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Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

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	(For official use only)
File Reference Number:	
Application Number:	
Date Received:	

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

- This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
- This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
- The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
- Where applicable **tick** the boxes that are applicable in the report.
- An incomplete report may be returned to the applicant for revision.
- The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
- This report must be handed in at offices of the relevant competent authority as determined by each authority.
- No faxed or e-mailed reports will be accepted.
- The signature of the EAP on the report must be an original signature.
- The report must be compiled by an independent environmental assessment practitioner.
- Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
- A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
- Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	YES	~~NO~~

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

- **ACTIVITY DESCRIPTION**

a) Describe the project associated with the listed activities applied for

Construction has commenced on the development of a holiday resort on Portion 18 of Farm 387, Gordonia Rd, Groblershoop, !Kheis Local Municipality. To date, tented units, mobile units and 2-bedroom masonry units (combined total of 27 beds) have been constructed, including a thatched roof entrance, restaurant, ablution facilities, swimming pool and laundry room. Infrastructure including septic tanks have been constructed and access and internal roads have been cleared.

A Sports Complex has also been constructed on the property, but this will be included in a separate S24G Application.

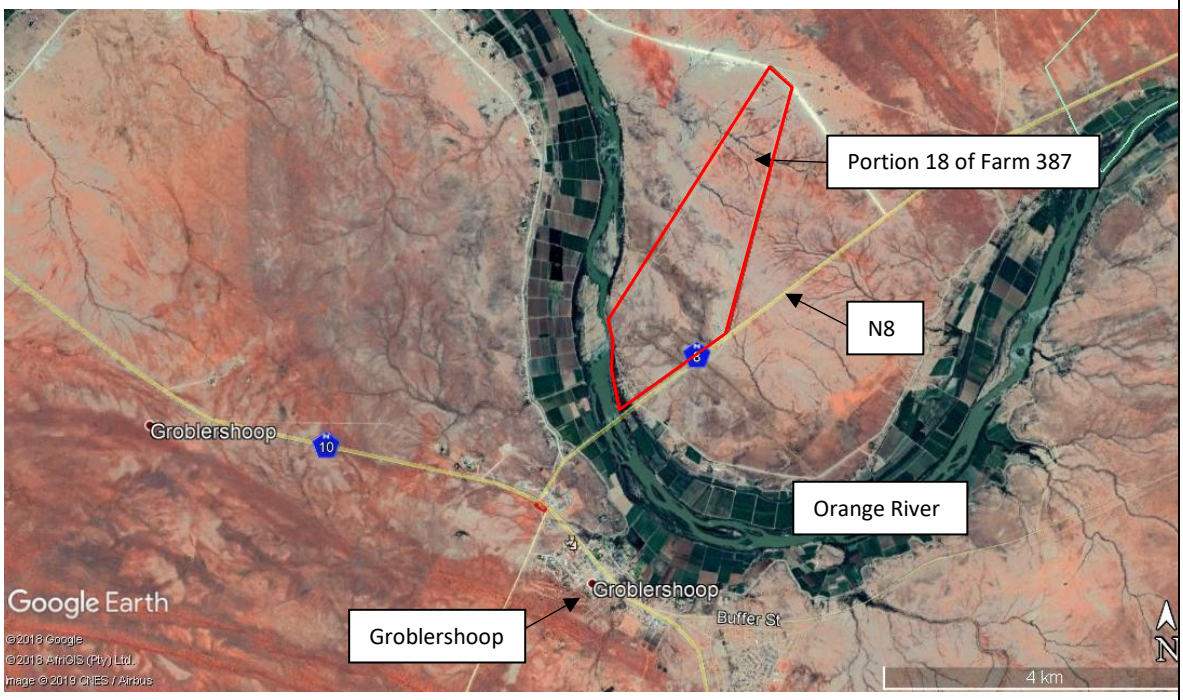

Figure 1: Google Earth image of the property location

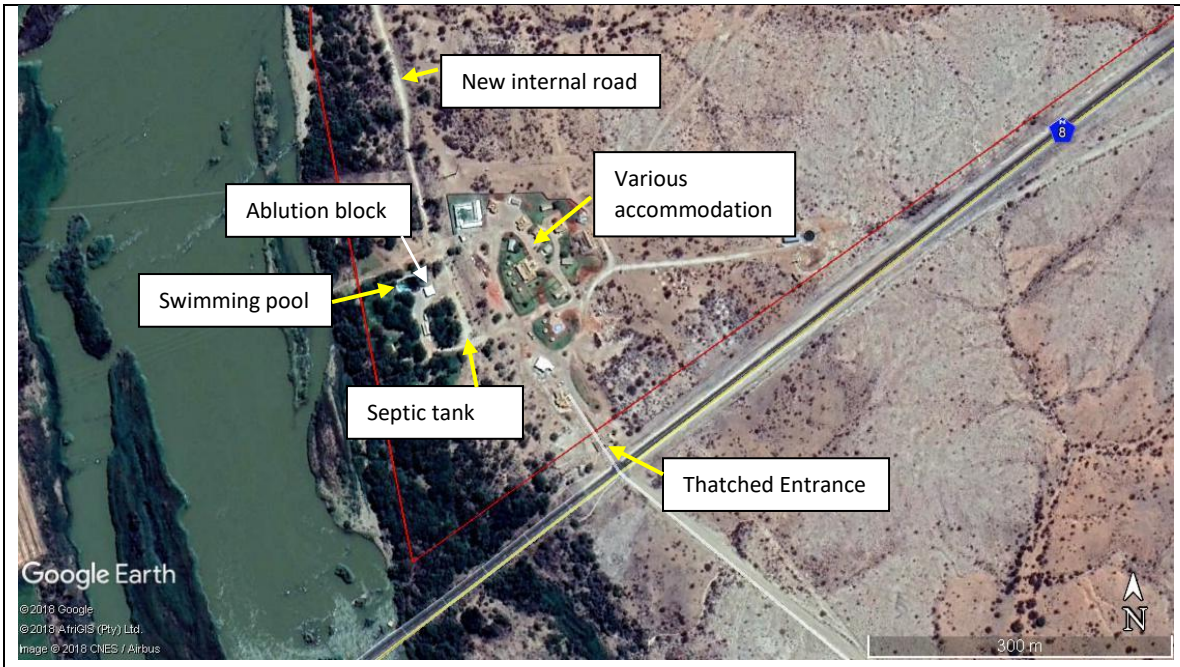

Figure 2: Google Earth image of the site

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 544, 545 and 546	Description of project activity
Government Notice No. R. 327 Activity No(s): **(Listing Notice 1 of 2014)**	
Activity 12 - The development of; (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; **(ii) infrastructure or structures with a physical footprint of 100 square metres or more;** where such development occurs; (a) within a watercourse; (b) in front of a development setback; or **(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;**	Infrastructure exceeding 100sqm has been constructed within 32m of a watercourse (Orange River)
Activity 19 - The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;	More than 10 cubic metres of material has been moved, removed and/or deposited within a watercourse during the construction of the various infrastructure

Activity 27 - The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except 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.	
Government Notice No. R. 325 Activity No(s): **(Listing Notice 2 of 2014)**	
None	
Government Notice No. R. 324 Activity No(s): **(Listing Notice 3 of 2014)**	
Activity 6 - The development of resorts, lodges, hotels, tourism or hospitality facilities that sleeps 15 people or more.	Various tourist accommodation has been constructed which has a capacity exceeding15 people
Activity 12 - The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.	More than 300sqm of vegetation was removed on the banks of the Orange River and elsewhere on the property for the construction of the resort and its associated infrastructure
Activity 14 - The development of; (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 10 square metres; **(ii) infrastructure or structures with a physical footprint of 10 square metres or more;** where such development occurs; (a) within a watercourse; (b) in front of a development setback; or **(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;**	Infrastructure exceeding 10sqm has been constructed within 32m of a watercourse (Orange River)
Government Notice 718 (3 July 2009), National Environment Management: Waste Act 2008 (Act 59 of 2008)	
N/A	

• FEASIBLE AND REASONABLE ALTERNATIVES

"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—

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

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014.Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

The proposed site is the only site considered, and there are no site alternatives. The property is owned by the Applicant, and it is along the Orange River and has direct access from the N8

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Site Entrance	28° 52' 36.63"	21° 59' 24.03"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred) • Starting point of the activity		

- Middle/Additional point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
No layout alternatives were considered.		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

No technology alternatives were considered.

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

N/A

Alternative 1 (preferred alternative)		
Alternative 2		
Alternative 3		

e) No-go alternative

This would mean that no-development would take place and the proposed site will remain as is. The resort development and associated infrastructure would not be constructed.

Although this option would result in no potential negative environmental impacts, the social benefits from implementing the activity would not be achieved.

The no-go option would only have been recommended if it were found that the proposed activities on this site or in this area might potentially cause substantial detrimental harm to the site and the surrounding environment.

Paragraphs 3 – 13 below should be completed for each alternative.

