

**PROPOSED FORMALISATION OF BLAAUWSKOP SETTLEMENT LOW COST HOUSING DEVELOPMENT ON PORTION 30 OF FARM BLAAUWSKOP NO. 36, BLAAUWSKOP SETTLEMENT, KENHARDT ROAD, KAI !GARIB LOCAL MUNICIPALITY, ZF MGCWU DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE**

**FINAL ENVIRONMENTAL SCOPING REPORT  
AND PLAN OF STUDY**



**OCTOBER 2020**

**KAI !GARIB LOCAL MUNICIPALITY**

**PROPOSED FORMALISATION OF BLAAUWSKOP  
SETTLEMENT LOW COST HOUSING DEVELOPMENT ON  
PORTION 30 OF FARM BLAAUWSKOP NO. 36, BLAAUWSKOP  
SETTLEMENT, KENHARDT ROAD, KAI !GARIB LOCAL  
MUNICIPALITY, ZF MGCAWU DISTRICT MUNICIPALITY,  
NORTHERN CAPE PROVINCE**

---

**PREPARED FOR:  
Kai !Garib Local Municipality**

Private Bag X6,  
Kakamas,  
8870  
Tel: (054) 461 6700

**PREPARED BY:  
EnviroAfrica**

P.O. Box 5367  
Helderberg  
7135  
Tel: 021 – 851 1616  
Fax: 086 – 512 0154

## CONTENTS

1. INTRODUCTION .....	7
2. NEED AND DESIRABILITY .....	8
2.1 NEED .....	8
2.2 DESIRABILITY .....	9
3. LEGAL REQUIREMENTS .....	11
3.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA.....	11
3.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) .....	11
3.3 NATIONAL HERITAGE RESOURCES ACT.....	14
3.4 EIA GUIDELINE AND INFORMATION DOCUMENT SERIES.....	15
3.5 NATIONAL WATER ACT(ACT NO. 36 OF 1998).....	14
3.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT.....	15
3.7 THE SPATIAL PLANNING AND LAND USE MANAGEMENT ACT (ACT 16 OF 2013).....	14
4. ALTERNATIVES.....	16
4.1 SITE ALTERNATIVES .....	16
4.2 ACTIVITY ALTERNATIVES .....	16
4.3 LAYOUT ALTERNATIVES.....	15
4.3 NO-GO ALTERNATIVE .....	16
5. SITE DESCRIPTION .....	16
5.1 LOCATION.....	17
5.2 VEGETATION .....	20
5.3 FRESHWATER .....	22
5.4 CLIMATE.....	25
5.5 SOCIO-ECONOMIC CONTEXT .....	25
5.6 HERITAGE FEATURES.....	27
6. SERVICES.....	27
6.1 WATER .....	27
6.2 SEWER .....	27
6.3 ROADS.....	27
6.4 STORMWATER .....	27
6.5 SOLID WASTE (REFUSE REMOVAL).....	27
6.6 ELECTRICITY .....	27
7. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS.....	30
8. DETAILS OF THE PUBLIC PARTICIPATION PROCESS .....	33
9. PLAN OF STUDY FOR THE EIA.....	35
9.1 TASKS TO BE UNDERTAKEN.....	35
9.2 PUBLIC PARTICIPATION AND INTERESTED AND AFFECTED PARTIES.....	36
9.3 CRITERIA FOR SPECIALIST ASSESSMENT OF IMPACTS .....	37
10. CONCLUSION AND RECOMMENDATIONS.....	40
11. DETAILS AND EXPERTISE OF THE EAP.....	41

## FIGURES

<b>Figure 1:</b> Kai !Garib Municipality IDP 2017 – 2018 - Housing Demand	8
<b>Figure 2:</b> Google Earth Aerial image showing the locality of the site	9
<b>Figure 3:</b> Google Earth Aerial image of the surrounding landscape	16
<b>Figure 4:</b> General view of part of the informal dwellings	17
<b>Figure 5:</b> General view of part of the proposed site	17
<b>Figure 6:</b> General view of part of the proposed site	18
<b>Figure 7:</b> General view of part of the proposed site	18
<b>Figure 8:</b> General view of part of the proposed site	19
<b>Figure 9:</b> SANBI Vegetation map of the area	20
<b>Figure 10:</b> 2016 Northern Cape Critical Biodiversity Areas Map	21
<b>Figure 11:</b> SANBI NFEPA map of the area	22
<b>Figure 12:</b> NFEPA associated with the site	22
<b>Figure 13:</b> Catchment Areas Map	23
<b>Figure 14:</b> Summary of the EIA process and public participation process	35

## TABLES

<b>Table 1:</b> Criteria used for evaluating impacts	33
<b>Table 2:</b> Impact Statement Example	37

## APPENDICES

APPENDIX 1A:	CONCEPT LAYOUT PLAN
APPENDIX 1B:	NEWSPAPER ADVERTISEMENTS (AND PROOF)
APPENDIX 1C:	NOTIFICATION LETTERS (AND PROOF)
APPENDIX 1D:	SITE NOTICES AND LETTER DROPS (AND PROOF)
APPENDIX 1E:	INITIAL COMMENTS RECEIVED AND RESPONSES
APPENDIX 1F:	INITIAL COMMENTS AND RESPONSES REPORT
APPENDIX 1G:	FRESHWATER REPORT
APPENDIX 1H:	HERITAGE IMPACT ASSESSMENT
APPENDIX 1I:	SITE CO-ORDINATES
APPENDIX 1J:	TITLE DEED
APPENDIX 1K:	INITIAL LIST OF I&APS
APPENDIX 1L:	SITE PHOTOS

## ACRONYMS

BGIS	Biodiversity Geographic Information System
CBA	Critical Biodiversity Area
DEA	Department of Environmental Affairs
DENC	Department of Environment and Nature Conservation
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMP	Environmental Management Programme
HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
NID	Notice of Intent to Develop
NWA	National Water Act
OESA	Other Ecological Support Area
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute

WULA      Water Use Licence Application

---

# 1. INTRODUCTION

## 1.1 BACKGROUND

Consideration is being given to the development of a new township, consisting of low-income housing, at Portion 30 of Farm Blaauwskop No. 36, Blaauwskop Settlement, Kenhardt Road, Kai !Garib Municipality, ZF Mgcawu District Municipality, Northern Cape.

