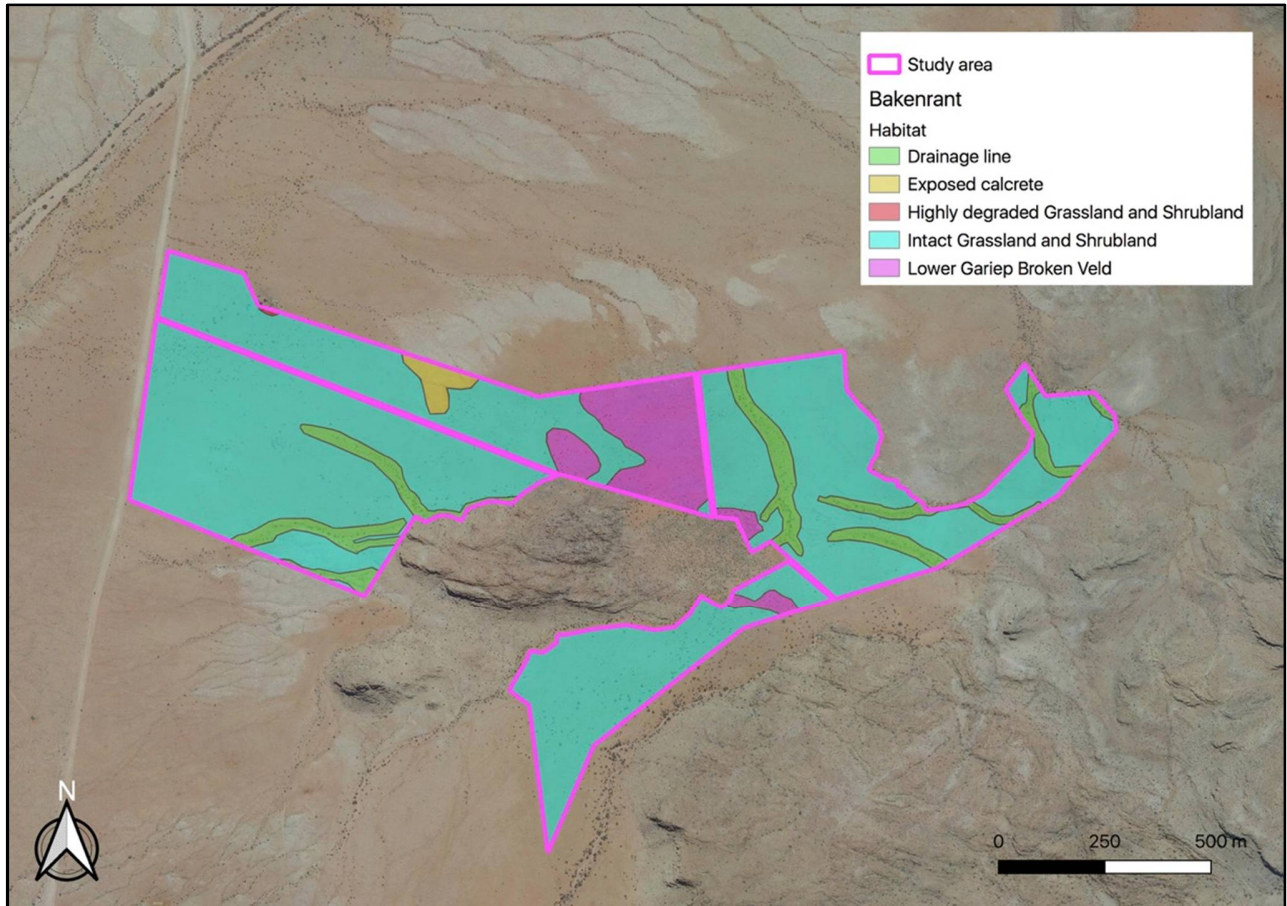


Figure 12. Habitat map: CDNGI 25cm image showing the habitat mapped within the study area (Nicolson, J. 2021).

The vegetation within the study area is fairly homogenous and a good representation of intact Kalahari Karroid Shrubland. The vegetation can be described as sparse shrublands with open grassy area in patches. The landscape is relatively flat and dominated by grasses with seasonal drainage lines as common features and distinguished by shrubland communities. Exposed calcrete occurs sporadically within the Kalahari Karroid Shrubland vegetation type.

Various plant communities and features associated with Kalahari Karroid Shrubland ecosystem have been mapped and include: a) Grassland and Shrubland (dominant), (b) Exposed calcrete and (c) Drainage lines. The Lower Gariep Broken Veld ecosystem occurs on the site in smaller areas.

Grassland and Shrubland: This habitat is a mosaic of grasslands on the flatter slightly elevated areas and shrublands closer to the drainage lines but also scattered within the grasslands. The grassland plant community is dominated by about three species of grass (**Plate 1**). These form a dense cover but were dry at the time of the survey. The

dominant species is Cape Bushman grass (*Stipagrostis ciliata* var. *capensis*). Other species include the soft feather pappus grass (*Enneapogon cenchroides*) and *Schmidtia kalahariensis*.



Plate 1. A view of the dominance of grasses within parts of the site. The grasses flourish after good rains and then die back during dry periods (Nicolson, J. 2021).

The shrubland community is dominated by a small tree, the black thorn (*Senegalia mellifera* subsp. *detinens*) (**Plate 2**) and the medium sized shrub, trithorn (*Rhigozum trichotomum*) (**Plate 3**). Other shrubs and species found in this habitat are *Boscia foetida*, greenhair tree (*Parkinsonia africana*), devil thorn (*Tribulus* sp), *Phaeoptilum spinosum*, *Leucosphaera bainesii*, *Ptychlobium biflorum*, blue bush (*Monechma incanum*), caustic vine (*Sarcostemma viminale*), Bushmanland honeythorn (*Lycium bosciifolium*), *Barleria rigida*, namnam bush (*Tapinanthus oleifolius*), white djirrie (*Rogeria longiflora*), black eye sesame (*Sesamum capense*), *Aptosimum lineare* and *Aptosimum albomarginatum*.



Plate 2. The black thorn tree (*Senegalia mellifera* subsp. *detinens*) is one of the dominant shrubs on the site (Nicolson, J. 2021).



Plate 3. *Trithom* (*Rhigozum trichotomum*) in the foreground is one of the dominant shrubs at the site. The sparse shrub cover is seen within the grassy matrix (Nicolson, J. 2021).

Exposed calcrete: Small areas of the site contain exposed calcrete and quartz on the soil surface (**Plate 4**). The vegetation community found in these areas is slightly different to the grassland and shrubland communities. The same grasses still occur here but in lower densities and some stem succulents occur here including: grey twin leaf

(*Roepora lichtensteiniana*), common vingerpol (*Euphorbia braunsii*), common bushman candle (*Monsonia crassicaule*) and *Monsonia* sp.



Plate 4. The exposed calcrete habitat is sparsely vegetated. The shrubs are all low-growing and succulent (Nicolson, J. 2021).

5.5 Aquatic Ecosystems

This section of the report is quoted from the Botanical impact assessment for proposed agricultural expansion at Bakenrant Farm perseel 359, Gordonia, Kai !Garib Municipality, Northern Cape Province compiled by Greg Nicolson, August 2021.

These habitats are characterised by shallow drainage lines that flow during rainfall events. They were all completely dry at the time of the survey can be distinguished by the thicker cover of shrubs and clear drainage patterns (**Plate 5 - 7**). The same shrubs as described above for the shrubland community occur here, but in higher densities. In addition to these, other species such as herbs and succulents occur on the banks. These include Namaqua hoarypea (*Tephrosia dregeana*), *Euphorbia glanduligera*, *Monsonia umbellata*, fine vomit daisy (*Geigeria filifolia*), pest lizzardfoot (*Limeum aethiopicum*), river ganna (*Caroxylon aphyllum*), *Ehretia alba*, paintbrush flower (*Kleinia longiflora*), *Monechma spartioides*, thorn Karooviolet (*Aptosimum spinescens*), grey minimouth (*Microlooma incanum*) and honeythorn (*Lycium* sp.).



Plate 5. *The drainage lines are conspicuous within the landscape due to the proliferation of large and medium shrubs.*



Plate 6. *The elevated moisture levels within the drainage lines are evident within the otherwise dry landscape.*



Plate 7. An elevated view of the study area showing shrub cover along the drainage lines.

5.6 Heritage Resource

Section 38 of the NHRA states the following:

- “38.(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as
- (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
 - (c) any development or other activity which will change the character of a site (i) exceeding 5 000m² in extent.

This section of the report is quoted from the Phase 1 HIS report Bakenrant Plot 106 Kakamas-north, Northern Cape compiled by UBIQUE Heritage Consultants (Engelbrect, J. & Fivaz, H. 2021).

5.6.1 Findings and Impact on Heritage Resources

One occurrence of a low-density surface scatter of MSA/Early LSA was recorded outside the demarcated development footprints. The sample size is small, without context, of low significance and will not be impacted by the agricultural development.

The development footprint is underlain by the ancient Precambrian basement rocks of the Namaqua-Natal Province, mantled by sediments of the Gordonina Formation (Kalahari Group). A low Palaeontological Significance has been allocated to the proposed development as the Palaeontological Sensitivity of the Gordonina Formation is low. The ancient Precambrian basement rocks are zero (Butler 2021). These rocks are approximately one to two billion years old and completely unfossiliferous. Therefore, it is recommended that no further palaeontological heritage studies,

ground-truthing, and/or specialist mitigation are required pending the discovery of newly discovered fossils (Butler 2021).