- **PHYSICAL SIZE OF THE ACTIVITY**

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1 (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

- **SITE ACCESS**

Does ready access to the site exist?	YES	~~NO~~
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

The layout used the existing access road to the site. The site access was also formulised with a gate house. However, new dirt roads have been constructed within the site to provide access to the various sections of the development, including an access road to the camp site area and existing reservoir.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

- **LOCALITY MAP**

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

- **LAYOUT/ROUTE PLAN**

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

- **SENSITIVITY MAP**

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

- **SITE PHOTOGRAPHS**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

- **FACILITY ILLUSTRATION**

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

- **ACTIVITY MOTIVATION**

Motivate and explain the need and desirability of the activity (including demand for the activity):

• **Is the activity permitted in terms of the property's existing land use rights?**	~~YES~~	NO	Please explain
The existing zoning of Agricultural Zone I does not allow for the proposed tourism-related activities to be developed on the proposed properties. The portion on which the proposed development will take place will have to be rezoned to Special Zone. This Special Zone zoning will be specifically defined to cater for all the intended land uses envisaged on the study area.			
• **Will the activity be in line with the following?**			
(a) Provincial Spatial Development Framework (PSDF)	YES	~~NO~~	Please explain
The **Northern Cape Provincial Growth and Development Strategy (2011)** identifies the following sectors as areas of potential growth: (1) Agriculture and Agro---processing;(2) Fishing and Mari---culture; (3) Mining and Mineral Processing; (4) Manufacturing; (5) **Tourism;** (6) Knowledge Economy; and (7) Energy.			

(b) Urban edge / Edge of Built environment for the area	YES	~~NO~~	Please explain
The site is located outside the urban edge of Groblershoop.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	~~NO~~	Please explain

The !Kheis SDF has recognised the tourism sector as an important sector for growth and the Orange River has been identified as one of the opportunities to stimulate this growth. According to the !Kheis Municipality Land Development Plan/Rural Spatial Development Framework (2014) the site is located within the Orange River Corridor.

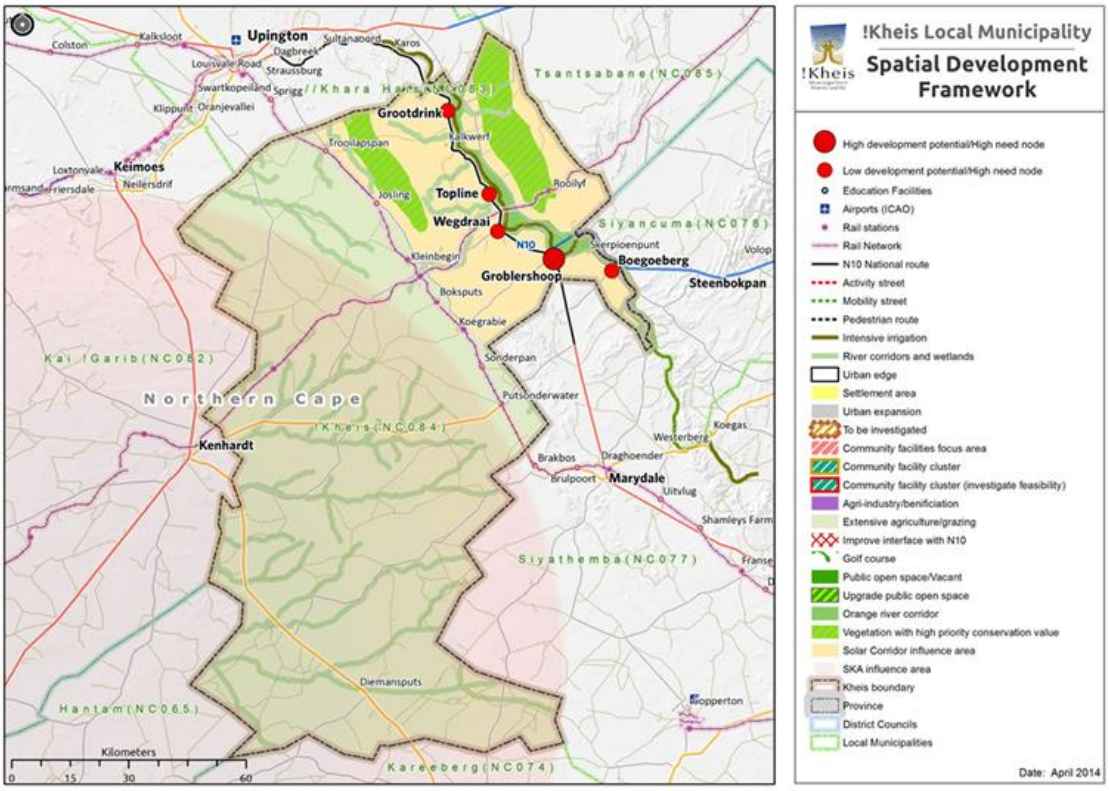

Figure 3: !Kheis Municipality Spatial Development Framework

The !Kheis IDP 2017-2022 has also identified tourism development, in particular tourism marketing and development, and improving tourism infrastructure, as a pillar of economic development in the area.

(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
Unknown			

(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	~~NO~~	Please explain
According to the Siyanda Environmental Management Framework In terms of environmental control, two aspects have been identified in the Orange River area that require specific attention namely areas covered by the Lower Gariep Alluvial Vegetation and areas that consist of the water body of the river. In the instance of the Lower Gariep Alluvial Vegetation, conservation is the only acceptable use of the area because it represents: ▪ an endangered vegetation type with a conservation target that can already not be attained anymore due to the extent of transformation that has already occurred; and ▪ natural floodplain areas in the river system that is dynamic and subject to natural physical change over time due to the interaction between the alluvial nature of the area and flood events. The water body of the Orange River is the most important element in the area in terms of natural and economic services that depend on it. It is a dynamic and complex system. Any activity that will affect the functioning of the water body should be subjected to an appropriate environmental impact assessment. From a strategic long perspective such activities should be limited to the minimum. Although most of the property falls within the Bushmanland Arid Grassland vegetation, part of the proposed development (camping areas) has taken place within the Lower Gariep Alluvial Vegetation. According to the Siyanda Environmental Management Framework, the human disturbances along the river through cultivation, burning and domestic livestock trampling through the vegetation as well as vehicle tracks, infrastructure, etc. have resulted in localised disturbance to vegetation. Amongst other consequences, there is also the higher chance of alien invasive species becoming established in these disturbed areas. General disturbance of alluvial woodland is greatest closer to human settlements. It was an obvious feature along the river that alluvial woodland was less dense closer to settlements and was almost entirely absent adjacent to towns, such as Upington.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
• **Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?**	YES	~~NO~~	Please explain
The !Kheis IDP 2017-2022 has also identified tourism development, in particular tourism marketing and development, and improving tourism infrastructure, as a pillar of economic development in the area.			

• **Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)**	YES	~~NO~~	Please explain

According to the Applicant, the main purpose of the development is to create out of this bare land an exotic resort which can improve the lives of the small surrounding communities near Groblershoop in the Kheis Local Municipal area. High unemployment levels, a lack of affordable job-specific training and insufficient access to resources, perpetuate this community's legacy of poverty. Despite these challenges, the residents run a number of micro-businesses, in order to sustain themselves and their families. The Destination River Resort collaborates with the Groblershoop community to provide and uplift micro business and provide educational and employment opportunities for the youth and residents. The hospitality and tourism industry brings other important benefits to these local communities. This business will be part of the cornerstone for local economic growth in this area. It should also be mentioned that the development is 100% black owned.

The idea is to provide an exotic resort destination and stay to relax and rejuvenate. People from different walks of life like to travel and these activities tend to be unique in nature since they are normally developed on the destination characteristics. It is generally accepted that tourist recreational behaviour is conditioned by the personal preferences for the location and characteristics of resorts, personal social factors.

Destination River Resort has been given a four star rating.

The main activities to be provided are as follows;

- Accommodation in standard, luxury and family suites
- Environmental Education
- Day visitors
- Pool area
- Hosting of church groups on spiritual events
- Conferences

Community and local socio-economic upliftment ;

- Destination River Resort donates school clothing to 6 schools in the Kheis Municipality each winter to the less privileged learners
- An Actor from the Sewende Laan Soapie has been appointed by the owners to teach /train in developing learners in drama classes.

Increased income generation for local entrepreneurs and service providers providing services / supplies

- Most materials utilized on the site were purchased locally to ensure that income is generated locally.

In-direct benefit will include the increased standard of living for many families and the surrounding communities.

- Training has been given to employees in the hospitality sector
- Competitive salaries have been negotiated with middle management to ensure clients receive a luxury stay at the resort.