The applicant is Kai !Garib Local Municipality who will undertake the activity should it be approved. EnviroAfrica CC has been appointed as the independent Environmental Assessment Practitioner (“EAP”) responsible for undertaking the relevant Environmental Impact Assessment (“EIA”) and the Public Participation Process (“PPP”) required in terms of the National Environmental Management Act (Act 107 of 1998) (“NEMA”).

This Final Scoping Report, which will be submitted to the Department of Environment and Nature Conservation (“DE&NC”) for consideration (as per section 22 of the EIA Regulations, the competent authority must; *(a) accept the scoping report, with or without conditions, and advise the applicant to proceed or continue with the tasks contemplated in the plan of study for environmental impact assessment*), forms part of the EIA process.

The purpose of this Final Environmental Scoping Report is to describe the proposed project, the process followed to date, to present alternatives and to list issues identified for further study and comment by specialists.

Should the EIA process be authorized by DE&NC, the Specialist Studies (noted in Section 8) will be undertaken and the significant issues (noted in Section 6) will be investigated and assessed during the next phase of this application, namely the Draft Environmental Impact Report (EIR) stage.

## 1.2 DESCRIPTION OF THE PROPOSED ACTIVITY

Kai !Garib Municipality is proposing to formalise and develop low cost housing in the Blaauwskop Settlement community located within Kai !Garib Local Municipality. The development proposal will have a development footprint of approximately 50ha and will be rezoned and subdivided into approximately 500 Erven, mainly for residential purposes.

The study area are as follows:

- Portion 30 of Farm Blaauwskop No. 36 (Please see Appendix 1J for the Title Deed).

The project entails the formalisation of approximately 500 Erven for the community Blaauwskop Settlement. The current zoning of the site is Agricultural Zone I. A Spatial Planning Land Use Application (“SPLUMA”) application will be submitted for the rezoning and subdivision of land, and the rezoning to various land uses including public streets and any other land uses needed for the community of Blaauwskop Settlement. The project includes the associated infrastructure such as water, electricity, sewage, and solid waste removal. The total area to be developed measures approximately 50 (fifty) hectares in extent.

The site is located in Blaauwskop Settlement, in the Kai !Garib Municipality, Northern Cape. Please refer to **Appendix 1I** for the site co-ordinates.

## 2. NEED AND DESIRABILITY

In terms of the National Environmental Management Act, as amended, EIA 2014 regulations (as amended) the Scoping/EIA report must provide a description of the need and desirability of the proposed activity. The consideration of “need and desirability” in EIA decision-making requires the consideration of the strategic context of the development proposal along with the broader societal needs and the public interest.

While the concept of need and desirability relates to the *type* of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which *need* refers to *time* and *desirability* to *place* – i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed? Need and desirability can be equated to *wise use of land* – i.e. the question of what is the most sustainable use of land.

### 2.1 NEED

Housing is a national need, including in the Kai Garib Local Municipality.

According to the Kai Garib Municipality, the proposed development represents a significant step towards service delivery and housing objectives within the municipality and the broader Keimoes area. As such, this initiative is a positive step towards better governance and service delivery and will benefit the broader Keimoes community. Furthermore, this development will not only meet the pressing needs of adequate housing within the municipality but will also be in line to support the municipal IDP objectives of (i) providing housing for the poor, (ii) decreasing the city’s housing backlog, and (iii) fulfil the Constitutional mandate to provide adequate housing and basic services to citizens.

According to the Kai !Garib Municipality’s Integrated Development Plan (IDP 2020-21), ... *there is a pressing need for houses, especially low-cost houses, as well as serviced plots within all of the communities within the Kai !Garib area. However, it is quite satisfying to see that a great deal of progress was made in the delivering brick houses to communities since 1994. Unfortunately, the communities need for houses exceed the speed at which houses are built on individual erven.*

*According to the Census 2011 (Stats SA), 88.4 % of the population live in formal dwellings where 43.1% of households are comprised of houses which they own and have fully paid off. However, according to service delivery data from the Municipality, the number of informal settlements is growing overnight and the demand for service provision in these areas pose great challenges.*

The demand for housing in the Kai !Garib Municipality includes the total number of households in the municipal area. The Municipality had a total of 6 500 very formal dwellings and 9 720 formal dwellings whereas the number of informal dwellings increased from 6 500 (in 2012) to approximately 9 698 units (currently). This highlights the growing backlog of housing required within the Kai !Garib Municipality and the need for housing within the Municipality.

The proposed location is considered a viable option as the proposed site allows for accessibility and linkage to the existing services infrastructure. The main environmental issues, as detailed in the Kai !Garib Municipality Integrated Development Plan (IDP), 2020-21<sup>1</sup>, include sanitation and sewerage (associated with the informal settlements), littering, river pollution, and lack of sufficient cemeteries. Sanitation has been

<sup>1</sup> Kai !Garib Municipality Integrated Development Plan (IDP), 2020-21. Accessed at: <http://www.kaiqarib.gov.za/idp-2020-2021/>



identified as a key challenge by the Kai !Garib Municipality, where the current state of sewerage infrastructure in many settlements have reached capacity and pose health risks to the affected communities. Therefore, the socio-economic, as well as the environmental issues, must be incorporated in determining the desirability of the location of the site. Moreover, as per the IDP (2020/21), the sewerage systems within the formal areas of Keimoes, Kakamas and Kenhardt are currently under strain and need to be upgraded.

**Table 14.6: Housing Demand**

WARDS	1	2	3	4	5	6	7	8	9	TOTAL
<b>NEEDS BASED ON LAND USE SURVEY AND OUTSTANDING PROJECTS</b>										
Informal Structures on Stands	138	39	50	0	93	0	17	0	0	<b>337</b>
Informal Structures in backyards & landless	83	8	185	0	62	0	54	0	2	<b>394</b>
<b>LAND NEEDED</b>										
Land needed in ha for landless and backyard dwellings (Stand size 400m <sup>2</sup> )	4.742	0.457	10.571	0	3.542	0	3.085	0	0.114	<b>22.838ha</b>
<b>ADDITIONAL HOUSEHOLDS, PLANNED PROJECTS AND LAND NEEDS</b>										
Expected additional households 2014-2019	153	95	102	84	78	86	65	89	83	<b>835</b>
Expected land needs (ha) based on 5 year growth (Stand size 400m <sup>2</sup> )	8.742	5.428	5.828	4.80	4.457	4.914	3.714	5.085	4.742	<b>47.71ha</b>
<b>PREFERRED HOUSING PROGRAMMES in %</b>										
Fully subsidised (low cost/rental/ Informal Settlements Upgrading Programme	10 112	7572	7984	5611	4423	6988	4447	5163	5669	<b>57 969</b>
Institutional/GAP/FLI SP Housing/People's Housing	167	166	316	179	302	242	111	132	256	<b>1 871</b>
Bonded housing	1129	453	1217	585	774	455	298	256	754	<b>5 921</b>

Source: Kai !Garib Local Municipality, 2015

**Figure 1: Kai !Garib Municipality IDP 2017 – 2018 - Housing Demand**

## 2.2 DESIRABILITY

The following factors determine the desirability of the area for the proposed development.