5.6.2 Phase 1 AIA recommendations

Based on the assessment of the potential impact of the development on the identified heritage, the following recommendations are made, taking into consideration any existing or potential sustainable social and economic benefits:

- No significant heritage sites or features were identified within the surveyed sections of the areas earmarked for agricultural developments. Therefore the proposed development can continue.
- The cultural material recorded (BKR001) to the south of the proposed development footprints is of low significance and will not be affected by the development.
- Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground-truthing and/or specialist mitigation are required. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area (Butler 2021). If fossil remains or trace fossils are discovered during any phase of construction, either on the surface or exposed by excavations the Chance Find Protocol must be implemented by the Environmental Control Officer (ECO) in charge of these developments. These discoveries ought to be protected, and the ECO must report to SAHRA (Contact details: SAHRA, 111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Tel: 021 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za) so that mitigation can be carried out by a palaeontologist (Butler 2021).
- Although all possible care has been taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the assessment. If during construction, any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contacted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA. UBIQUE Heritage Consultants and its personnel will not be held liable for such oversights or costs incurred as a result of such oversights

6 OPPORTUNITIES AND CONSTRAINTS

6.1 Botanical and Freshwater Constraints

This section of the report is quoted from the Botanical impact assessment for proposed agricultural expansion at Bakenrant Farm perseel 359, Gordonia, Kai !Garib Municipality, Northern Cape Province compiled by Greg Nicolson, August 2021.

Sensitivity is defined here as the '**conservation value**' together with the '**degree of resilience to disturbance**'. The conservation value relates to the conservation status (including the ecosystem threat status) and other factors including ecological connectivity, habitat condition, persistence of ecological process and the site's role in supporting

biodiversity. The degree of resilience takes into consideration factors such as sensitivity to disturbance and restoration potential.

In the case of the Study area, Very low, Low, Medium and High sensitivities apply for the following reasons (see **Figure 13**):

Very low sensitivity applies to the Highly degraded grassland habitat:

- The vegetation has been highly degraded in this area by livestock feeding and it no longer represents the original vegetation.

Low sensitivity applies to the greater part of the Intact grassland and shrubland habitat for the following reasons:

- Although intact, the vegetation within the site is very common in the surrounding habitat and is not under any threat of transformation. Over 99% of this ecosystem still remains intact.
- The greater part of this habitat has been classified as CBA 2 in the Northern Cape CBA map. This suggests that it is not considered as a conservation priority.
- The south and eastern parts of the site are mapped as CBA 1 sites. There are no obvious reasons for the distinction between CBA 2 to CBA 1. It is likely that the change is due to the proximity to the Orange River. The reasons for the classification given in the CBA map that differ from the CBA 2 areas are as follows: "Lower Gariep Alluvial Vegetation; Threatened species; Namakwa CBA2 and associated; and All natural wetlands."
- No Lower Gariep Alluvial Vegetation, or Wetlands occur in the site.
- No species of conservation concern (SCC) were found at the site.
- The total disturbance footprint is relatively small given the size of the surrounding intact vegetation.

Medium sensitivity applies to the Lower Gariep Broken Veld habitat for the following reasons:

- The shallow soils are potentially more prone to erosion.
- These areas play a role in linking higher koppies within the study area and are therefore ecologically important.
- A 20m buffer is included around the Medium sensitivity areas.

High sensitivity applies to the Drainage lines habitat for the following reasons:

- These areas are important for ecological functioning of the area as they allow for the natural flow and dispersal of water within the landscape.
- The increased moisture results in higher plant diversity and cover that in turn supports more faunal activity.
- A 30m buffer around the drainage lines is included in the High sensitivity area.

It is strongly recommended that no development takes place within the Medium or High sensitivity areas of the study area, including the associated buffers. Furthermore, small areas that fall outside of the buffers but between two buffered areas should not be developed as this would fragment the sensitive areas. Based on this a constraints map showing the No-Go areas has been produced (**Figure 13**).

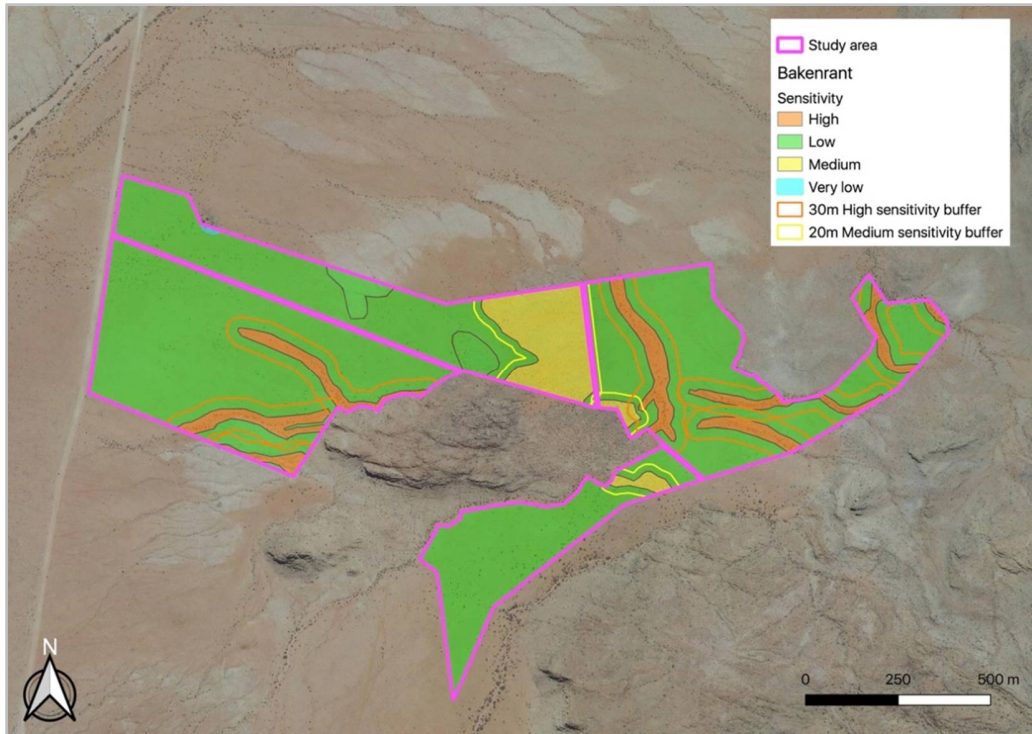


Figure 13. Sensitivity Map CDNGI 25cm image showing the sensitivities mapped within the Study area (Nicolson, J. 2021).

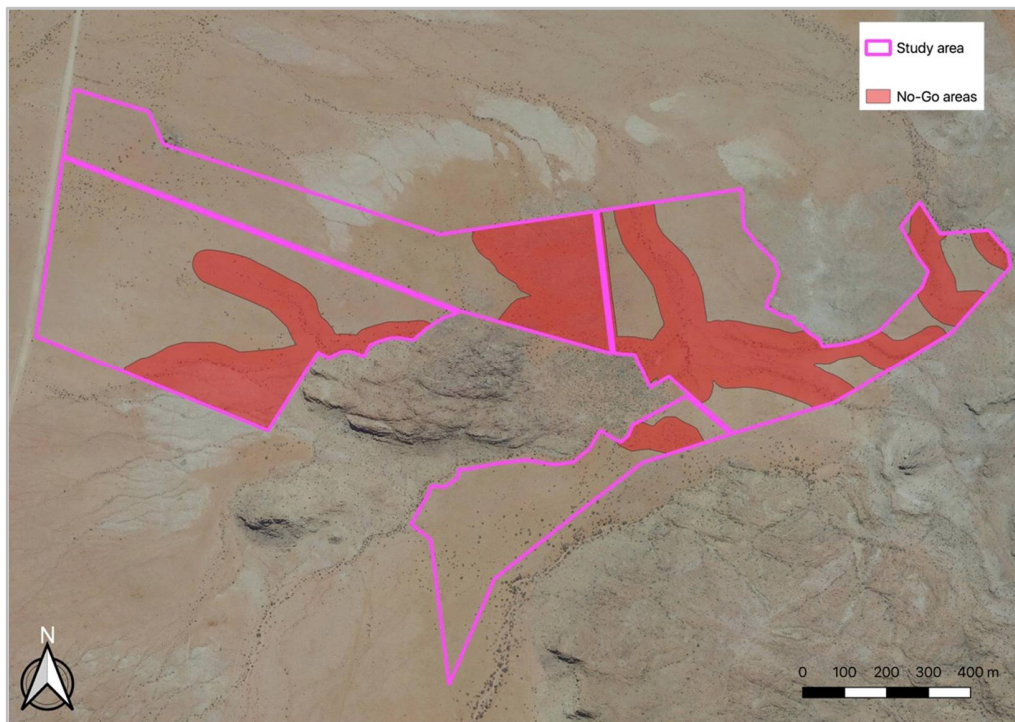


Figure 14. Constraints map: CDNGI 25cm image showing the No-Go areas mapped within the Study area. The unshaded areas are potentially developable from a botanical perspective (Nicolson, J. 2021).

6.2 Archaeology and Paleontology Constraints

As per Section 5.6.

6.3 Cultural Landscape

The surrounding landscape is largely agricultural in nature. As a result, the activity will be in keeping with the surrounding environment and will therefore not impact on the cultural landscape.

7 ALTERNATIVES

In terms of the NEMA EIA Regulations one of the criteria to be taken into account by the Competent Authority when considering an application is “*any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimize harm to the environment*”. Alternatives are defined in the Regulations as “*different means of meeting the general purpose and requirements of the activity*”. It is therefore necessary to provide a description of the need and desirability of the proposed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity.

Two alternatives are assessed for the proposed project and are as follows:

- Alternative 1: Development of the entire Study area 110 ha. See Appendix 6 for the coordinates of the Layout Alternative 2. **Figure 15**.
- Preferred Alternative 2: Development of the Low and Very low ecological sensitive areas excluding the Medium and High sensitivity areas including the recommended buffers with a combined surface area of 63. 82 ha (**Figure 16**).