The proposed development will provide employment opportunities (temporary and permanent) during the construction and operational phase (See Section B).			
• **Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)**	YES	~~NO~~	Please explain
According to the Bulk Services Report (**Appendix J1**): - Municipal services directly to the site of the development are limited, but connection to bulk municipal infrastructure is possible in terms of water supply. - Electricity supply to the property at the stage in time is sufficient with the load management system currently in place. - Through management of the on-site services, the effect of municipal services, where connection is plausible, should be kept to a minimum.			
• **Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)**	YES	~~NO~~	Please explain
Unknown at this stage			
• **Is this project part of a national programme to address an issue of national concern or importance?**	~~YES~~	NO	Please explain
No, however, additional job opportunities and economic development are a national importance.			
• **Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)**	YES	~~NO~~	Please explain
The site is ideally located for a resort development. The site is in relatively close proximity to the town of Groblershoop, has direct access from the N8, and in close proximity to the N10. The development is also on the banks of the Orange River, which is considered a tourist attraction.			
• **Is the development the best practicable environmental option for this land/site?**	~~YES~~	NO	Please explain
Although the proposed development will result in and expected to have some potential environmental impacts, these are not considered significant at this stage. Although most of these impacts can be mitigated to acceptable levels, it is a pity that an Environmental Consultant was not consulted sooner and/or an environmental impact assessment conducted earlier, to assist in the layout of the resort, to further reduce potential impacts The best environmental option would be the no-go alternative. However, the socio-economic benefits of the proposed project would not be realised. The potential benefits from a socio-economic perspective are considered to outweigh any potential environmental impacts.			

With appropriate measures, as per the Specialist recommendations and the Environmental Management Programme, any potential negative environmental impacts are expected to be satisfactorily mitigated. None of the specialist assessments to date have found any significant potential negative impact from the proposed development.			
• **Will the benefits of the proposed land use/development outweigh the negative impacts of it?**	YES	~~NO~~	Please explain
No significant negative environmental impacts have been identified or are expected. Any negative environmental impacts identified (see section B and D) have been adequately mitigated. The socio-economic benefits are expected to outweigh these environmental impacts.			
• **Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?**	~~YES~~	NO	Please explain
Not necessarily. There are already existing resort development and tourist accommodation and activities in the area, and along the Orange River.			
• **Will any person's rights be negatively affected by the proposed activity/ies?**	YES	NO	Please explain
No person's rights are expected to be negatively affected by the proposed development. The activity is expected to have a general positive impact on the residents of the area.			
• **Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?**	~~YES~~	NO	Please explain
The development is located outside the urban edge			
• **Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?**	~~YES~~	NO	Please explain
• **What will the benefits be to society in general and to the local communities?**			Please explain
See above			
• **Any other need and desirability considerations related to the proposed activity?**			Please explain
See above			
• **How does the project fit into the National Development Plan for 2030?**			Please explain
Unknown			
• **Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.**			
The general objectives of Integrated Environmental Management have been taken into account through the following:			

- The actual and potential impacts of the activity on the environment, socio-economic conditions and cultural heritage have been identified, predicted and evaluated, as well as the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impact, maximizing benefits and promoting compliance with the principles of environmental management – *please refer to Section D below*.
- The effects of the activity on the environment have been considered before actions taken in connection with them – *alternatives have been considered and investigated (please refer to Section A below).*
- Adequate and appropriate opportunity for public participation was ensured through the public participation process – *please refer to Section C for the public participation information, including the list of identified Interested and Affected parties, as well as the methods for identifying and informing I&APs of the application and proposed activity*.
- The environmental attributes have been considered in the management and decision-making of the activity – *an EMP has been included (**Appendix G**) with the proposed activity and must adhere to the requirements of all applicable state Authorities.*

- **Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.**

The principles of environmental management as set out in section 2 of NEMA have been taken into account. The principles pertinent to this activity include:

- People and their needs have been placed at the forefront while serving their physical, psychological, developmental, cultural and social interests – *the proposed activity will have a significant beneficial impact on people, as it will provide much needed economic opportunities.*
- Development must be socially, environmentally and economically sustainable. Where disturbance of ecosystems, loss of biodiversity, pollution and degradation, and landscapes and sites that constitute the nation's cultural heritage cannot be avoided, are minimised and remedied.
- Where waste cannot be avoided, it is minimised and remedied through the implementation and adherence of EMP.
- The use of non-renewable natural resources is responsible and equitable – *no exploitation of non-renewable natural resources occurs with the proposed activity.*
- The negative impacts on the environment and on people's environmental rights have been anticipated and prevented, and where they cannot be prevented, are minimised and remedied - *refer to Section F below*.
- The interests, needs and values of all interested and affected parties have been taken into account in any decisions through the Public Participation Process – *please refer to Section C for the public participation information.*
- The social, economic and environmental impacts of the activity have been considered, assessed and evaluated, including the disadvantages and benefits – *refer to Section B below.*
- The effects of decisions on all aspects of the environment and all people in the environment have been taken into account, by pursuing what is considered the best practicable environmental option – *the proposed activity is expected to have minimal/negligible environmental impacts, especially after mitigation measures as described under Section D and E and in the EMP are implemented.*

• APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Water Act (NWA, Act 36 of 1998).	S21 (c) and (i) application.	Department of Water and Sanitation	Pending
SPLUMA	!Kheis Local Municipality	Rezoning from Agricultural to Special Use	Not yet
National Heritage Resources Act, 1999 (Act 25 of 1999)	SAHRA	Permit	SAHRA notified

• WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES	~~NO~~
If YES, what estimated quantity will be produced per month? Unknown		m^3

How will the construction solid waste be disposed of (describe)?

The general solid waste generated during construction will be consolidated on site during construction, and disposed of at the nearest approved municipal landfill site.

Where will the construction solid waste be disposed of (describe)?

The general solid waste generated during construction will be consolidated on site during construction, and disposed of at the nearest approved municipal landfill site.

Will the activity produce solid waste during its operational phase?	YES	~~NO~~
- If YES, what estimated quantity will be produced per month? – Unknown at this stage		m^3

How will the solid waste be disposed of (describe)?

Solid waste is collected in the usual domestic 140 litre wheelie bin. The waste is disposed of on the municipal waste disposal site at standard rates.

There will be no burying, incinerating or other means of waste disposal allowed on site.

According to the Bulk Services Report (**Appendix J1**), the solid waste is internally handled. Solid waste will be collected daily by resort personnel and transported to municipal dump site or on request at shorter intervals and handled by the municipality as this development falls close to the town of Groblershoop and in the general area of service by the municipality. Kheis Municipality has confirmed that they will provide this bulk service. This Kheis municipal letter further confirms that the capacity of the solid waste disposal site is sufficient to handle the solid waste produced by the resort.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Groblershoop Solid Waste disposal site

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?	~~YES~~	NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	~~YES~~	NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	~~YES~~	NO
If YES, what estimated quantity will be produced per month?		N/A
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	~~NO~~

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	~~YES~~	NO

If YES, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		**Cell:**	
E-mail:		**Fax:**	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

According to the Bulk Services Report (**Appendix J1**), Destination River Resort development discharge sewage from all buildings to five conservancy tanks through the internal sewer system consisting of 110mm Ø uPVC Class 34.

The maximum sewage run-off is expected to be 33 000 l/d from calculations of sewer production per unit. This figure represents a weekend/holiday in summer. The annual average daily flows will be considerably lower.

Figure 4: Sewer network & position of conservancy tanks

The Groblershoop Sewage Treatment Works (Oxidation Ponds) was upgraded recently. Kheis municipality has confirmed that the capacity of the oxidation ponds are sufficient to accommodate sewage load from Destination River Resort.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	~~YES~~	NO
If YES, is it controlled by any legislation of any sphere of government?	~~YES~~	NO

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

N/A

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	~~YES~~	NO

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	~~YES~~	NO
If YES, is it controlled by any legislation of any sphere of government?	~~YES~~	NO

Describe the noise in terms of type and level:

N/A. Noise from similar resorts of similar size can be expected. This is not expected to have any negative impact

- **WATER USE**

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

~~Municipal~~	~~Water board~~	~~Groundwater~~	River, stream, dam or lake	~~Other~~	~~The activity will not use water~~

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: -	7874 m^3 / month or 7 874 000litres/ month. As per the below, this is based on full occupancy of the resort during summer
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES / ~~NO~~

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

According to the Bulk Services Report (**Appendix J1**), Destination River Resort pumps raw water directly from the river through an 80mm diameter Class 6 LDPE pipe to raw water HDPE lined storage reservoir. From there the water is treated in a water treatment package plant, stored in 5 x 10 m^3 plastic tanks and this potable water is distributed through a 50mm diameter Class 4 LDPE pipeline to buildings and pools that forms part of Destination River Resort. Small booster pumps provided pressure to the western part of the accommodation buildings as well as the laundry.

Potable water is also pumped through a 32mm diameter Class4 LDPE pipeline from the 5 x 10 m^3 plastic tanks to the sports field development.

Raw water for irrigation is fed under gravity from the HDPE lined raw water storage dams through a 50mm diameter Class4 LDPE to the 2 Ha gardens and lawns. The map below shows the garden and lawn areas that are irrigated.