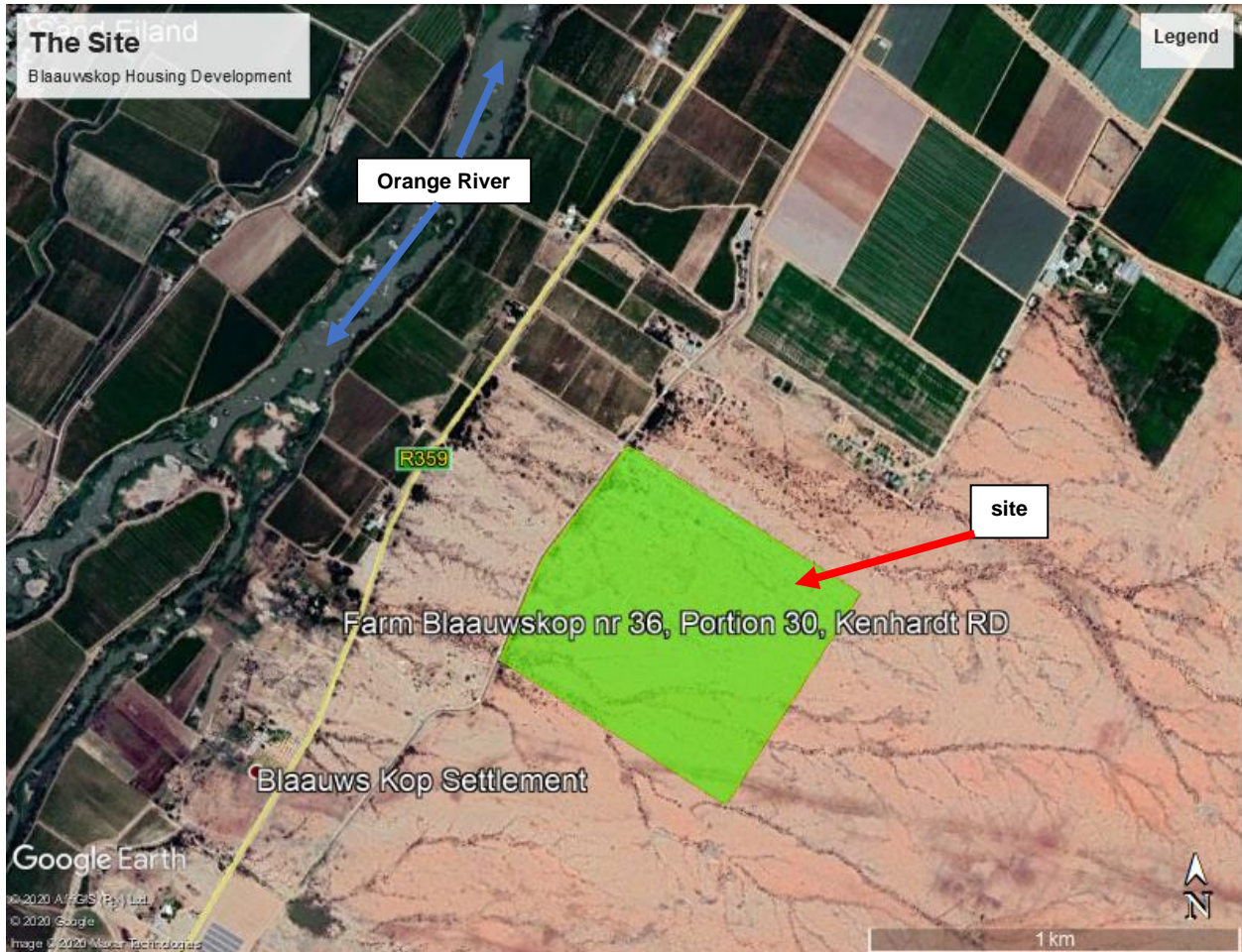
### 2.2.1 Location and Accessibility

The proposed location is considered to be a viable option. The proposed site is located to the east of the R365 Road in Blaauwskop Settlement and allows for access and provides a link to the existing services infrastructure. Any upgrades or additional services infrastructure that will be required will be included and addressed in the Draft Environmental Impact Report (EIR).

The desirability and location of the proposed development will be further investigated in the EIR.

## 2.2.2 Compatibility with the Surrounding Area

The proposed site is located within the agricultural area of Blaauwskop Settlement and is surrounded by agricultural land uses. The area on which the site is located is in a degraded state, was previously used for livestock grazing and some informal dwellings are present on site which needs to be formalised as part of this EIA application. The Orange River is located approximately 750m north west of the site and the R359 Road is located approximately 400m west of the site. As stated above, the site would provide accessibility and allow the proposed development to link to the existing services infrastructure.



**Figure 2:** Google Earth image showing the locality of the site. The proposed development will entail the formalisation of informal dwellings located on site. The Orange River is located approximately 750m west of the site and the R359 Road is located approximately 400m west of the site.

### 3. LEGAL REQUIREMENTS

The current assessment is being undertaken in terms of the National Environmental Management Act (Act 107 of 1998, NEMA) (“NEMA”), to be read with section 24 (5): NEMA Environmental Impact Assessment (“EIA”) Regulations 2014, as amended. However, the provisions of various other Acts must also be considered within this EIA.

The legislation that is relevant to this study is briefly outlined below.

#### 3.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA

The Constitution of the Republic of South Africa (Act 108 of 1996) states that everyone has a right to a non-threatening environment and that reasonable measures are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

#### 3.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)

The National Environmental Management Act (Act 107 of 1998) (“NEMA”), as amended, 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 delegated in the Northern Cape to the Department of Environment and Nature Conservation (DE&NC).