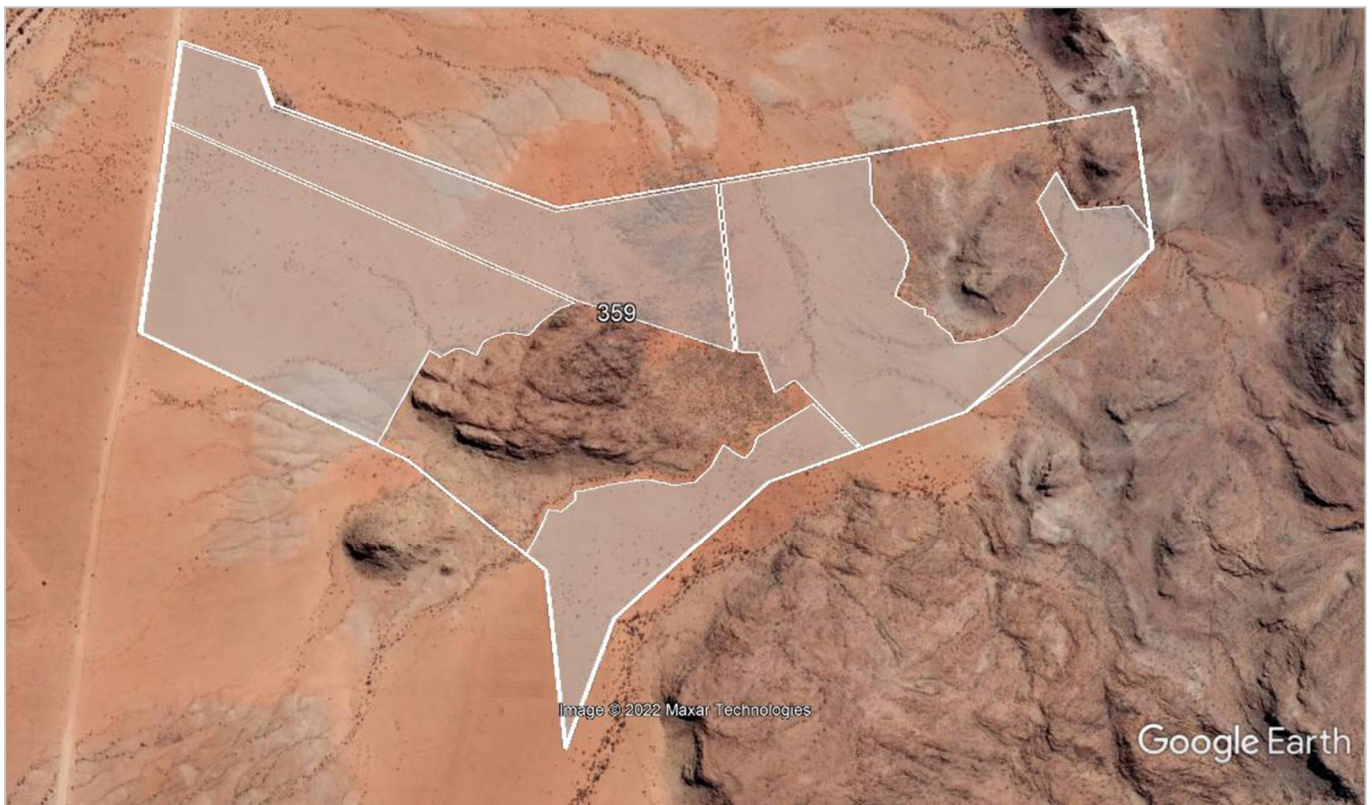


Figure 15. Layout Alternative 1 indicated in white.

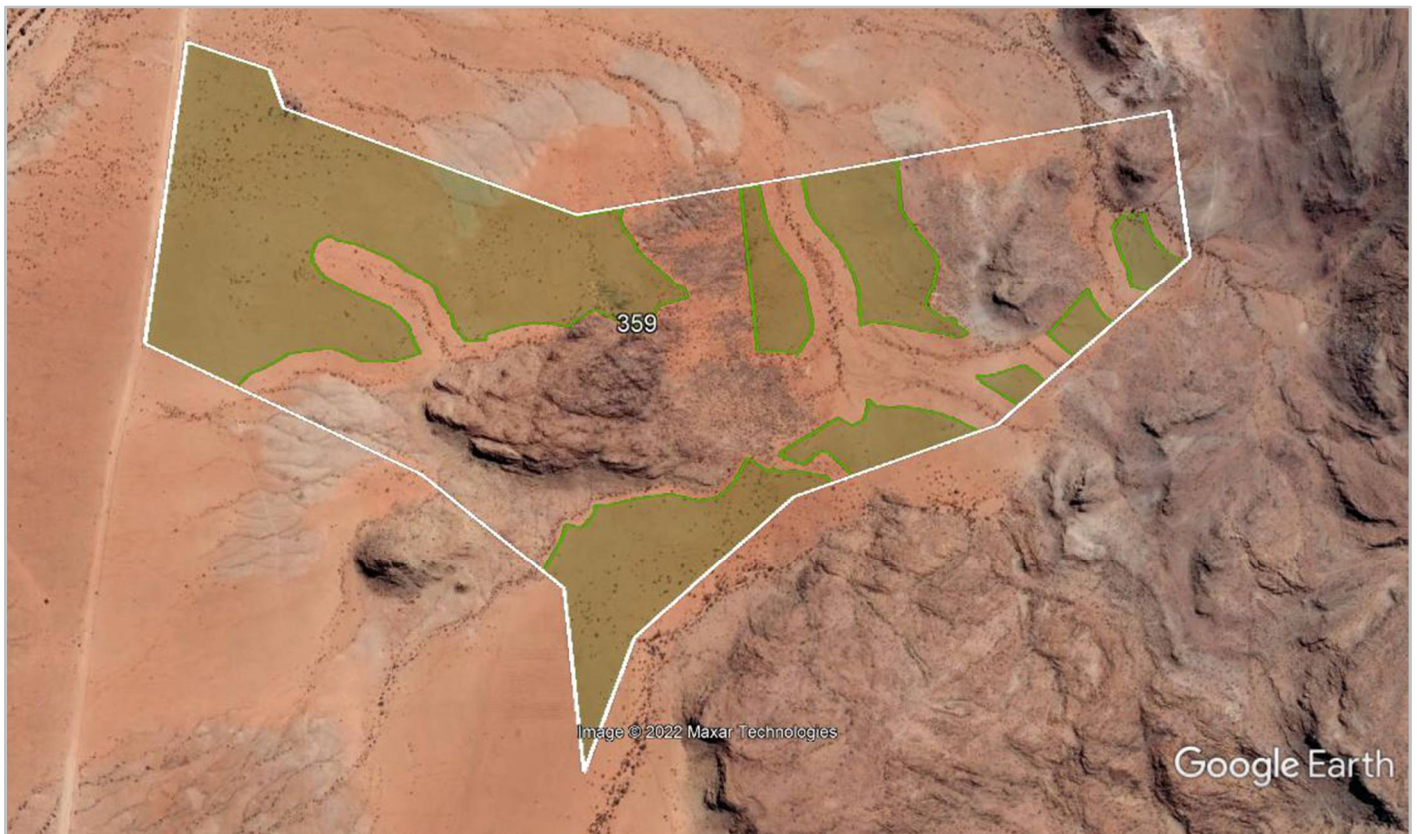


Figure 16. Layout Alternative 1 indicated in green (avoiding all areas with a high botanical sensitivity and no-go areas (watercourses and buffer areas).

7.1 No-Go Alternative

The 'No Go' or no development scenario takes into consideration the impacts associated with the no construction option. It is a prediction of the future state of the affected area in the event of no construction activities taking place and is based on the current and/or anticipated future land use. If no construction were to take place it is unlikely that any changes to the status quo would occur and this would have a Neutral impact.

8 DESCRIPTION OF THE POTENTIAL ENVIRONMENTAL IMPACTS

8.1 Potential Botanical Impacts

- Loss of vegetation type and ecological processes – including indigenous vegetation and ecologically important species.
- Construction phase: Most of the impacts would occur during this phase since it would involve clearing the vegetation. The total area of Study area is approximately 110 ha and includes mostly Intact Kalahari Karroid Shrubland habitat.
- Operational phase: The operational phase impacts are related to the potential for exotic species to colonize and spread from the construction areas and other disturbed parts of the site post-construction. Soil erosion is also likely to occur where soils are shallow and become disturbed.
- Loss of species of conservation concern – associated with the loss of indigenous vegetation
- Construction and Operational phase: No SCC were found in the study area and the impact is therefore rated as "Not significant" for both alternatives (Nicolson, J. 2021).

Proposed mitigation measures:

- Avoidance is the main mitigation for the construction phase. The Medium and High sensitivity areas including their buffers and the areas between the buffers that are too small to develop must be excluded from the development footprint (Nicolson, J. 2021).
- The passive rehabilitation of the construction areas and any other disturbed parts of the site are required during the operational phase of the project. The site must be visited every six months for three years to inspect the site for the establishment of any exotic or invasive species. If these are found they must be removed by hand when they are seedlings. Exotic grasses and the honey mesquite are potential species to look for at this site. Signs of soil erosion must also be monitored and remedied where required (Nicolson, J. 2021).
- Effective measures must be implemented to prevent soil erosion along farm tracks.
- Effective measures must be implemented to manage run-off and prevent soil erosion within the post construction footprint areas.
- Effective measures should be implemented for the long term maintenance and management of farm track-watercourse crossings.
- Rocks and vegetation debris should not be dumped onto natural vegetation outside of the proposed development footprint areas.
- Any animals encountered during the land clearing activities should be left unharmed and allowed to safely move to adjacent natural areas. Where practical (e.g. tortoises), animals should be relocated to adjacent natural areas

8.2 Potential impacts on drainage lines:

- Disturbance and modification or loss of aquatic habitat and its associated biota (Construction and Operational Phases)
- Increased potential for alien vegetation infestation and erosion (Construction and Operational Phases) Invasive vegetation recruits rapidly into disturbed areas. The proposed activity for the operation phase could therefore be expected to facilitate the spread of alien vegetation within the drainage lines.