The water demand, with all facilities 100% occupied, is 254 m^3/day. With a summer peak factor of 1.5 the maximum demand is calculated at 381 m3/day. This figure represents a weekend/holiday in summer. The annual average daily demand will be considerably lower.

Figure 5: Irrigated areas (lawns and gardens)

• ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

N/A.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):	

- Paragraphs 1 - 6 below must be completed for each alternative.

- Has a specialist been consulted to assist with the completion of this section? YES | NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:	**Province**	Northern Cape
	District Municipality	
	Local Municipality	!Kheis Local Municipality
	Ward Number(s)	
	Farm name and number	Farm 387, Gordonia Rd, Groblershoop,
	Portion number	Portion 18
	SG Code	C02800000000038700018
	Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.	

Current land-use zoning as per local municipality IDP/records:	Agricultural zoning
	In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?	YES	~~NO~~

- **GRADIENT OF THE SITE**

Indicate the general gradient of the site.

Alternative S1:

Flat	~~1:50 – 1:20~~	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

- **LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site:

2.1 Ridgeline		2.4 Closed valley		2.7 Undulating plain / low hills	
2.2 Plateau		2.5 Open valley	x	2.8 Dune	
2.3 Side slope of hill/mountain		2.6 Plain		2.9 Seafront	
2.10 At sea					

- **GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

Is the site(s) located on any of the following?

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	~~YES~~	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	~~YES~~	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	~~YES~~	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	~~YES~~	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	~~YES~~	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	~~YES~~	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	~~YES~~	NO	YES	NO	YES	NO
An area sensitive to erosion	~~YES~~	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

- **GROUNDCOVER**

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

~~Natural veld - good condition~~[E]	Natural veld with scattered aliens[E]	~~Natural veld with heavy alien infestation~~[E]	~~Veld dominated by alien species~~[E]	~~Gardens~~
~~Sport field~~	~~Cultivated land~~	~~Paved surface~~	~~Building or other structure~~	~~Bare soil~~

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

- **SURFACE WATER**

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	~~NO~~	~~UNSURE~~
Non-Perennial River	YES	~~NO~~	~~UNSURE~~
Permanent Wetland	~~YES~~	~~NO~~	~~UNSURE~~
Seasonal Wetland	~~YES~~	~~NO~~	~~UNSURE~~
Artificial Wetland	~~YES~~	~~NO~~	~~UNSURE~~
Estuarine / Lagoonal wetland	~~YES~~	~~NO~~	~~UNSURE~~

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

According to the Freshwater Report (**Appendix D1**), the site is located on the banks of the Orange River. The camping site (ablution block, conservancy tank, swimming pool) is detached from the rest of the development (restaurant, chalets, tents etc.) by a channel, which would have been part of the braided Orange River. This channel is dry, and is likely to flood during high flows and peak flows, cutting off the camping site area.

An access road to the camping site has been constructed through this channel, and there is an existing dirt road (which has been graded and lighting installed) which runs in the channel in a northerly direction to the bank of the Orange River. The rest of the proposed development is above the high flow mark and will probably not be affected by a large flood.

The river bank is densely overgrown with trees, mostly *Vachellia* and *Senegalia* (previously *Acacia*) and *Searsia* trees. Higher up the bank the area is arid, with a sparse vegetation.

According to the Freshwater Report (**Appendix D1**), the banks of the Orange River in the region is characterised by dry drainage lines, as can be seen in the Google Earth Image below.

These drainage lines and their catchments are a most prominent feature of the landscape. In these drainage lines are signs that water flowed there. There are definite signs of mobilisation and deposition of sand in the dry drainage lines. The area is arid, with the occasional summer thunder storm. Some of these storms are of irregular frequency, sudden, severe, of considerable magnitude and strong enough to move sandy sediments and to maintain the integrity of the drainage lines. There are such drainage lines on the land, but not directly in the way of any of the developments. Structures are constructed in the sub-catchments, but not right over a drainage line.

The drainage lines flow underneath the N8 trunk road towards the west. They are entirely cut off from the Orange River by extensive farming activities, particularly vineyards. The natural flow path to the river has been replaced by a network of canals and levees.

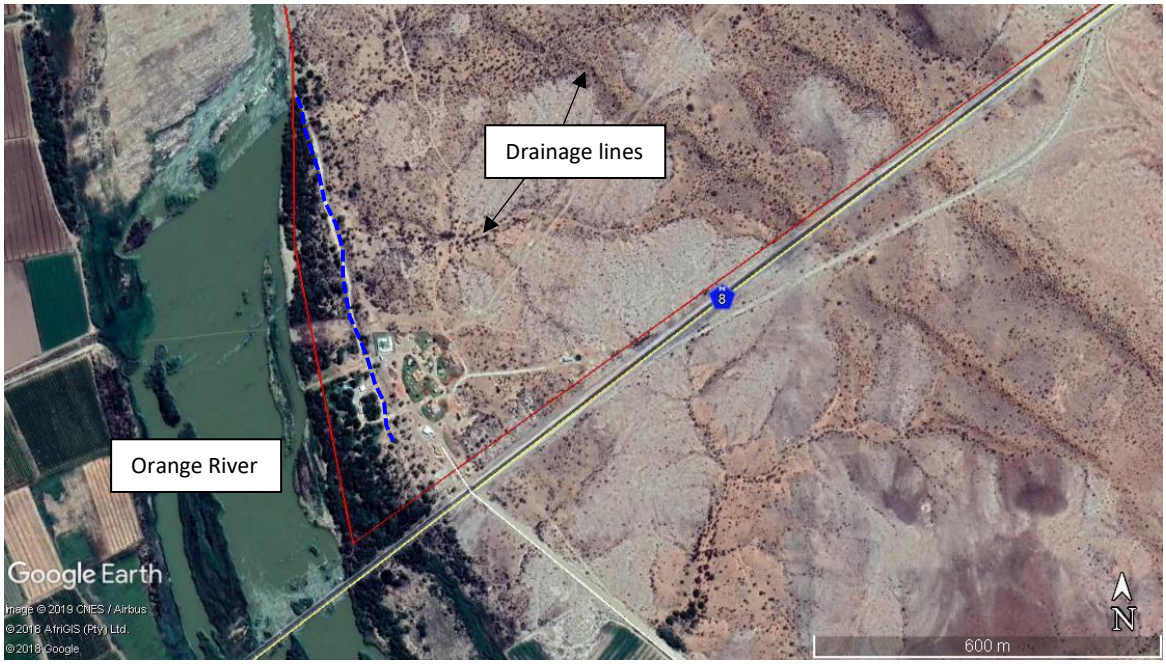

Figure 6: Google Earth image showing the watercourses. The “braided” dry channel is indicated by the blue dashed line.

• LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	~~Dam or reservoir~~	~~Polo fields~~
~~Low density residential~~	~~Hospital/medical centre~~	~~Filling station H~~
~~Medium density residential~~	~~School~~	~~Landfill or waste treatment site~~
~~High density residential~~	~~Tertiary education facility~~	~~Plantation~~
~~Informal residential A~~	~~Church~~	~~Agriculture~~
~~Retail commercial & warehousing~~	~~Old age home~~	River, stream or wetland – please see description above
~~Light industrial~~	~~Sewage treatment plant A~~	~~Nature conservation area~~
~~Medium industrial AN~~	~~Train station or shunting yard N~~	~~Mountain, koppie or ridge~~
~~Heavy industrial AN~~	~~Railway line N~~	~~Museum~~
~~Power station~~	~~Major road (4 lanes or more) N~~	~~Historical building~~
~~Office/consulting room~~	~~Airport N~~	~~Protected Area~~
~~Military or police base/station/compound~~	~~Harbour~~	~~Graveyard~~
~~Spoil heap or slimes dam A~~	~~Sport facilities~~	~~Archaeological site~~
~~Quarry, sand or borrow pit~~	~~Golf course~~	Other land uses (describe)

If any of the boxes marked with an "N "are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	~~NO~~
Core area of a protected area?	~~YES~~	NO
Buffer area of a protected area?	~~YES~~	NO
Planned expansion area of an existing protected area?	~~YES~~	NO
Existing offset area associated with a previous Environmental Authorisation?	~~YES~~	NO
Buffer area of the SKA?	~~YES~~	NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A

- **CULTURAL/HISTORICAL FEATURES**

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	~~NO~~
	Uncertain	
A number of Heritage resources were identified in and around the study area. Please see description and findings below.		