On the 04 December 2014 the Minister of Water and Environmental Affairs promulgated regulations in terms of Chapter 5 of the NEMA, namely the EIA Regulations 2014. These were amended on 07 April 2017 (GN No. 326, No. 327 (Listing Notice 1), No. 325 (Listing Notice 2), No. 324 (Listing Notice 3) in Government Gazette No. 40772 of 07 April 2017). Listing Notice 1 and 3 are for a Basic Assessment and Listing Notice 2 for a full Environmental Impact Assessment (EIA).

According to the regulations of Section 24(5) of NEMA, authorisation is required for the following listed activities for the proposed housing development:

Government Notice R327 (Listing Notice 1) listed activities:

- 9 The development of infrastructure exceeding 1000 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.
  
- 10 The development and related operation of infrastructure exceeding 1000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes

- (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 the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or
  - b) where such development will occur within an urban area.
- 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;
- 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;
- (a) will occur behind a development setback;
  - (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or
  - (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.
- 24** The development of a road -
- (i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or
  - (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;
- but excluding a road—
- (a) which is identified and included in activity 27 in Listing Notice 2 of 2014;
  - (b) where the entire road falls within an urban area; or
  - (c) which is 1 kilometre or shorter.
- 28** Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:
- (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or
  - (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.



Government Notice R325 (Listing notice 2) listed activities:

- 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.

Government Notice R324 (Listing notice 3) listed activities:

- 4** The development of a road wider than 4 metres with a reserve less than 13.5 metres
- 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.

**g. Northern Cape**

- i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;
- ii. Within critical biodiversity areas identified in bioregional plans;
- iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuary, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or
- iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.

- 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;
- Excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;

An Application Form was submitted to DE&NC. On acknowledgment from DE&NC this Scoping Process is being undertaken to identify potential issues.

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 will be placed at the forefront while serving their physical, psychological, developmental, cultural and social interests. The activity seeks to provide additional employment and economic development opportunities, which are a local and national need – *the proposed activity is expected to have a beneficial impact on people, especially developmental and social benefits, as well providing additional employment and economic development opportunities.*

- Development will 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. The impact that the activity will potentially have on these will be considered, and mitigation measures will be put in place - *potential impacts have been identified and considered, and any further potential impacts will be identified during the public participation process. Mitigation measures will be included in the Environmental Management Programme ("EMPr")*.
- Where waste cannot be avoided, it will be minimised and remedied through the implementation and adherence of the EMPr – *this will be included in the EIR*.
- The use of non-renewable natural resources will be responsible and equitable.
- The negative impacts on the environment and on people's environmental rights will be anticipated, investigated and prevented, and where they cannot be prevented, will be minimised and remedied.
- The interests, needs and values of all interested and affected parties will be taken into account in any decisions through the Public Participation Process (PPP).
- The social, economic and environmental impacts of the activity will be 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 will be taken into account, by pursuing what is considered the best practicable environmental option.

### 3.3 NATIONAL HERITAGE RESOURCES ACT

The protection and management of South Africa's heritage resources are controlled by the National Heritage Resources Act (Act No. 25 of 1999). South African National Heritage Resources Agency ("SAHRA") is the enforcing authority.

In terms of Section 38 of the National Heritage Resources Act, SAHRA will require a Heritage Impact Assessment (HIA) where certain categories of development are proposed. Section 38(8) also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is found to be adequate, a separate HIA is not required.

The National Heritage Resources Act requires relevant authorities to be notified regarding this proposed development, as the following activities are relevant:

- *any development or other activity which will change the character of a site exceeding 5 000 m<sup>2</sup> in extent;*
- *the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length*

Furthermore, in terms of Section 34(1), no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the SAHRA, or the responsible resources authority. Nor may anyone destroy, damage, alter, exhume or remove from its original position, or otherwise disturb, any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority, without a permit issued by the SAHRA, or a provincial heritage authority, in terms of Section 36 (3). In terms of Section 35 (4), no person may destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object, without a permit issued by the SAHRA, or the responsible resources authority.

### 3.4 EIA GUIDELINE AND INFORMATION DOCUMENT SERIES

The following are the latest guidelines and information Documents that have been consulted:

- Department of Environmental Affairs and Development Planning's (DEA&DP) *Environmental Impact Assessment Guideline and Information Document Series (Dated: March 2013)*:
  - ✓ *Guideline on Transitional Arrangements*
  - ✓ *Generic Terms of Reference for EAPs and Project Schedules*
  - ✓ *Guideline on Alternatives*
  - ✓ *Guideline on Public Participation*
  - ✓ *Guideline on Exemption Applications*
  - ✓ *Guideline on Appeals*
  - ✓ *Guideline on Need and Desirability*
  
- Department of Environmental Affairs and Tourism (DEAT) *Integrated Environmental Management Information Series*

### 3.5 NATIONAL WATER ACT

Besides the provisions of NEMA for this EIA process, the proposed development will also require a water use authorization under the National Water Act (Act N0. 36 of 1998). The Department of Water and Sanitation (DWS), who administer that Act, will be a leading role-player in the EIA.

If, and as required by the DWS, a General Authorization (GA) or Water Use Licence Application (WULA) may be compiled and submitted.

### 3.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT

The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA) is part of a suite of legislation falling under NEMA, which includes the Protected Areas Act, the Air Quality Act, the Integrated Coastal Management Act and the Waste Act. 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 54*).

### 3.7 THE SPATIAL PLANNING AND LAND USE MANAGEMENT ACT (ACT 16 OF 2013)

The subject area falls under the jurisdiction of Kai !Garib local municipality and the appropriate zoning and subdivision would need to be allocated in order to permit the development of the land for the intended purpose. The Spatial Planning Land Use Management Application (SPLUMA) application will be submitted once this EIA process has been completed.

---

## 4. ALTERNATIVES

Alternatives to the proposed development are limited and have therefore not been considered for the following reasons described below.

### 4.1 SITE ALTERNATIVES

The proposed site is the only viable site available at this stage and the only one that will be investigated in this application. Housing is a constant need in the municipality, with other sites possibly earmarked for residential development that will not form part of this application. These will be addressed in the Environmental Impact Report phase.

### 4.2 ACTIVITY ALTERNATIVES

Activity alternatives are also very limited with no feasible alternatives besides residential development to assess. Due to the need for housing in the Kai !Garib Local Municipality, the housing development and associated infrastructure on the property is therefore the only activity considered.

The development may include a number of different land-uses however, besides just residential opportunities. These will be investigated during the Environmental Impact Report phase.