Disturbance and modification or loss of drainage line habitat and its associated biota

Proposed mitigation measures

- The areas disturbed within the drainage lines associated with the proposed activities should be minimised.
- Construction works should preferably be undertaken in the dry season to help limit the extent of runoff related impacts (sedimentation and erosion) on the surrounding aquatic habitats.
- Ongoing monitoring and control of alien invasive plants and erosion within the drainage lines, particularly within the disturbed areas, will be required.
- Maintenance activities associated with the longer-term operation activities of the project should be carried out in accordance with the approved Maintenance Management Plan for the site.
- The recommended buffers that will remain along the drainage lines should be vegetated with suitable indigenous vegetation and should be kept clean of alien vegetation.
- During operation, these areas should not be used for access roads, turning areas or for dumping or storage of material.
- There should be minimal crossing of the drainage lines and their associated buffers to allow for infrastructure such as road and pipeline crossings.

Increased potential for alien vegetation infestation and erosion

Proposed mitigation measures:

- The drainage lines within the site should be kept clear of alien invasive vegetation.
- Ongoing monitoring of alien vegetation recruiting into the disturbed areas should be undertaken that the vegetation removed.

- Follow up clearing should take place at least annually.
- The proposed buffers along the drainage lines on site are intended to reduce the erosion potential of the streams. These areas should remain vegetated with suitable indigenous vegetation and keep clear of alien vegetation.
- Any disturbed areas need to be re-vegetated following construction.
- Monitoring should take place to detect any erosion so that erosion mitigation can take place.

8.3 Potential Impacts on Heritage Resources

This HIA identified no significant heritage resources that may be impacted negatively by the proposed development (Engelbrect, J. & Fivaz, H. 2021).

8.4 Cumulative Impacts

Cumulative impacts are those impacts linked to increased loss of vegetation type or the ecosystems listed in the National List of Threatened Terrestrial Ecosystems (Government Gazette, 2011). Cumulative impacts are assessed as the overall impact of loss of habitat in relation to loss of the same or similar habitat at a local scale due to past, present and future habitat loss. The loss of or disturbance to 110 ha Kalahari Karroid Shrubland is very low in the context of the remaining 99.3% (Nicolson, J. 2021).

8.5 No-go Alternative Impacts

The No-go Alternative assumes that the status quo within the site will be maintained. The No-go Alternative would thus have very low significance impacts.

9 RATIONALE FOR THE PROPOSED DEVELOPMENT (NEED AND DESIRABILITY)

The table below is used to motivate the Need and Desirability of this proposal. Please note that this table will be further informed by the outcomes of the Statutory Scoping and EIA Phases and will be updated accordingly.

Table 7. Need and Desirability.

Guideline	EAP Response
<ul style="list-style-type: none"> ▪ How will this development (and its separate elements/aspects) impact on the ecological integrity of the area? ▪ How were the following ecological integrity considerations taken into account: <ul style="list-style-type: none"> • Threatened Ecosystems, • Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure, • Critical Biodiversity Areas (“CBAs”) and Ecological Support Areas (“ESAs”), • Conservation targets, • Ecological drivers of the ecosystem, • Environmental attributes and management proposals contained in relevant Environmental Management Frameworks, 	<p>With specific reference to the ecological integrity of the area two alternatives was assessed</p> <ul style="list-style-type: none"> • Alternative 1: Development of the entire study area 110 ha (Figure 15). • Preferred Alternative 2: Development of the Low and Very low ecological sensitive areas excluding the Medium and High sensitivity areas including the recommended buffers with a combined surface area of 63.82 ha (Figure 16) <p>Ecological impacts that were assessed and included in this report are as follow:</p> <ul style="list-style-type: none"> • Avoidance is the main mitigation for the construction phase. The Medium and High sensitivity areas including their buffers and the areas between the buffers that are too small to develop must be excluded from the development footprint (Nicolson, J. 2021). • The passive rehabilitation of the construction areas

<ul style="list-style-type: none"> • Environmental attributes and management proposals contained in relevant Spatial Development Framework, and • Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.). 	<p>and any other disturbed parts of the site are required during the operational phase of the project (Nicolson, J. 2021).</p> <p>Aquatic habitat impacts that were assessed and included in this report are as follow:</p> <ul style="list-style-type: none"> • Disturbance and modification or loss of aquatic habitat and its associated biota. • Increased potential for alien vegetation infestation and erosion.
<ul style="list-style-type: none"> ▪ How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy? ▪ How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts? 	<p>A positive process will be followed by the project team to firstly avoid negative impacts by using the specialists' constraints analyses to inform the layout.</p> <p>If impacts cannot be avoided, specialists will provided mitigation measures to reduce the negative impacts to an acceptable level. Management/Operational measures will also be discussed and implemented.</p> <p>Further detail will be provided in the EIR and the Environmental Management Programme (EMPr).</p> <p>Potential botanical impacts include:</p> <ul style="list-style-type: none"> • Loss of vegetation type and ecological processes – including indigenous vegetation and ecologically important species. <p>Potential freshwater impacts include:</p> <ul style="list-style-type: none"> • Disturbance and modification or loss of aquatic habitat and its associated biota (Construction and Operational Phases) • Increased potential for alien vegetation infestation and erosion (Construction and Operational Phases) <p>Potential heritage impacts include:</p> <ul style="list-style-type: none"> • This HIA identified no significant heritage resources that may be impacted negatively by the proposed development (Engelbrecht, J. & Fivaz, H. 2021).
<ul style="list-style-type: none"> ▪ What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste? 	<p>No waste or pollution will be generated by this proposal.</p>
<ul style="list-style-type: none"> ▪ How will this development use and/or impact on non-renewable natural resources? What measures were 	<p>No non-renewable resources will be required.</p>

<p>explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?</p>	
<ul style="list-style-type: none"> ▪ How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts? ▪ Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life) ▪ Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources for the proposed development alternative?). ▪ Do the proposed location, type and scale of development promote a reduced dependency on resources? 	<p>Use of non-renewable resources, such as electricity and water, will be limited.</p>
<ul style="list-style-type: none"> ▪ How will the ecological impacts resulting from this development impact on people's environmental right in terms following: <ul style="list-style-type: none"> ○ Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, 	<p>The proposed project will not unduly impact on people's environmental rights.</p> <p>Farm workers, their families and the farmer will benefit from the development of the agricultural potential of the farm.</p>

<p>odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?</p> <ul style="list-style-type: none"> ○ Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts? ○ Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)? ○ Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area? ○ Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations? ○ Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area? 	<p>In order to arrive at the preferred alternative, a botanist, a heritage consultant and the water use license consultant were appointed as part of the pre-application phase to provide their constraints and conditions (within their respective areas of expertise). This was done to identify any issues that could potentially result in fatal flaws with the proposed project and to find ways to avoid any significant environmental impacts.</p>
<ul style="list-style-type: none"> ▪ What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?: <ul style="list-style-type: none"> ○ The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area, ○ Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.), ○ Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and ○ Municipal Economic Development Strategy ("LED Strategy"). 	<p>The site is zoned for agriculture. The sites are surrounded by agricultural land/operating farms consisting of orchards, vineyards, farm dams, farm worker housing and homesteads. The proposed development will therefore be consistent with the existing land use on the farm as well as the surrounding areas.</p>
<ul style="list-style-type: none"> ▪ Considering the socio-economic context, what will the 	<p>Although the proposed activity will offer a relatively small</p>

<p>socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?</p> <ul style="list-style-type: none"> ○ Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs? 	<p>benefit to society in general and may not be considered a societal priority, it will still have a positive benefit for the local community. The proposal will result in positive impacts for the community as those already employed on the farm will have increased job security, additional employment opportunities will be created for the local community (who live in close proximity to the farm) and the economic development of the area will benefit.</p> <p>An indirect impact of the proposal is an increase in agricultural produce which is not only beneficial to the local area but to the entire region and possibly the country too. The direct and indirect positive impacts resulting from the proposed activity can be safeguarded through the implementation of best-farming practices and compliance with any recommendations made by the Department of Agriculture.</p>
<ul style="list-style-type: none"> ▪ How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts? 	<p>Agriculture is standard practice within the area and therefore little impact will be caused to people's health and wellbeing (in terms of noise, odours, visual character and sense of place) as a result of this activity. The location of the site also limits the impacts that the activity will have on people as the site is located outside any towns. No negative socio-economic impacts are therefore expected should this proposal be approved.</p> <p>The site is located on an operational farming unit located within an agricultural area – the sense of place will not be affected by the proposed activities.</p>
<ul style="list-style-type: none"> ▪ How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities? 	<p>Those already employed on the farm will have increased job security and additional permanent and seasonal jobs will be created by the propose development (positive impact). There will also be an increase in agricultural produce which is not only beneficial to the local area but to the entire region. The farming operation will be subject to WITA and GlobalGap monitoring and audits.</p>
<ul style="list-style-type: none"> ▪ Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term? 	<p>Farm workers, their families and the farmer will benefit from the development of the agricultural potential of the farm.</p>
<ul style="list-style-type: none"> ▪ In terms of location, describe how the placement of the proposed development will: <ul style="list-style-type: none"> ○ result in the creation of residential and employment opportunities in close proximity to or integrated with each other, ○ reduce the need for transport of people and goods, 	<p>The sites are located on an operational farming unit located within an agricultural area. The proposal will result in positive impacts for the community as those already employed on the farm will have increased job security, additional employment opportunities will be created for the local community (who live in close proximity to the farm) and</p>

<ul style="list-style-type: none"> o result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport), o compliment other uses in the area, o be in line with the planning for the area, o for urban related development, make use of underutilised land available within the urban edge, o optimise the use of existing resources and infrastructure, consider opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement), discourage “urban sprawl” and contribute to compaction/densification, o contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs, o encourage environmentally sustainable land development practices and processes, o take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.), o result in investment in the settlement or area in question that will generate the highest socioeconomic returns (i.e. an area with high economic potential), o impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and o in terms of the nature, scale and location of the development, promote or act as a catalyst to create a more integrated settlement? 	<p>the economic development of the area will benefit.</p>
<ul style="list-style-type: none"> ▪ How were a risk-averse and cautious approach applied in terms of socio-economic impacts?: <ul style="list-style-type: none"> o What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? o What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current 	<p>The proposed development will not result in any negative socio-economic impacts.</p>