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:
A Heritage Impact Assessment was conducted on the study area to evaluate impacts of the proposed activity on cultural heritage resources. The following features were identified according to the Heritage Impact Assessment (**Appendix D3**): <u>Archaeological</u> A total of 22 locations with Stone Age material were recorded across the surveyed area. With only three occurrences recorded in the northern section of the property, 19 of these locations are situated within, or near, the south western development area. In the northern area of the property, three isolated banded ironstone cores, and a small scatter of surface lithics, have been identified. The cultural material shows various degrees of weathering and may either be representative of the Early Later Stone Age, or a mere mixture of LSA and MSA artefacts. An isolated long bone from a non-domestic juvenile bovid that exhibits rough cut marks, have also been noted on the *klipveld*, it is however without lithic context. The identified archaeological materials are of low significance, as the archaeological sample is small, and therefor of little scientific value. No development is planned for the area in which these artefacts occur. These sites are given a 'General' Protection C (Field Rating IV C). This means these sites have been sufficiently recorded (in the Phase 1). It requires no further action. Towards the southern part of the property, 2–5 km north east of the development area, four high-density lithic surface scatter sites (n= between 10 and 50 artefacts/m²), and one less dense surface scatter site was identified on the sand dunes, with three isolated stone tool positions and another low-density (n<10 artefacts/m²), lithic scatter also documented in the vicinity. Three main sites, dune sites 1-3, have been identified. Dune site 1 (28º 52' 10.7" S; 21º 59' 27.0" E) covers a surface area of approximately 500 m², dune site 2 (28º 52' 08.1" S; 21º 59' 38.8" E) approximately 200 m², while the third dune site (28º 52' 12.3" S; 21º 59' 48.4" E) is around 1500 m². The dune sites assemblages consist of surface scatters of flakes, scrapers, cores, microliths, and stone working debris. Deposits are quite extensive and in addition to the three main sites, single scatters and isolated scrapers, flakes, grinders (upper and lower) cores and microliths have also been deposited throughout the dune areas. The type of lithics present points to the utilisation of the area as a probable knapping site by prehistoric people. Isolated lithics in the vicinity include two upper grindstones and one LSA/MSA scraper. Again, the cultural material shows various degrees of weathering and is a combination of LSA and MSA artefacts suggesting long term usage spanning both the LSA and MSA. Surface sites often exhibit a palimpsest of prehistoric utilization and may therefore contain lithics from different periods in the Stone Age succession. This area is deemed medium to high

significance due to the density of stone artefacts on the surface and the repeated utilisation of the landscape through consequent periods. It lies outside the current development footprint, and even though the proximity to the development does raise some concern, it is not in any immediate danger from the development. The dune sites are of high/medium significance and receives a 'General' Protection A (Field Rating IV A). These sites should be avoided or mitigated before any future development are planned and might take place in this area.

Within the development footprint, five high-density lithic scatters (10-20 stone flakes, tools or debitage per square meter in an area of approximately 50-100 m²) and two scatters of lower density were recorded. Two of the high-density scatters also include indigenous ceramics. The ceramics are undecorated, low fired, thin walled, mineral tempered and associated with hunters-with-livestock/herders. The lithic assemblages, made from quartz, banded ironstone, quartzite, and hornfels, consist of very few formal tools, mostly large untrimmed flakes, and geometric shaped segments, and grinding stones. Some of the flake blanks have been utilized, demonstrating their use as expedient tools. The occurrence area is approximately 20 000 m². The location and material present may point to this area being used for camping or semi-permanent settlement as opposed to the knapping sites on the dunes. This corresponds with Webley's (2013) conclusions that the eastern shore margin, for up to 800 m from the river, may have been settled by LSA people. Several similar LSA sites associated with pastoralist Khoekhoe camps were recorded further north towards Kakamas. These sites were mostly situated close to or beneath trees on the silty plains along the river margins.

The eastern shore of the river is the focus of the resort development. The area is already very disturbed because of a quarry, and roads and buildings that are being constructed. It is suspected that a few LSA sites have already been bulldozed and compromised prior to this study. There are however LSA sites close to the development to the north along the river which are significant and need to be conserved or saved. The high-density scatters in the development footprint are deemed high/medium significance. These sites are therefore designated with a 'General' Protection A (Field Rating IV A) rating. The remaining sites that are still intact should be mitigated before destruction.

Historical

No significant historical features were identified within the study area. Two areas of mild interest were recorded, both associated with the encampment utilised by construction workers during the building of the Orange River Bridge (1975-1980).

Graves

There are three stone-covered unmarked graves located approximately 500–600 m east of the current resort development. Even though these graves are unmarked, they have been identified by a farm resident as belonging to his family. Currently these graves are unfenced.

Two more possible unmarked graves were noted towards the northern boundary of the farm on the eastern shore of the river. These graves could not be confirmed by the owner or by oral history. The stones are lying in a distinctive way with slight mounds perceptible, and are close to high-density lithic scatters, which include ceramics. The stone cairns are however not very prominent and therefore uncertain. Morris (1995) has reviewed the occurrence of pre-colonial graves in the local landscape and found that they are likely to be very common. These stone features might be burials, but it is impossible to say this for sure without subsurface testing, which lies outside the scope of this study.

All graves are of high significance and care should be taken to protect them. The graves are of 'Local' significance with Field Rating/Grade IIIB. It could be mitigated and partly retained as a heritage register site (High significance). In view of the presence of burial cairns further down river near Kakamas, it is recommended that a more detailed survey of the banks of the Orange River, specifically the eastern margins of the river, be conducted.

Palaeontological:

A Palaeontological Impact Assessment desktop study concluded that the geology of the proposed development footprint is underlain by the Groblershoop Formation of the Brulpan Group (Namaqua–Natal Province) as well as the Kalahari Group. According to the SAHRIS PalaeoMap the Groblershoop Formation, Brulpan Group (Namaqua–Natal Province) has a Zero Palaeontological sensitivity and the Kalahari Group has a Low Palaeontological significance.

Will any building or structure older than 60 years be affected in any way?	~~YES~~	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO
If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority. Please note that the site is larger than 5 000m^2 and the character of the site will change. The project is therefore subject to Section 38(1) of the NHRA. The project has been registered with SAHRA through SAHRIS		

- **SOCIO-ECONOMIC CHARACTER**

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

According to the !Kheis Municipality Land Development Plan/Rural Spatial Development Framework (2014), the Kheis Local Municipality (KLM) the unemployment rate in KLM has increased from 21,6% in 2001 to 28,1% in 2011. Wegdraai (67,5%), Topline (57,2%) and Boegoeberg (48,3%) have the highest unemployment rates in KLM, as well as low levels of labour force participation.

However, in total numbers, the largest percentage of the unemployed population is located in Groblershoop and Wegdraai.

The 'Agriculture, hunting, forestry and fishing---sector' is the main contributor to employment in the form of elementary occupation, reflecting the dominant agriculture---based economy where work is often in the form of seasonal manual labour on farms.

The expansion of tourism is listed by the !Kheis Municipality Land Development Plan/Rural Spatial Development Framework (2014) as an opportunity to improve socio-economic conditions

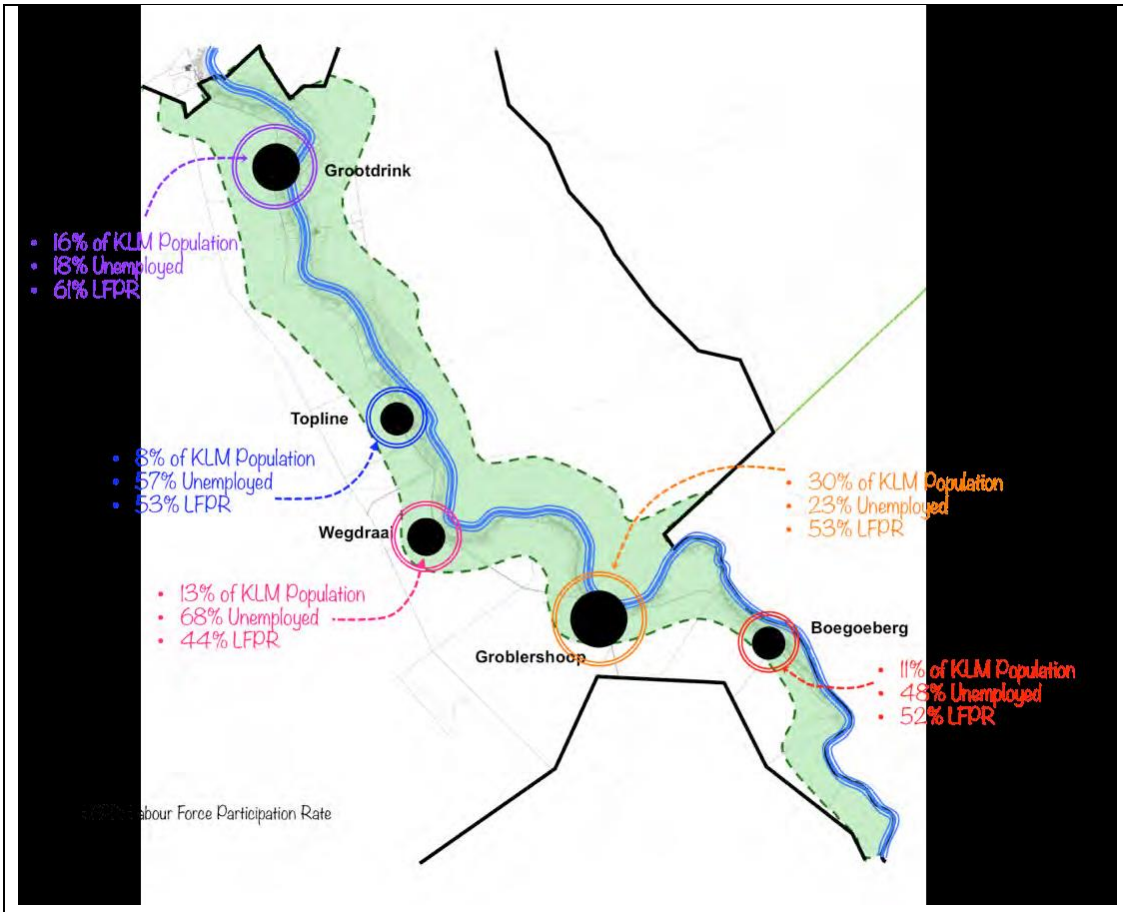

Figure 7: Employment levels in the Kheis Local Municipality (KLM)

Economic profile of local municipality:

According to the !Kheis Municipality Land Development Plan/Rural Spatial Development Framework (2014), the Kheis Local Municipality (KLM) has a total population of 16 637, and only saw an increase of 0,6% in its population between 2001 and 2011.