### 4.3 LAYOUT ALTERNATIVES

Various layout alternatives will be investigated during the Environmental Impact Report phase. These will be compiled with input from the municipality and its requirements, Engineers, as well as input and/or recommendations of the various specialists, as well as input from Interested and Affected Parties, including the community members. Please refer to **Appendix 1A** for the Concept Layout Plan.

### 4.4 NO-GO ALTERNATIVE

This is the option of not developing the proposed residential development.

Although the no-go development might result in no potential negative environmental impacts, the direct and indirect socio-economic benefits of not constructing the residential development will not be realised. The need for additional housing opportunities in the Kai !Garib Local Municipality will not be realised. These potential negative and/or positive environmental impacts will be assessed in the Environmental Impact Report.



## 5. SITE DESCRIPTION

### 5.1 LOCATION

The proposed site is located on a dirt road off the R359 and is located within the Blaauwskop Settlement. The proposed site is located approximately 13km east of Keimoes and approximately 30 km to the south-west of Upington, as the crow flies. The proposed site for development is located adjacent to the Orange-Fish River Tunnel (irrigation canal). Please refer to **Appendix 1L** for the site photographs, **Appendix 1I** for the site co-ordinates and see **figures 3 to 8** below.

The study area is as follows:

- Portion 30 of Farm Blaauwskop No. 36 (Please see **Appendix 1J** for the Title Deed).



**Figure 3:** Google Earth Aerial image of the proposed site (green polygon) and surrounding area.



**Figure 4:** General view of the informal dwellings on site, looking in a south-eastern direction. The site is transformed.



**Figure 5:** General view of the informal dwellings on site. The site comprises of informal dwellings with access roads.





**Figure 6:** General view of the informal dwellings on site; looking in a south-eastern direction. The site is transformed. A number of alien trees are present on site.



**Figure 7:** General view of the informal dwellings on site, looking in a north-eastern direction. The site is transformed and degraded.



**Figure 8:** General view of the informal dwellings on site, looking in a southern direction. A number of alien trees are found on site.

## 5.2 VEGETATION

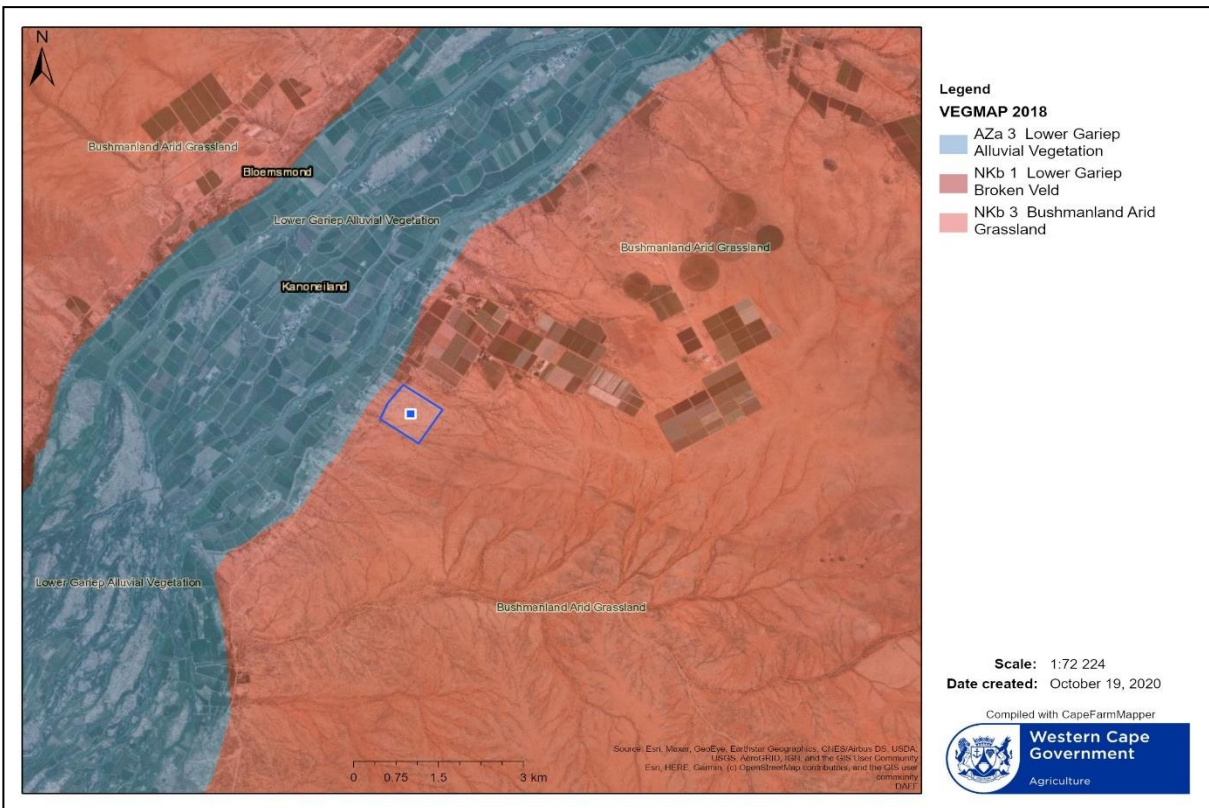
The proposed site for the residential development is partly developed and has some natural vegetation present. According to the Vegetation map of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2006, as updated in the 2012 beta version) the vegetation type is expected to be Bushmanland Arid Grassland (see figure 9 below). Bushmanland Arid Grassland is not considered a threatened vegetation type, with more than 99% remaining. However only 4% is formally conserved (Augrabies Falls National Park). According to the 2016 Northern Cape CBA map, the proposed development footprint is located within a Critical Biodiversity Area (CBA). Unfortunately, there are no logical alternative sites available to the Kai !Garib Municipality, which will not impact on the CBA (see figure 10). Please note that a Botanical Impact Assessment was undertaken and will be detailed and addressed further as part of the Draft Environmental Impact Report (Draft EIR) phase.

As per the Botanical Assessment (Appendix 1H), plant species diversity was very low and most of the veld had been impacted by the recent drought, reducing many of the plant species to dried-out shrubs. The proposed activity is expected to result in a permanent transformation of approximately 35ha of land, of which approximately 23ha have already been disturbed / transformed. The site will not impact on any recognised centre of endemism. Protected Camel Thorn (*Vachellia erioloba*) and Sheppard trees (*Boscia albitrunca*), protected by the National Forest Act (NFA), and a number of Northern Cape Nature Conservation Act (NCNCA) protected species were observed within the footprint. According to the Botanical Assessment, a Medium-Low impact, which can be reduced to a Low impact with good environmental control during construction.