<p>knowledge?</p> <ul style="list-style-type: none"> ○ Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development (and its alternatives)? 	
<ul style="list-style-type: none"> ▪ How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following: <ul style="list-style-type: none"> ○ Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? ○ Positive impacts. What measures were taken to enhance positive impacts? 	<p>Due to the localised nature of the proposed development and the relatively small scale, it is anticipated that this application will have no impact on the existing rights of surrounding properties.</p> <p>I&APs and Stakeholders will be allowed the opportunity to consider and submit comment, thereby ensuring that all people's needs, rights and concerns will be addressed through this process.</p>
<ul style="list-style-type: none"> ▪ Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)? 	<p>No natural resources will be over-utilised.</p>
<ul style="list-style-type: none"> ▪ What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations? 	<p>The proposal will result in job security for those already employed on the working farm and increase in incomes for the farmer and farm workers.</p>
<ul style="list-style-type: none"> ▪ What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? 	<p>Those already employed on the farm will have increased job security.</p> <p>No adverse impacts are expected.</p>
<ul style="list-style-type: none"> ▪ Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered? 	<p>The preferred alternative is considered the best practicable environmental option.</p>
<ul style="list-style-type: none"> ▪ What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination? 	<p>Those already employed on the farm will have increased job security and additional employment opportunities will be created for the local community should the farm increase its agricultural lands.</p>
<ul style="list-style-type: none"> ▪ What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle? ▪ What measures were taken to ensure that the interests, 	<p>An EMPr for the construction and operational phases of the proposed development will be developed in the EIA phase and will specify responsibilities for environmental issues throughout the life of the development.</p>

<p>needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge?</p>	<p>The Public Participation Process to be undertaken as part of the Scoping and EIA process as detailed in Section 11 of this report. Various methods will be employed to notify potential Interested and Affected Parties of the proposed project, including site notices, advertisements in newspapers and written notifications of all adjacent landowners and occupiers.</p>
<p>▪ Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g.. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?</p>	<p>The public participation process will incorporate engagement with local councilors, farming associations and the Irrigation Board. The local community will have an opportunity to raise any concerns they may have, and these concerns will be addressed throughout the process.</p>
<p>▪ What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?</p>	<p>An EMPr will be developed to address health and safety concerns. An Environmental Control Officer (ECO) must be appointed to monitor compliance with the EMPr during the development phase. This will be a condition of the environmental authorisation.</p>
<p>▪ Describe how the development will impact on job creation in terms of, amongst other aspects:</p> <ul style="list-style-type: none"> ○ the number of temporary versus permanent jobs that will be created, ○ whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area), the distance from where labourers will have to travel, the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and ○ the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs in the short and medium term, but impact on 1000 permanent agricultural jobs, etc.). 	<p>Farm workers already employed on the farm will have increased job security. It is unclear if the farm workers will be used during the construction phase or if an outside contractor will be appointed.</p> <p>A few operational jobs may be created as a result of increased agricultural land.</p>
<p>▪ What measures were taken to ensure:</p> <ul style="list-style-type: none"> ○ that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and ○ that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures? 	<p>The authority consultation process carried out by the EAP will assist in coordinating the policies, legislation and mandates of the various State Departments/Organs of State.</p> <p>In terms of the Agreement for the One Environmental System (section 50A of the NEMA and sections 41 (5) and 163 A of the NWA) the process for a Water Use License Application (WULA) and EIA will be aligned and integrated with respect to the fixed synchronised timeframes, as</p>

	prescribed in the EIA Regulations 2014, as amended and the 2017 WULA Regulations (GN R. 267 of 24 March 2017). The EIA process will therefore take cognisance of this and will be carried out accordingly.
<ul style="list-style-type: none"> ▪ What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage? 	The EIA process, including the public participation, is a means of managing potential impacts on environmental resources and determining whether the proposed use of resources is in the public interest. This will be evaluated in the specialist impact assessments.
<ul style="list-style-type: none"> ▪ Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left? 	Mitigation measures are to be further developed in the EIA Phase
<ul style="list-style-type: none"> ▪ What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be borne by those responsible for harming the environment? 	<p>Mitigation measures are to be further developed in the EIA Phase.</p> <p>These measures will become conditions of approval in the Environmental Authorisations, should the proposal be granted, and will form a key part of the EMPr for the proposed development. Responsibility for their implementation and for compliance with any authorisations would lie with the Applicant.</p>
<ul style="list-style-type: none"> ▪ Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations? 	<p>A preliminary identification of alternatives is included in Section 7 this Draft Scoping Report. Further alternatives may be identified during the scoping and EIA phases of this process.</p> <p>The current preferred alternative is considered the best practicable environmental option since takes the botanical and freshwater constraints of the farm into account.</p>
<ul style="list-style-type: none"> ▪ Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area? 	To be discussed in the EIR. A preliminary discussion of Potential Impacts and Cumulative impacts is included in Section 8 of this Report.

10 PUBLIC PARTICIPATION PROCESS

The section below outlines the public participation process to be undertaken as part of the application process as per the 2014 EIA Regulations, as amended. Any issues and concerns raised will be considered and evaluated in the Statutory Scoping and EIA phases. Public participation plays an important role in the compilation of a Scoping and EIA Report as well as the planning, design and implementation of the project. Public participation is a process leading to informed decision-making, through joint effort by:

- the Applicant,
- technical experts (specialists),
- governmental authorities, and
- Interested and Affected Parties (I&APs).

Public participation is a vehicle for public input, which aims to achieve the following:

- facilitates negotiated outcomes,
- creates trust and partnership,
- minimises negative effects and maximises positive effects.

It also provides an indication of issues, which may

- prevent the project continuing,
- cause costly delays later, and
- results in enhanced and shared benefits.

Tasks undertaken during the Draft Scoping Phase

Public participation processes will be undertaken in accordance with the requirements of Regulation 41 of the EIA Regulations, 2014 (as amended) and the following will be done:

Two public participation processes ("PPP") will be implemented, viz. A 30day PPP on Draft Scoping Report and a 30 day PPP on the Final Scoping Report.

10.1 PPP on Draft Scoping Report: 03 May 2022 – 03 June 2022.

- A Notice board is fixed at the entrance to the property (**Plate 8**).
- This notice board contains all the required information plus contact details of the EAP should any I&AP require a copy of the Draft Scoping Report.
- Notification letters (Appendix 4.1.1) were sent via email to neighbours (including owners, persons in control of, and occupiers of land adjacent to the property). In the instance where neighbours do not have access to email service/access, a letter drop or fax option will be considered. See Appendix 4.1.2 for proof of postage.
- The contact details of the EAP as well as information on how to obtain a copy of the Draft Scoping Report will be detailed in these Notification Letters.
- A notification letter (Appendix 4.1.1) as well as an electronic copy of the Draft Scoping Report will be sent via email and WE TRANSFER to the relevant municipal councillor. See Appendix 4.1.2 for proof of postage.
- A notification letter (Appendix 4.1.1) as well as an electronic copy of Draft Scoping Report will be sent via email and WE TRANSFER to the Municipal Manager (MM) of the Kai !Garib Municipality as well as to the Municipal Manager (MM) of the ZM Mquwu District Municipality. See Appendix 4.1.2 for proof of postage.
- A notification letter (Appendix 4.1.1) as well as an electronic copy of the Draft Scoping Report will be sent via email and WE TRANSFER to officials representing Organs of State as listed below. (See Appendix 4.1.2 for proof of postage.)
 - Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform ;
 - National Department of Agriculture, Forestry and Fisheries;
 - Department of Water and Sanitation;
 - Kakamas Water Users Association;
 - South African Heritage Resource Agency (SAHRA);
 - ZF Mgcawu District Municipality;
 - Kai !Garib Local Municipality.
- An advertisement was placed in the Gemsbok newspaper of 28 April 2022 (**Plate 9**) indicating how and where I&AP's can register as well as information on where a copy of the Draft Scoping Report, including Appendices, can be accessed.



Plate 8. Notice board at the entrance to the property.

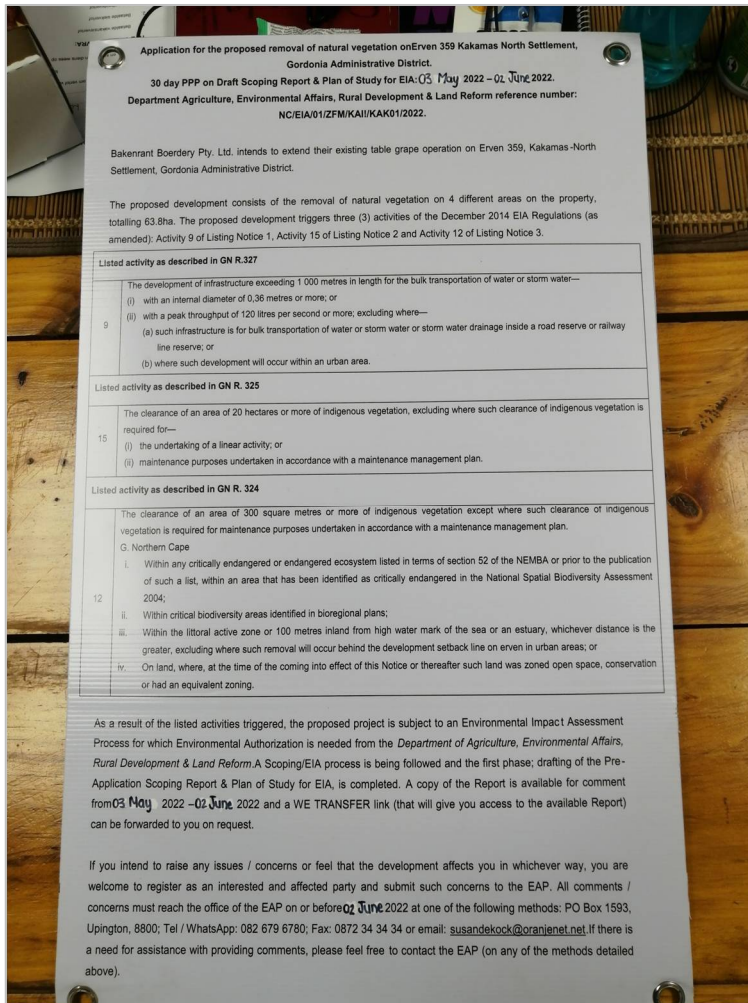


Plate 9. The information portrait in the newspaper advertisement of 28 April 2022.