There are a total of 4 145 households in the KLM. The average household size in 2011 was 3,9, down from 4,6 in 2001.

The majority of the KLM population is located in five settlements, namely: Grootdrink, Topline, Wegdraai, Groblershoop and Boegoeberg, with the largest of those settlements being Groblershoop, Grootdrink and Wegdraai.

According to the ZFM DM EMF (2008), if tourism continues to grow at current rates in the district, it is foreseen that in ten years' time it can be the third largest sector of the economy after mining and agriculture. The KLM is currently in the process of developing an Integrated Tourism Plan, which will promote the development of this sector. Tourism opportunities are:

- The Orange River and related water activities;
- Agricultural tourism;
- The 'Green Kalahari' – this zone is being actively marketed through a website where Groblershoop is identified as one of the main towns in the Green Kalahari and information provided on activities and accommodation opportunities in the area;
- Boegoeberg Dam (according to the IDP (2012---2017) the Boegoeberg Dam Resort will be upgraded);
- Development of the Volgraafsig Dam (IDP 2012---2017);

- Cultural Tourism: Remnants of the various groups that migrated through or stayed in KLM e.g. German war graves and San, Korannas and Griekwa cultural remnants;
- Adventure tourism in and around the Orange River (ensuring however that 4x4 activity and water sports do not negatively impact on the natural environment);
- A Tourism Office at Groblershoop;
- Mountains, hills and large open spaces; and
- Game farms.

Level of education:

With regards to the functional age groups, 60% of KLM's population is of working age (15---64). Grootdrink (40%) and Boegoeberg (40%) have the highest percentages of population aged between 0 and 14, which is decidedly higher than the district percentage of 28%. Education levels and school attendance have increased in KLM.

Grootdrink has the lowest percentage individuals with Gr.12 at 9,1%, while Topline has the highest percentage of individuals with 'no schooling' at 17,5%. In comparison Groblershoop has the highest percentage of individuals with Gr.12 (18,5%) and individuals with higher education (1,7%).

b) Socio-economic value of the activity (as supplied by the Applicant)

What is the expected capital value of the activity on completion?	R 37 million	
What is the expected yearly income that will be generated by or as a result of the activity?	R 2,7 million	
Will the activity contribute to service infrastructure?	YES	~~NO~~
Is the activity a public amenity?	YES	~~NO~~
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	95	
What is the expected value of the employment opportunities during the development and construction phase?	R 450000/month	
What percentage of this will accrue to previously disadvantaged individuals?	65%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	45	
What is the expected current value of the employment opportunities during the first 10 years?	R123000/month R 23 616 000	
What percentage of this will accrue to previously disadvantaged individuals?	98%	

- **BIODIVERSITY**

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information

(including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				**If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan**
Critical Biodiversity Area (CBA)	~~Ecological Support Area (ESA)~~	~~Other Natural Area (ONA)~~	~~No Natural Area Remaining (NNR)~~	According to the Botanical Impact Assessment (**Appendix D2**), the Orange River and its banks are classified as a CBA1 area, while the remainder of the study site is classified as a CBA2 category. CBAs are areas required to meet biodiversity targets for ecosystems, species or ecological processes and as such development in these areas is discouraged.

b) Indicate and describe the habitat condition on site

Habitat Condition	**Percentage of habitat condition class (adding up to 100%)**	**Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).**
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	~90%	It is assumed that the site was in a near natural site with limited degradation prior to construction and development activities. A small to moderate amount of established alien vegetation was observed on the site.
Degraded (includes areas heavily invaded by alien plants)		
Transformed (includes cultivation, dams, urban, plantation, roads, etc)		The site is now heavily transformed due to the development of the resort

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		**Aquatic Ecosystems**						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	~~Critical~~	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	~~Vulnerable~~							
	Least Threatened	YES	~~NO~~	~~UNSURE~~	~~YES~~	NO	~~YES~~	NO

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

Vegetation

According to the Botanical Impact Assessment (**Appendix D2**), the vegetation types occurring in the Groblershoop region are the Bushmanland Arid Grassland (Nkb 3) and the Lower Gariep Alluvial Vegetation (AZa 3) along the Orange River. The site itself falls mainly in the Bushmanland Arid Grassland (NKb 3), with a conservation status of "**least threatened**". Part of the site, including the area of the resort development, in the southwest falls in the Lower Gariep Alluvial Vegetation, which is classified as "**endangered**".

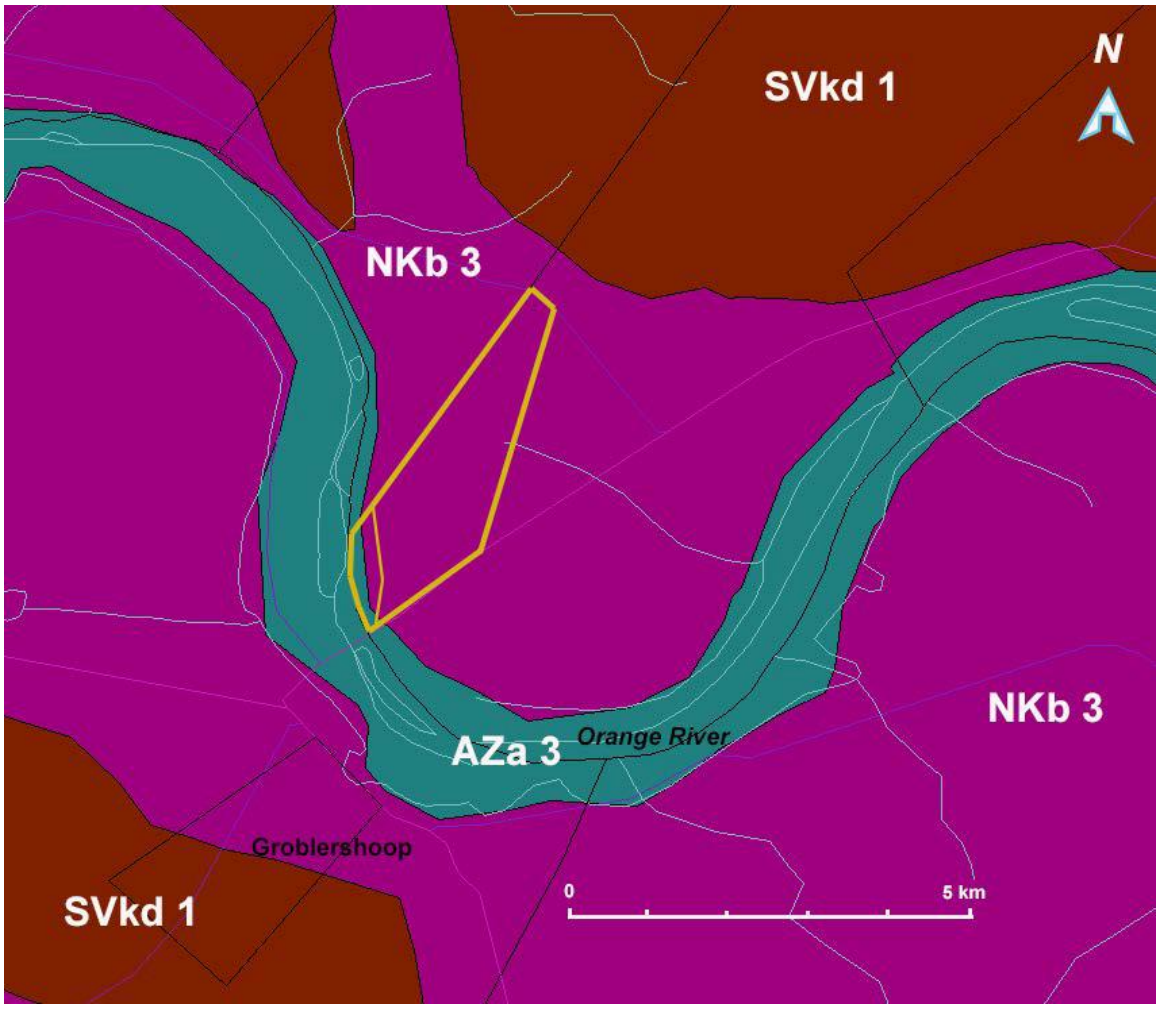

Figure 9: Vegetation types of the area (Figure 6 of Appendix D2).