With the correct mitigation it is **unlikely** that the development will contribute significantly to any of the following:

- Significant loss of vegetation type and associated habitat.
- Loss of ecological processes (e.g. migration patterns, pollinators, river function etc.) due to construction and operational activities.
- Loss of local biodiversity and threatened plant species.
- Loss of ecosystem connectivity.

In conclusion, the Botanical Specialist concluded that “with the available information it is recommended that project be approved, with the proposed mitigation actions”.



**Figure 9:** SANBI BGIS Vegetation map of the area.





Figure 10: SANBI BGIS - 2016 Northern Cape Critical Biodiversity Areas Map.

### 5.3 FRESHWATER

From the SANBI National Freshwater Ecosystem Priority Areas (“NFEPA”) map (see Figure 11 below), there are no natural watercourses on the proposed site. The Orange River is located approximately 690m west of the proposed site. There is an irrigation channel to the west of the proposed site. However, from the site visit and Google earth images, and the Freshwater Report (**Appendix 1H**), the proposed housing development transverses a number of drainage lines. According to the Freshwater Report (attached as **Appendix 1G**), the proposed housing development will entirely alter the drainage lines. Please refer to **Appendix 1G** and Figures 11 to 12 below.

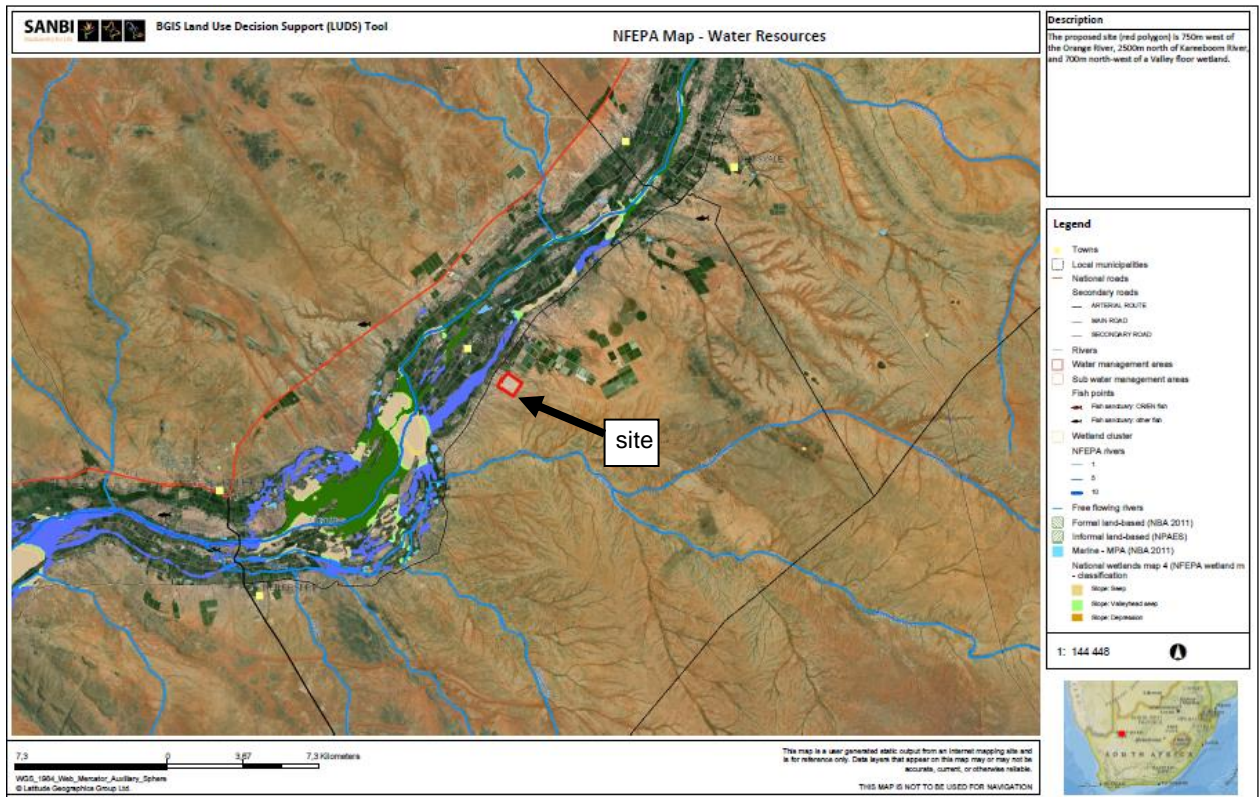


Figure 11: SANBI BGIS NFEPA map of the area.