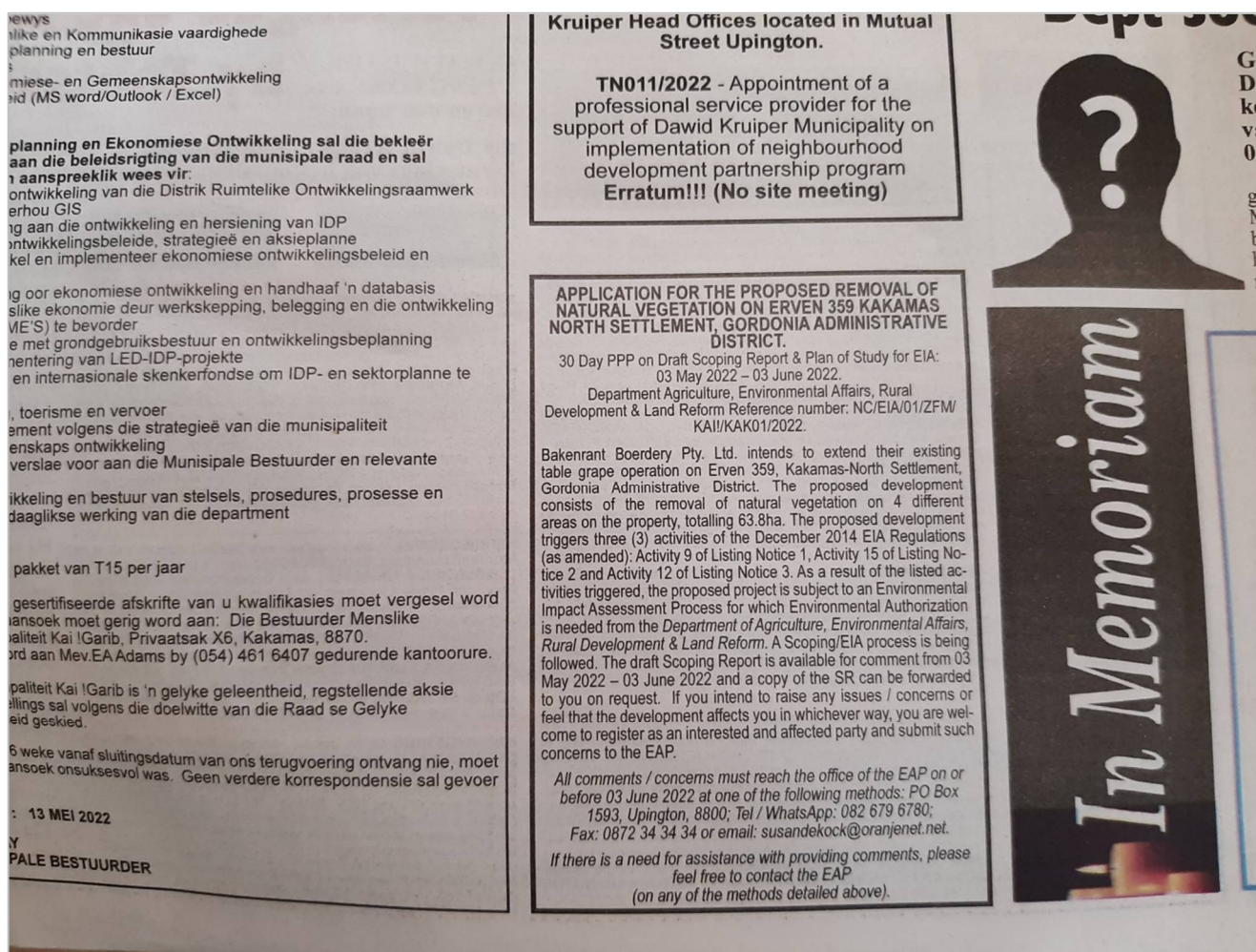


Figure 17. Newspaper advertisement (Gemsbok Newspaper of 28 April 2022).

10.2 Tasks to be undertaken during the Final Scoping Phase

- Official notification letters will be distributed (via post, email, etc.) to all registered I&APs informing them of the statutory process and the availability of the Final Scoping Report for comment.
- Registered neighbouring landowners will be requested to inform those residing on their farms of the application and the opportunity to comment.
- The Final Scoping Report and Plan of Study for EIA will be circulated for comment to all registered I&APs and Commenting Authorities for an additional 30-day commenting period. Their comment will be requested in terms of Section 240 of NEMA (Act 107 of 1998).
- All comments received during this commenting period will be included in the Comments and Response Report.

10.3 Relevant Commenting Authorities

The following Commenting Authorities will be given a copy of the report and will be asked to comment:

- Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform ;
- National Department of Agriculture, Forestry and Fisheries;
- Department of Water and Sanitation;
- Kakamas Water Users Association;
- South African Heritage Resource Agency (SAHRA);
- ZF Mgcawu District Municipality;
- Kai !Garib Local Municipality.

11 PLAN OF STUDY FOR EIA

This Plan of Study for the Environmental Impact Assessment (EIA) phase has been compiled in terms of Appendix 2 of the Regulations published in Government Notice No. R. 326 (4 December 2014), under Chapter 5 of NEMA. Its purpose is to ensure that the next phase of this EIA process satisfies the requirements of the Department of Agriculture, Environmental Affairs, Rural Development & Land Reform in order to make an informed decision.

Section (i) of Appendix 2 states that the following must be included in the Plan of Study for EIA:

- i A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;
- ii A description of the aspects to be assessed as part of the environmental impact assessment process;
- iii Aspects to be assessed by specialists;
- iv A description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists;
- v A description of the proposed method of assessing duration and significance;
- vi An indication of the stages at which the competent authority will be consulted;
- vii Particulars of the public participation process that will be conducted during the environmental impact assessment process; and
- viii A description of the tasks that will be undertaken as part of the environmental impact assessment process;
- ix Identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

11.1 Description of alternatives to be considered and assessed

The objective of an impact assessment is to find the most feasible and reasonable alternative having the least negative environmental impact, and which best benefits society. The assessment and evaluation of potential impacts associated with the development would thus be undertaken in a manner which would optimally and pro-actively inform the intended development. The following alternatives have been considered in this Draft Scoping Report and where relevant will be assessed during the environmental application process:

- Layout Alternative 1
- Layout Alternative 2 (preferred alternative)
- No-Go Alternative

The above alternative types have been and will be further investigated during this environmental process.

11.2 Description of potential aspects / impacts to be assessed

The following main potential aspects / impacts have been identified to date which will be assessed as per the assessment methodology provided in **Section 11.4** of this Plan of Study for EIA.

Construction phase:

- Loss of vegetation type and ecological processes
- Proliferation of alien vegetation
- Impact on terrestrial fauna
- Economic and Socio-economic impacts
- Potential noise impact
- Potential visual impact
- Dust nuisance due to construction activities

- Impact on Heritage Resources
- Soil Erosion

Operational phased:

- Proliferation of alien vegetation
- Soil erosion
- Salination of soils
- Visual impact
- Economic benefits & Increased farming capacity
- Socio-economic benefits

11.3 Specialists studies

Specialists will be briefed and provided with the necessary scope and criteria for undertaking their assessments to provide input and recommendations into the Scoping and EIA process. These criteria are inclusive of the need to consider the no go option as the base line option. Specialists and specialist reports must meet the requirements laid out in Appendix 6 of the EIA Regulations, 2014 (as amended) as well as the new EIA Protocols of March 2020.

The need for the following specialist studies was identified and has been undertaken as part of the process:

- Botanical Impact Assessment ;
- Phase 1 Heritage Impact Assessment;
- Soil Suitability Report;
- Water Use Licence verification and pre-application planning.

Should additional specialist studies be required, it will be undertaken during the remainder of the Scoping & EIA process. Additional reports to be included in the EIA Report include:

- Environmental Management Programme (EMPr) inclusive of erosion and run-off control and management measures.

11.4 Impact Assessment and Ranking Methodology

An impact refers to any change in the environment, whether adverse or beneficial, resulting from the proposed development. The significance ratings are based on largely objective criteria and inform decision-making at a project level as opposed to a local community level. In some instances, therefore, whilst the significance rating of potential impacts might be “low” or “very low”, the importance of these impacts to local communities or individuals might be extremely high. The importance which I&APs attach to impacts must be taken into consideration, and recommendations should be made as to ways of avoiding or minimising these negative impacts through project design, selection of appropriate alternatives and / or management.

The impact assessment methodology criteria used to assess and rank potential impacts and risks that have been identified during the Scoping Phase are outlined below.

Colour schemes are assigned to the positive and negative significance ratings for ease of reference within the impact assessment tables and impact summary table (see below). The following criteria forms part of the assessment of impacts in this report:

- a Nature of impact;
- b Extent / Scale;

- c Duration;
- d Probability of occurrence;
- e Irreplaceable loss of resources;
- f Reversibility of impact;
- g Cumulative impact;
- h Degree to which the impact can be avoided;
- i Degree to which the impact can be mitigated;
- j Degree to which the impact can be managed;
- k Consequence of impact;
- l Indirect impacts;
- m Residual impacts;
- n Significance.

a Nature of Impact

The nature of an impact indicates whether the impact would have a negative, positive or zero effect on the affected environment. An impact may therefore be negative, positive or neutral.

b Extent / Scale

“Extent” defines the physical extent or spatial scale of the impact. The impact could be:

Rating	Description
SITE SPECIFIC	Limited to the site.
LOCAL	Limited to the site and the immediate surrounding area (1 – 10km)
REGIONAL	Covers an area that includes a certain geographic region and / or extends from one region to another.
PROVINCIAL	Impact considered of provincial importance.
NATIONAL	Across national boundaries and could have implications on a national scale.

c Duration

“Duration” gives an indication of how long the impact would occur.