According to the Botanical Impact Assessment (**Appendix D2**), eleven associations (plant communities) were distinguished on the site covering riverine vegetation, dunes, rocky and gravelly hills and plains and ephemeral drainage lines. The species that dominate the site are the trees and shrubs *Senegalia mellifera, Boscia albitrunca* and *Phaeoptilum spinosum,* the dwarf shrubs *Rhigozum trichotomum, Tetraena rigida, Tetraena decumbens, Aizoon burchellii, Kleinia longiflora, Pentzia calcarea* and *Salsola tuberculata,* the succulent *Aloe claviflora,* as well as the grasses *Enneapogon desvauxii, Enneapogon scaber, Stipagrostis* spp. and *Schmidtia kalahariensis.* Along the Orange River, trees such as *Searsia viminale, Ziziphus mucronata* and *Vachellia karroo* are dominant, although alien trees such as *Eucalyptus camaldulensis* and *Prosopis glandulosa* are abundant.

Eleven plant associations or plant communities were distinguished on site:
1. *Aloe claviflora - Leucosphaera bainesii - Avonia papyracea* dwarf shrubveld
2. *Senegalia mellifera - Tetraena rigida - Ptycholobium biflorum* shrubveld
3. *Senegalia mellifera - Aptosimum spinescens - Stipagrostis anomala* shrubveld
4. *Senegalia mellifera - Tetraena rigida - Enneapogon desvauxii* dwarf shrubveld
5. *Roepera lichtensteiniana - Tetraena decumbens* dwarf shrubland
6. *Senegalia mellifera - Ziziphus mucronata - Fingerhuthia africana* shrubveld
7. *Senegalia mellifera - Phaeoptilum spinosum - Cullen tomentosum* shrubveld
8. *Senegalia mellifera - Calobota linearifolia - Stipagrostis amabilis* shrubveld
9. *Senegalia mellifera - Vachellia erioloba - Justicia incana* bushveld
10. *Eucalyptus camaldulensis - Prosopis glandulosa* bushveld
11. *Vachellia karroo - Ziziphus mucronata - Searsia viminale* riparian forest

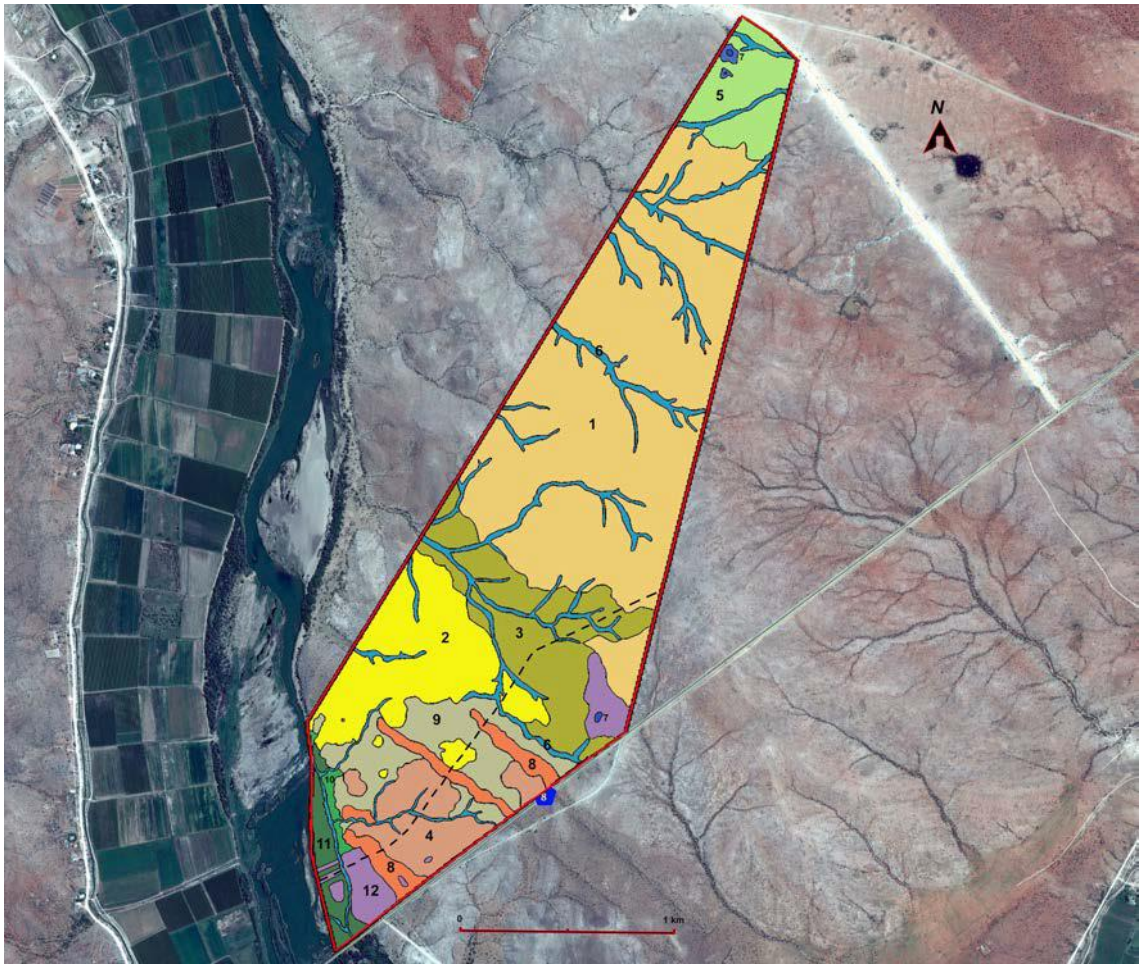

Figure 10: Vegetation Map of the property (Figure 7 of Appendix D2) showing the eleven plant associations.

The majority of the resort development, including the camping area, swimming pool and ablution facilities, occurs within association 11. According to the Botanical Impact Assessment (**Appendix D2**), this riparian forest occurred on the deep alluvial soils of the riverbank next to the Orange River in the southeast of the study area.

The diagnostic species included the trees and shrubs *Vachellia karroo* (d), *Eucalyptus camaldulensis* (d), *Searsia viminale* (d) and *Lycium hirsutum* (species group 23, Appendix B). Other woody species included *Ziziphus mucronata* (d), the alien *Prosopis glandulosa* (d) and *Lycium cinereum*. Very little dwarf shrubs were recorded, with *Asparagus cooperi* and *Pollichia campestris* occurring in places. The grass cover was very low in the riparian forest, with the reed *Phragmites australis* dominating the water's edge. The forb species recorded were *Senecio sisymbriifolius, Erucastrum austroafricanum* and the aliens *Chenopodium album, Argemone ochroleuca* and *Pergularia daemia.*

Figure 11: Camping area located within Association 11.

The new internal road that was cleared and constructed leading from the camp/resort area to the grass picnic area with thatch lapa, as well as the septic tank, occurs within Association 10. According to the Botanical Impact Assessment (**Appendix D2**), this small and relative degraded association was found in and along an ephemeral branch (side-stream) on relatively deep sandy and alluvial soils next to the main riverbank of the Orange River. This association is floristically related to the riparian forest along the Orange River (see Association 11 above).

The differential species included *Vachellia karroo, Eucalyptus camaldulensis* and *Pollichia campestris*. The tree and shrub species include *Vachellia karroo, Eucalyptus camaldulensis, Lycium bosciifolium* and *Lycium cinereum*. The most important dwarf shrub species were the succulent *Mesembryanthemum coriarium* and *Pollichia campestris*. The grass cover was very low and the species included *Setaria verticillata, Eragrostis echinochloidea, Tragus berteronianus* and *Eragrostis porosa*. The forb species recorded were *Coronopus integrifolius* and *Tribulus zeyheri.*

No Schedule 1 or 2 species listed in terms Northern Cape Nature Conservation Act 2009 (Act No 9 of 2009), no protected trees (National Forest Act, Act 84 of 1998) (NFA 2017) and no Cites Listed plants were found within the resort site area.

Prosopis glandulosa and Eucalyptus camaldulensis was particularly dominant in the drainage lines and riparian forest (Associations 10 & 11). Argemone ochroleuca was recorded in the riparian forests and surrounding areas (Associations 10 & 11).