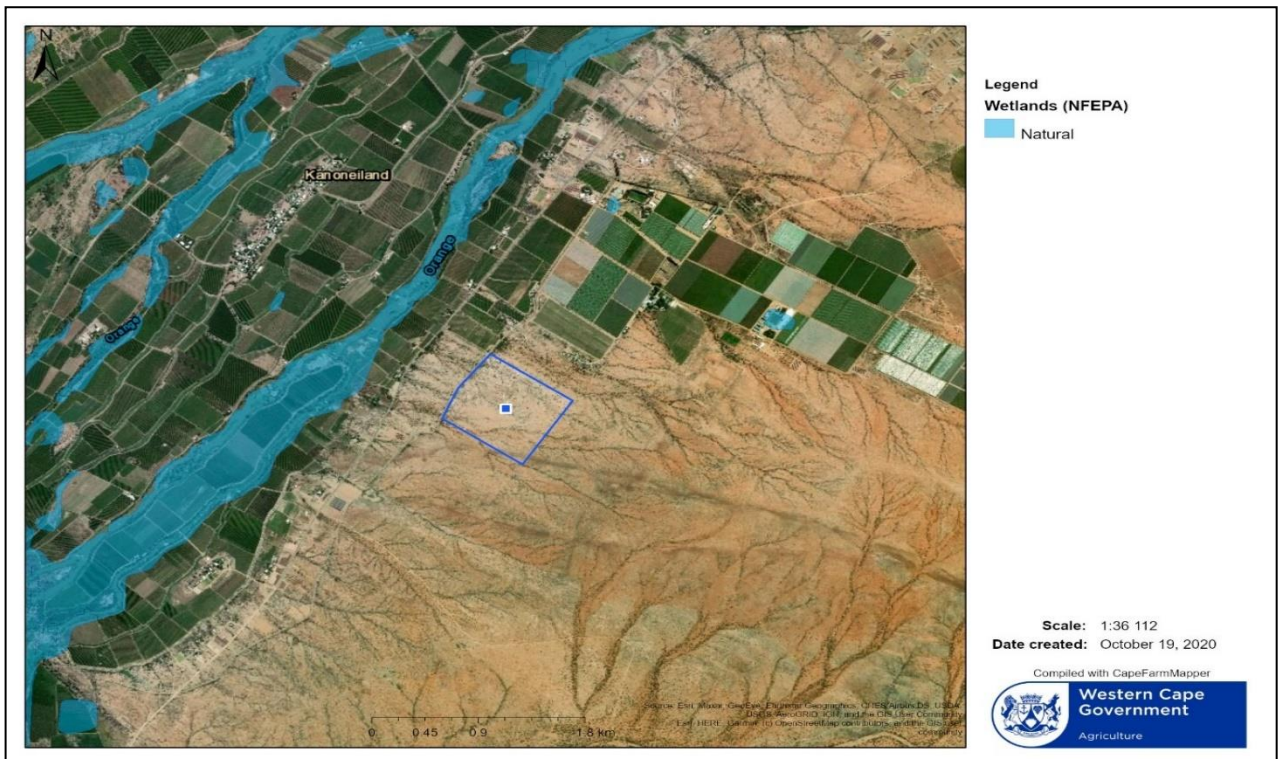
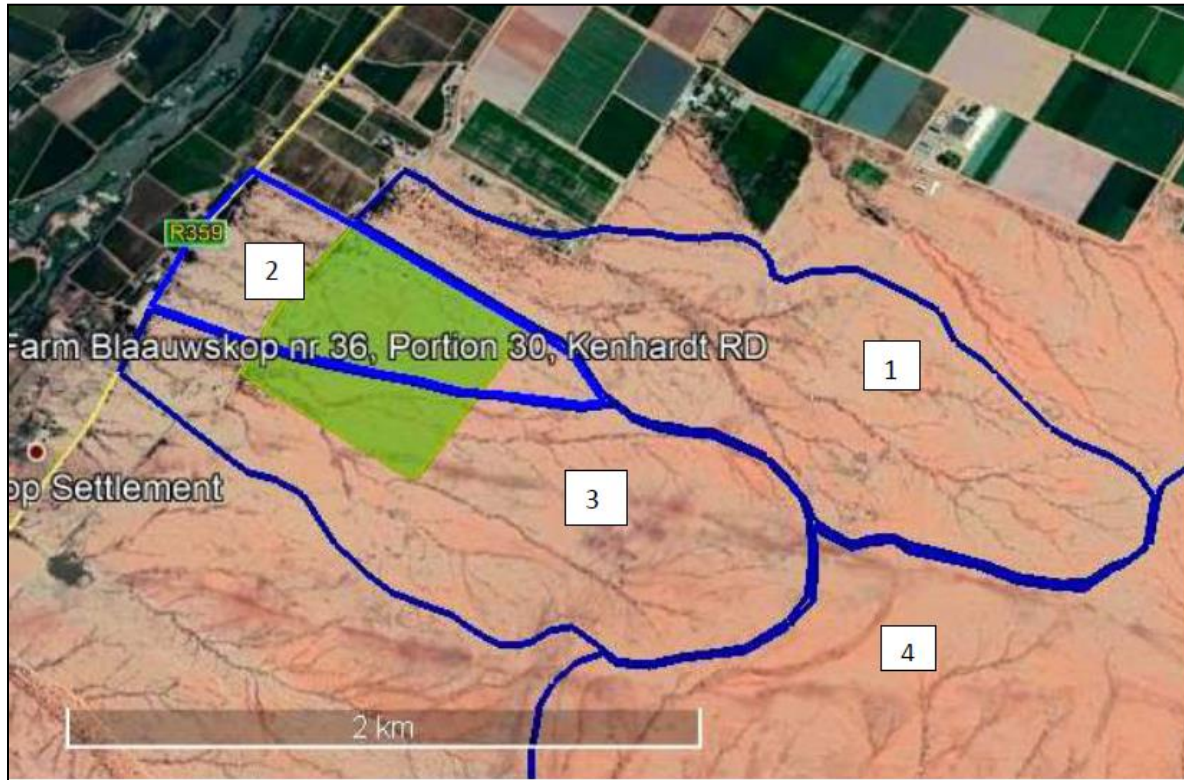


Figure 12: Natural Freshwater Priority Area (NFEPA) associated with the proposed site for development.





**Figure 13:** Catchment areas (see Appendix 1H).

The drainage lines are mostly dry, with water only during rains and perhaps shortly thereafter. Although heavy rainfall events in the area are uncommon, such events can result in the drainage lines flooding. These floods maintain the morphological integrity of the drainage lines, as sediments are transported and these water ways are scoured out. Because rainfall events are infrequent, the drainage lines must have been formed over millennia, even since geological times (see **Appendix 1H**). Around the Orange River and even the Sak and Hartbees River, large-scale agriculture has changed the drainage lines into drainage channels among the vineyards and orchards. The upper reaches away from the rivers are less impacted, even near-pristine, as intense agriculture is not possible, apart from those areas where water is piped over long distances from the Orange River (see **Appendix 1H**).

The mostly dry drainage lines in sub-catchment 2 and 3 run right through the existing housing, with houses located on the banks, without any buffer zone (see **Appendix 1H**). The drainage lines pass over the irrigation canal (located adjacent to the north western boundary of the proposed development footprint. Concrete slabs have been constructed over the canal at each of the crossings, with concrete walls on either side of the crossing to keep storm water from entering the canal (see Appendix 1H). The impacts on sub-catchments 2 and 3 are going to be the greatest, as the township will be built right over these drainage lines (see **Appendix 1H**). Drainage lines of sub-catchments 1 and 4 are adjacent to the new development and would be spared of houses right on its banks (see **Appendix 1H**).

The impacts include trampling and over-grazing of the sub-catchment, destruction of the drainage lines, littering and the risk of untreated sewage ending up in the drainage canal and the Orange River (see **Appendix 1H**).