Rating	Description
SHORT TERM	0 - 5 years
MEDIUM TERM	5 - 15 years
LONG TERM	Where the impact extends beyond the operational life of the activity, but not permanently.
PERMANENT - mitigated	Mitigation measures of natural process will reduce impact – impact will remain after operational life of project.
PERMANENT – no mitigation	No mitigation measures of natural process will reduce impact after implementation – impact will remain after operational life of project.

d Probability of occurrence

“Probability” describes the likelihood of the impact actually occurring.

Rating	Description
--------	-------------

IMPROBABLE / UNLIKELY	No impacts expected under normal conditions.
LOW PROBABILITY	Where there is a low likelihood of the impact occurring.
PROBABLE (MEDIUM)	Where there is a distinct possibility that the impact will occur.
HIGH PROBABILITY	Where it is most likely that the impact will occur.
DEFINITE	Where the impact will occur regardless of any prevention measures.

e Potential for irreplaceable loss of resources

This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.

Rating	Description
NO LOSS	No irreplaceable resources will be lost or impacted.
MARGINAL LOSS	Marginal loss of irreplaceable resources occurs. Resources can be replaced, with effort.
SIGNIFICANT LOSS	Where a significant loss of resources occurs.
COMPLETE LOSS	Where an activity results in the complete loss of resources. There is no potential for replacing a particular vulnerable resource that will be impacted.

f Reversibility of an impact

This refers to the degree to which an impact can be reversed.

Rating	Description
IRREVERSIBLE	Where the impact is permanent.
PARTIALLY REVERSIBLE	Where the impact can be partially reversed.
FULLY REVERSIBLE	Where the impact can be completely reversed.

g Cumulative impact

This describes the cumulative effect of the impacts on the environmental parameter. A cumulative effect/impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from other similar or diverse activities within the surrounding area. Cumulative impact may be described as **negligible, low, medium** or **high** impact.

h Degree to which impact can be avoided

Impacts can be **fully avoided** (completely avoidable), **partly avoided** (impact is regarded avoidable with moderate light mitigation and/or management) or the impact is **unavoidable** (it cannot be avoided even with the implementation of significant mitigation measures).

i Degree to which impact can be mitigated

This indicates the degree to which an impact can be reduced. It can either be **high** (be fully mitigated), **moderate** (be partly mitigated) or **not be mitigated at all** (no change in impact with mitigation).

j Degree to which impact can be managed

Impacts can be **fully managed** (completely manageable), **partly managed** (impact is manageable with moderate mitigation and / or management) or it is **unmanageable** (impact cannot be managed even with significant mitigation measures).

k Consequence of impact

Indicates how the activity will affect the environment, what will happen if the impact occurs.

l Indirect impacts

These comprise secondary impacts that usually occur at a different time or place as a result of the direct impact.

m Residual impact

Residual impacts are impacts that remain following the implementation of mitigation measures.

n Significance

The significance of an impact comprises of the likelihood (probability) of the impact occurring and the consequence of the impact if it occurs. Consequence is in turn determined through assessing the exposure (extent/scale and duration) and magnitude / severity of the proposed impact.

The nature, extent/scale, duration, consequence, probability of occurrence, the irreplaceable loss of resources, reversibility of the potential impacts, as well as the degree to which impacts can be avoided, managed or mitigated must therefore be assessed for each potential impact identified within each alternative in order to determine the significance of each impact, with and without the implementation of proposed mitigation measures.

Based on the synthesis of the above-mentioned information, the significance of potential impacts identified during the process can be indicated in terms of the criteria (with and without mitigation measures) (with colour schemes attributed to specific impact ratings):

Rating (NEGATIVE)	Description
VERY LOW TO NO IMPACT	The impact will have very low to no negative effect on the receiving environment. No action required.
LOW (L)	The impact will have minor negative effects on the receiving environment. Impacts are within the acceptable range.
MEDIUM – LOW (ML)	The impact will have moderate to minor negative effects on the receiving environment, within the acceptable range, but should be mitigated to lower significance levels if possible.
MEDIUM (M)	The impact will have moderate negative effects on the receiving environment and should be mitigated.
MEDIUM – HIGH (MH)	The impact will have moderate to high negative effects on the receiving environment. Impacts are important and require mitigation to reduce the significance to acceptable levels.
HIGH (H)	The impact will have significant negative effects on the receiving environment. Mitigation is crucial.
VERY HIGH (VH)	The impact will have very high / highly significant negative effects on the receiving environment. Impacts are unacceptable.
Rating (POSITIVE)	Description
VERY LOW TO NO IMPACT	The impact will have a very low to no positive effect on the receiving environment.
LOW (L)	The impact will have minor positive effects on the receiving environment.
MEDIUM – LOW (ML)	The impact will have moderate positive effects on the receiving environment.
MEDIUM (M)	The impact will have moderate positive effects on the receiving environment.
MEDIUM – HIGH (MH)	The impact will have moderate to high positive effects on the receiving environment.
HIGH (H)	The impact will have significant positive effects on the receiving environment.
VERY HIGH (VH)	The impact will have very high / highly significant positive effects on the receiving environment.

Table 8. Significance of potential impacts.

11.5 Consultation with the Competent Authority

The Applicant / EAP will stay in regular contact with the Competent Authority, i.e. the Department of Agriculture, Environment Affairs, Land Reform and Rural Development, throughout the Scoping & EIA process, but the main stages at which the Department will be contacted include the following:

STAGE	STATUS QUO
1 Submission of the formal prescribed Application form to Apply form to Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform.	Completed (Appendix 5, also included is a copy of the Screening Tool Report + Site Sensitivity Report)
2 Notification of the comment period on the Draft Scoping Report and Plan of Study for EIA, and submission of a copy of the Report for comment.	In process
3 Notification of the comment period on the Final Scoping Report and Plan of Study for EIA, and submission of a copy of the Report for comment.	To be completed
4 Submission of the Final Scoping Report and Plan of Study for EIA for approval.	To be completed
5 Notification of the comment period on the Draft Environmental Impact Assessment Report (EIAR) and Environmental Management Plan (EMPr), and submission of a copy of the Reports for comment.	To be completed
6 Notification of the comment period on the Final EIAR and EMPr (if required).	To be completed
7 Submission of the Final EIAR and EMPr for decision-making purposes.	To be completed
8 Submission of proof of compliance with the conditions contained in the Environmental Authorisation if authorisation is granted	To be completed

Table 9. Consultation of the Competent Authority.

11.6 Particulars of the Public Participation Process during EIA

The following is a list of main tasks to be performed as part of the EIA phase of the Environmental Impact Assessment process (in terms of Chapter 6 of the 2014 EIA Regulations, as amended) after receiving approval for the Scoping Report and Plan of Study for EIA.

Update and maintain Interested & Affected Parties (I&AP) database / register.
Compile the draft Environmental Impact Assessment Report (EIR), EMPr and MMP based on specialist input.
Notify the competent and commenting authorities of the commenting period on the draft EIR, EMPr, and WULA and circulate copies of the documents to them by means of letters, email or whichever way communication is preferred and approved.
Notify registered I&APs of the 30-day (minimum) commenting period and circulate copies of the documents to them.
Receive comment, respond to comment and update Comments & Response Report (issues trail).
Incorporate input and recommendations into EIR, finalise EIR and submit to the Department for decision-making.
Notify authorities and registered I&APs of the outcome of the Department's decision and remind them of their right to appeal against the decision.

Table 10. EIA public participation process.

11.7 Main tasks to be undertaken during the EIA process

The EIA Report is informed by the scoping phase. The need for specialist studies have been identified during the scoping phase and input from relevant specialists have subsequently been obtained to advise on the potential impacts that may occur due to the proposed development, including providing recommended management and mitigation measures. A list of specialist studies that have been conducted to date is included in **Section 11.3** of the PoS.

The following steps will be undertaken as part of the EIA phase:

- **Further specialist input** will be obtained throughout the process, should the need arise for any additional aspects and impacts that require specialist input.
- **Alternatives will be further investigated** so as to avoid or minimize negative impacts and maximize potential benefits;
- **Detailed impact assessment** comprising of statements regarding the potential significance of impacts, taking into account proposed mitigation measures, will be provided in the EIA;
- An **Environmental Management Programme (EMPr)** covering construction, operational and decommissioning phases of the application will be prepared incorporating input and recommendations from specialists.

Botanical mitigation measures:

- Avoidance is the main mitigation for the construction phase. The Medium and High sensitivity areas including their buffers and the areas between the buffers that are too small to develop must be excluded from the development footprint (Nicolson, J. 2021).
- The passive rehabilitation of the construction areas and any other disturbed parts of the site are required during the operational phase of the project. The site must be visited every six months for three years to inspect the site for the establishment of any exotic or invasive species. If these are found they must be removed by hand when they are seedlings. Exotic grasses and the honey mesquite are potential species to look for at this site. Signs of soil erosion must also be monitored and remedied where required (Nicolson, J. 2021).
- Effective measures must be implemented to prevent soil erosion along farm tracks.
- Effective measures must be implemented to manage run-off and prevent soil erosion within the post construction footprint areas.
- Effective measures should be implemented for the long term maintenance and management of farm track-watercourse crossings.
- Rocks and vegetation debris should not be dumped onto natural vegetation outside of the proposed development footprint areas.
- Any animals encountered during the land clearing activities should be left unharmed and allowed to safely move to adjacent natural areas. Where practical (e.g. tortoises), animals should be relocated to adjacent natural areas

Mitigation measures relating to identified Medium and High Sensitive areas

- The recommended buffers that will remain along the drainage lines should be vegetated with suitable indigenous vegetation and should be kept clean of alien vegetation.
- During operation, these areas should not be used for access roads, turning areas or for dumping or storage of material.
- There should be minimal crossing of the drainage lines and their associated buffers to allow for infrastructure such as road and pipeline crossings.
- The drainage lines within the site should be kept clear of alien invasive vegetation.
- Ongoing monitoring and maintenance of alien vegetation establishing in the drainage lines and associated buffers should be undertaken.
- Follow up clearing should take place at least annually.