SECTION C: PUBLIC PARTICIPATION

- **ADVERTISEMENT AND NOTICE**

Publication name	Kalahari Bulletin	
Date published	26 July 2018	
Site notice position	**Latitude**	**Longitude**
	Posters were placed at the entrance to the site, at the Gariep Road/N8 intersection, Knyp Road/ N8 intersection, Opwag Road/N8 intersection, at the fuel station at the N10/N8 intersection, at the Food Zone and Agrimark in Groblershoop, and at the municipal offices in Groblershoop.	
Date placed	Posters placed on 24 July 2018. See Appendix E1 for proof	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

- **DETERMINATION OF APPROPRIATE MEASURES**

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733: Please refer to Appendix E2

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

- **ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES**

Summary of main issues raised by I&APs	Summary of response from EAP
No issues raised	

- **COMMENTS AND RESPONSE REPORT**

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

- **AUTHORITY PARTICIPATION**

Authorities and organs of state identified as key stakeholders: Please refer to Appendix E2

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

- **CONSULTATION WITH OTHER STAKEHOLDERS**

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

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

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

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	Direct impacts: Construction Phase **Potential impact on freshwater ecosystems** - Orange River	Low negative (With Mitigation)	• The main object of mitigation measures should be to keep silt out of the Orange River. In this arid region there is not much chance of that, except if an occasional thunder storm breaks out. Mitigation measures would be to complete as much of the resort prior to the rainy season, to keep the footprint as small as possible, to grass destabilised areas as soon as possible and to pave the indicated areas as soon as possible. • Building rubble should be kept out of the river. • The tree lining on the river banks should be preserved as far as possible. New trees should be planted where necessary. • The camping site was already grassed over, with the irrigation in place. During the operational phase, over irrigation should be prevented, with no return flow into the river.
	Direct impacts: Construction Phase **Potential impact on freshwater ecosystems:** - Drainage Lines	Low negative (With Mitigation)	• No activities should be allowed outside of the demarcated development area. Machinery, waste and rubble should not be allowed to accumulate anywhere in the natural vegetation. • The main threat because of the establishment of the development is the movement of sediments down the drainage line. A part of the sub-

			catchment would be entirely transformed by the construction activities. This transformation should be affected during the dry season, when the likelihood of sudden thunder storms is at its least. • Any signs of erosion in the altered drainage line should be addressed immediately after downpours. Eroded areas should be filled in and the compacted. It should be planted with suitable vegetation. Irrigation may be required to establish this vegetation. If necessary, berm and contours should be constructed to direct storm water away to less susceptible areas. • The flow paths of the drainage lines should remain the same as far as possible, despite of the agricultural development. • Building rubble and other waste and litter should not be allowed to pass down the channel. • Vehicles and other disturbances should be kept out of the altered drainage lines as to prevent any disturbance that could result in erosion.
	Direct impacts: Operational Phase **Potential impact on freshwater ecosystems** - Orange River	Low negative (With Mitigation)	- During the operational phase the conservancy tank should be emptied regularly. Should an accidental overflow occur, residues should be cleaned up professionally, with health threats reduced and chances for pollution of the river eliminated. - The management should be alert and vigilant if it comes to floods. Warnings from the DWS should be taken seriously and people should be timeously evacuated, if necessary. - The conservancy tank should be emptied before a flood happens. The electrical supply should be switched off. - These mitigation measures can be applied successfully with the appropriate level of best practice and keen management.
	Direct impacts: Construction Phase **Potential impact on natural vegetation**	Medium negative (with mitigation)	- Vegetation clearing for the current infrastructure has already been done. - No alien invasive plant species may be used for landscaping and gardening and indigenous - species should be used wherever possible. - The denuded and disturbed areas should be re-vegetated or rehabilitated.

			- Development should be contained within the proposed footprint of the development and unnecessary disturbance adjacent to the site should be avoided. - Minimise further clearance of natural vegetation and disturbance along the Orange River and its tributaries. A permit has to be obtained from NCDENC and/or DAFF for the removal or transplanting of protected plant species. - The indigenous vegetation, and especially the indigenous trees, should be retained as far as possible and buildings should be placed between trees. Protected trees should be conserved and not destroyed. The denuded and disturbed areas should be re-vegetated with indigenous species as soon as possible. - No firewood collection may be allowed. - No protected trees may be damaged or cut without a permit. - No alien invasive plant species may be used for landscaping and gardening. - Existing and dedicated roads should be marked and utilised by vehicles and random driving in the veld or on dunes should be prohibited. - Implement a monitoring program for the early detection of alien invasive plant species. The control program to combat declared alien invasive plant species should be continued during the operational phase. - Any areas that will be denuded as a result of activities on site, should be re-vegetated (rehabilitated) as soon as possible to prevent soil erosion and establishment of alien invasive plant species.
	Direct impacts: Construction Phase - **Potential impact on alien vegetation**	Low – positive (with mitigation)	- Development should be restricted to the proposed development site and the disturbance to the surrounding natural or indigenous vegetation be kept to a minimum. - Establish a monitoring program for the early detection and control of alien invasive plant species. - No alien invasive species should be used in landscaping or gardens on the site.
	Direct impacts: Operational Phase	Low – Negative (with mitigation)	- The indigenous vegetation, and especially the trees, should be retained as far as possible and buildings should

	Potential impact on natural vegetation		be placed between trees. Protected trees should be conserved and not destroyed. The denuded and disturbed areas should be re-vegetated with indigenous species as soon as possible. - No collection of firewood may be allowed. - No protected trees may be damaged or cut. - No invasive alien plant species should be used for landscaping and gardening. - Environmental code of conduct for all staff and visitors should be developed. - Existing and dedicated roads should be marked and utilised by vehicles and random driving in the veld or on dunes should be prohibited. - Any areas that will be denuded as a result of activities on site, should be re-vegetated (rehabilitated) as soon as possible to prevent soil erosion and establishment of alien invasive plant species.
	Direct impacts: ***Operational Phase*** **Potential impact on alien vegetation**	Low – positive (with mitigation)	- Establish a monitoring program for the early detection and control of alien invasive plant species. - No alien invasive species should be used in landscaping or gardens on the site.
	Direct impacts: **Potential impact on heritage resources**	Low – negative (with mitigation)	- For the isolated stone tools, lithic scatters of low significance, and 20th-century structures and features, no further action is required. - The knapping sites located on the series of dunes to the east of the development footprint are of medium to high significance. The dunes are approximately 2-5 km from the present development on the east shore. Currently no developments are planned for this area, therefore no mitigation is necessary at present. It should be noted that if any future developments are considered, mitigation of these sites should be undertaken. Mitigation should include comprehensive mapping and recording of the sites, and possible sample collection. Furthermore, these areas should be considered as archaeologically sensitive, and the owners and developers should be made aware of the impact that construction vehicles and recreational vehicles could have on these heritage resources.

			- In the resort development area on the eastern shore of the Gariep/Orange River, construction activities have already had a negative impact on archaeological resources. Mitigation for the remaining LSA sites in the footprint area is recommended after which the sites may be destroyed. Mitigation usually involves the collection or excavation of a sample of the cultural and other remains that will adequately allow characterization and dating of a site. Following the Phase 1 HIA/AIA specialist recommendation and the comments from the governing heritage agency (SAHRA) on the Phase 1 report, an application for a Mitigation Permit for sample excavation and collection will be completed. After the Phase 2 HIA/AIA, the developer will be assisted in applying for a destruction permit from SAHRA. - The graves do not need to be relocated to make way for development. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified. - Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils.
	Indirect impacts:		
	Cumulative impacts:		
Alternative 2			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		

	Cumulative impacts:		
Alternative 3			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
No-go option			
	Direct impacts: The no-development option would result in a lost opportunity for the local economy	Low - negative	
	Indirect impacts:		
	Cumulative impacts:		

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

- **ENVIRONMENTAL IMPACT STATEMENT**

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

The following is a summary of the potential impacts, and their ratings after mitigation, and probability of occurrence:

Construction phase.

Potential impact on freshwater ecosystems: Orange River **– Low Negative**

Potential impact on freshwater ecosystems: Drainage Lines - **Low Negative**

Potential impact on natural vegetation Medium - Negative

Potential impact on alien vegetation - **Low Positive**

Potential impact on heritage resources - **Low Negative**

Operational Phase

Potential impact on freshwater ecosystems: Orange River - **Low Negative**

Potential impact on natural vegetation - **Low Negative**

Potential impact on alien vegetation - Low Positive

Alternative B

Alternative C

No-go alternative (compulsory)

This would mean that no-development would take place and the proposed site will remain as is. The Resort development and associated infrastructure would not be constructed.

Although this option would result in no potential negative environmental impacts, the social benefits from implementing the activity would not be achieved.

The no-go option would only have been recommended if it were found that the proposed activities on this site or in this area might potentially cause substantial detrimental harm to the Orange River and the surrounding environment.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES	~~NO~~

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

No further assessments required

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

Compliance with the Specialist recommendations, EMP and appointment of an ECO during the construction phase and operational phase.		
Is an EMPr attached?	YES	~~NO~~

The EMPr must be attached as Appendix G.
The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

_____
NAME OF EAP

_____ _____
SIGNATURE OF EAP DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information