- The proposed buffers along the drainage lines on site are intended to reduce the erosion potential of the drainage lines. These areas should remain vegetated and undisturbed and keep clear of alien vegetation.
- Monitoring should take place to detect any erosion so that erosion mitigation can be implemented.

11.8 Briefs for Specialist Studies

Specialists will be briefed and provided with the necessary scope and criteria for undertaking their assessments. Each specialist is required to consider the project in as much detail as is required to inform his/her impact assessment in order to meet the requirements laid out in Appendix 6 of the EIA Regulations, 2014 (as amended) as well as the new EIA Protocols of March 2020.

Botanical Impact Assessment:

- Identify and describe biodiversity patterns at community and ecosystem level (main vegetation type, plant communities in the vicinity and threatened/vulnerable ecosystems), at species level (threatened Red List species, presence of alien species) and in terms of significant landscape features.
- Assess the local and regional importance of the vegetation communities and plant species within the affected areas based on the relevant biodiversity plans, bioregional planning documents and Environmental Management Frameworks.
- Determine the implications that the proposed project has for the relevant fine-scale biodiversity plan (in this case the, 2012 Northern Cape CBA Map).
- Describe the sensitivity of the site and its environs and map these resources.
- Identify any areas not suitable for construction activities (No-Go Areas) and related buffers that should be observed.
- Describe the direct, indirect and cumulative botanical impacts (both before and after mitigation) and provide an assessment of the significance of the impacts.
- Describe the measures to mitigate any impacts, and an indication of whether or not the measures (if implemented) would change the significance of the impact.
- On the basis of the impact assessment findings provide an authorisation opinion regarding whether or not the proposed activity should proceed.

Phase 1 Heritage Impact Assessment

- Identification and mapping of all heritage resources in the area affected;
 - Identification and mapping of all heritage resources in the area affected;
 - An assessment of the significance of such resources in terms of heritage assessment criteria set out in regulations;
 - An assessment of the impact of the development on heritage resources;
 - An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
 - If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
 - Plans for mitigation of any adverse effects during and after completion of the proposed development.
-

AFFIRMATION BY EAP IN TERMS OF APPENDIX 2(1) OF THE EIA REGULATIONS, 2014 (AS AMENDED)

I, Susan de Kock (representing The ECO Balance Planning Co), as the appointed EAP to implement the required EIA-study for the proposed project, hereby declare that:

- I act/ed as the independent EAP in this application;
- regard the information contained in this report as it relates to our specialist input/study to be true and correct, and
- are fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2017 and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process; and
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not.



29 April 2022

Signature of EAP

Date:

The ECO Balance Planning Co.

Company

APPENDIX 1. Copy of Title Deed

APPENDIX 2. Locality Map

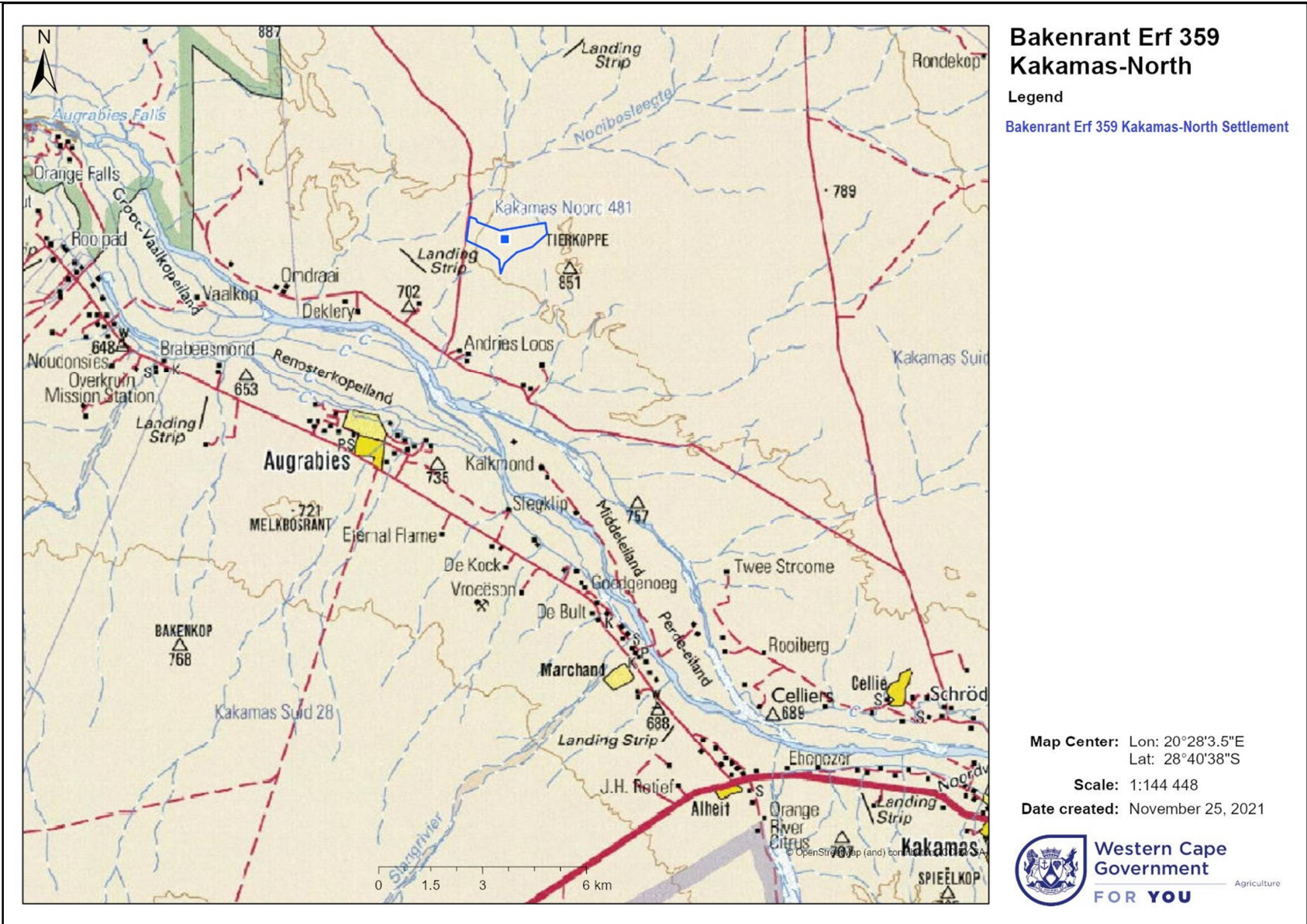


Figure 18 - Locality Map Erven 359 Kakamas North.

APPENDIX 3. EAP CV

APPENDIX 4. PUBLIC PARTICIPATION

Appendix 4.1 Public Participation on Draft Scoping Report

Appendix 4.1.1 Copy of letter forwarded to identified I&AP's

Appendix 4.1.2 Proof of postage for Appendix 4.1.1

To insert

Appendix 4.1.3 List of Identified I&AP's.

Neighbours		
Afdraai	Mr. C. du Plessis	charl@omdraai.co.za
CapeSpan	Geraldine Ekkerd Stefanie Wandrag	omdraai@capespanfarms.co.za Stefanie@capespanfarms.co.za
Tierkop	Rooipad	anel@rooipad.co.za
Organs of State / State Departments		
Department of Agriculture, Environmental Affairs, Rural Development and Land Reform	Mr. O. Seshupo Ms Dineo Moleko Ms Gail Letlemela	olebileseshupo@gmail.com dmoleko@ncpg.gov.za gaildenc@gmail.com
Department of Water & Sanitation	Ms Vhonani Ramugondo Ms Alexia Hlengani Mr Shaun Cloete	ramugondov@dws.gov.za HlenganiA@dws.gov.za CloeteS@dws.gov.za
Department of Agriculture	Mr. Nico Toerien	ntoerien1@gmail.com
SAHRA (electronic submission / upload via Ubique Heritage Consultants)	Mr. Jan Engelbrecht	jan@ubiquecrm.com heidi@ubiquecrm.com
Department: Forestry, Fisheries and the Environment	Ms. Jacoline Mans	JacolineMa@daff.gov.za
Local & District Municipalities		
Kai !Garib Municipality	Municipal Manager (Mr. Mac Kay)	mm@kaigarib.gov.za j.mackay123456@gmail.com marshallmatthys@gmail.com
	Town Planning (Mr. Mathys)	j.mackay123456@gmail.com
	Roads Department (Mr Minnie)	Via mm@kaigarib.gov.za
	Ward Councillor : Ms. Ethel Vass	Ethelvas97@gmail.com
ZM Mgcawu District Municipality	Municipal Manager (Mr. Gilbert Lategan)	admin@zfm-dm.gov.za gil@zfm-dm.gov.za
Local Water Users Association		
Kakamas Water Users Association	The Chairperson	ceokwgv@isat.co.za

Appendix 4.2 Public Participation on Final Scoping Report

To insert in Final Scoping Report

Appendix 4.2.1 Copy of letter forwarded to registered I&AP's

To insert in Final Scoping Report

Appendix 4.2.2 Proof of postage of Appendix 4.2.1

To insert in Final Scoping Report

Appendix 4.2.3 List of Registered I&AP's.

To insert in Final Scoping Report

Appendix 4.2 Comments & Response Report

To complete as PPP progresses.

**APPENDIX 5. Letter of Acknowledgement received from Department of Agriculture,
Environmental Affairs, Rural Development & Land Reform +
Screening Tool Report +
Site Sensitivity Verification Report.**

APPENDIX 6. Coordinates of the 4 areas included in Layout Alternative 1.