### Mitigation Measures

- A buffer zone of 20m should be allowed on either side of these drainage lines, a green zone through the envisaged township. The township should be arranged in such a way that the drainage lines still connect to the stormwater infrastructure over the irrigation canal. Stormwater should not be allowed to enter the irrigation canal. Where necessary, additional infrastructure should be built over the irrigation canal.
- Litter and household waste have been noted in the drainage lines of the existing township. This problem, if not effectively managed, will escalate when the township expands. Litter and waste should not be allowed to enter the canal. It should not be allowed to wash down the drainage lines and into the Orange River. Infrastructure to catch the waste should be installed and these structures should be regularly cleaned.
- Another 1500 households would put strain on the current sewage and wastewater handling system. It would be disastrous if sewage ends up in the Orange River. Proper planning and infrastructure are necessary.
- The three smaller sub-catchments can probably not produce enough runoff, even during a large rainfall event, to pose a threat to the new development. The larger sub-catchment of almost 90 000 ha is large enough to produce a sudden and dangerous pulse of runoff during a high rainfall event, perhaps of 30 to 40mm in a day. Residents should be aware of the potential hazard.
- Consideration must be made with regards to health and safety aspects, especially children's safety in and around the irrigation canal some thought, because the danger of drownings increases as the township grows.

A General Authorisation is required from Department of Water and Sanitation (“DWS”). The impact of the proposed development on these watercourses are to be further investigated in the Environmental Impact Report phase.

## **5.4 CLIMATE**

Keimoes, the closest locality to Blaauwskop Settlement with on-line climate data, receives only 154mm of rain annually, which categorized this area as semi-arid. The rainfall is entirely inadequate for growing crops. The large-scale agriculture in the district is for all its needs dependent on irrigation out of the Orange River. Most of the rain is during summer. Rainfall is highly variable, with occasional (i.e. once every couple of years) high rainfall events. Droughts are common, with dry periods lasting for years. The summers are hot and dry, with midday temperatures often exceeding 40°C.

## **5.5 SOCIO-ECONOMIC CONTEXT**

According to the Kai !Garib Municipality Integrated Development Plan (IDP) (Final IDP 2019 – 2020), the municipal area falls within the ZF Mgcawu District Municipality's Area and consists of 3 large towns: Kakamas, Keimoes, and Kenhardt. According to the Municipality's Spatial Development Framework (SDF), adopted in October 2012, the Municipal area occupies 26 358km<sup>2</sup>, the equivalent of 25.71% of the mentioned District Municipality and 2.16% of the whole of South Africa.

The population projection of Kai !Garib Local Municipality shows an estimated average annual growth rate of 0.9% between 2018 and 2023. The average annual growth rate in the population over the projection period for ZF Mgcawu District Municipality, Northern Cape Province and South Africa is 1.2%, 1.3% and 1.3% respectively. The Northern Cape Province is estimated to have an average growth rate of 1.3% which is very similar than that of the Kai !Garib Local Municipality. The South Africa as a whole is estimated to have an average annual growth rate of 1.3% which is very similar than that of Kai !Garib's projected growth rate (Kai !Garib Municipality IDP 2019 – 2020).

The following has been extracted from the Kai !Garib Municipality's IDP:

*In 2018, the Kai !Garib Local Municipality's population consisted of 28.46% African (20 100), 7.00% White (4 930), 63.32% Coloured (44 600) and 1.23% Asian (865) people. The largest share of population is within the young working age (25-44 years) age category with a total number of 24 200 or 34.4% of the total population. The age category with the second largest number of people is the babies and kids (0-14 years) age category with a total share of 21.3%, followed by the teenagers and youth (15-24 years) age category with 14 900 people. The age category with the least number of people is the retired / old age (65 years and older) age category with only 4 500 people is indicated by the statistics (Kai !Garib Municipality IDP 2019 – 2020).*

*With the Coloured population group representing 63.3% of the Kai !Garib Local Municipality's total population, the overall population pyramid for the region will mostly reflect that of the African population group. The chart below compares Kai !Garib's population structure of 2018 to that of South Africa.*

- *There is a significantly larger share of young working age people - aged 20 to 34 (32.8%) - in Kai !Garib, compared to the national picture (27.5%).*
- *The area appears to be a migrant receiving area, with many of people migrating into Kai !Garib, either from abroad, or from the more rural areas in the country looking for better opportunities.*
- *Fertility in Kai !Garib is significant lower compared to South Africa as a whole.*
- *Spatial policies changed since 1994.*
- *The share of children between the ages of 0 to 14 years is significant smaller (21.3%) in Kai !Garib compared to South Africa (29.0%). Demand for expenditure on schooling as percentage of total budget within Kai !Garib Local Municipality will therefore be lower than that of South Africa (Kai !Garib Municipality IDP 2019 – 2020).*

If the number of households is growing at a faster rate than that of the population it means that the average household size is decreasing, and vice versa. In 2018, the Kai !Garib Local Municipality comprised of 18 400 households. This equates to an average annual growth rate of 0.24% in the number of households from 2008 to 2018. With an average annual growth rate of 0.87% in the total population, the average household size in the Kai !Garib Local Municipality is by implication increasing. This is confirmed by the data where the average household size in 2008 increased from approximately 3.6 individuals per household to 3.8 persons per household in 2018 (Kai !Garib Municipality IDP 2019 – 2020).

In 2018, there were 37 100 people living in poverty, using the upper poverty line definition, across Kai !Garib Local Municipality - this is 5.92% lower than the 39 400 in 2008. The percentage of people living in poverty has decreased from 59.57% in 2008 to 51.92% in 2018, which indicates a decrease of 7.65 percentage points (Kai !Garib Municipality IDP 2019 – 2020).

Within Kai !Garib Local Municipality, the number of people without any schooling decreased from 2008 to 2018 with an average annual rate of -3.17%, while the number of people within the 'matric only' category, increased from 6,420 to 8,920. The number of people with 'matric and a certificate/diploma' increased with an average annual rate of 1.35%, with the number of people with a 'matric and a Bachelor's' degree increasing with an average annual rate of 0.07%. Overall improvement in the level of education is visible with an increase in the number of people with 'matric' or higher education (Kai !Garib Municipality IDP 2019 – 2020).

The number of people without any schooling in Kai !Garib Local Municipality accounts for 29.53% of the number of people without schooling in the district municipality, 5.26% of the province and 0.15% of the national. In 2018, the number of people in Kai !Garib Local Municipality with a matric only was 8,920 which is a share of 20.33% of the district municipality's total number of people that has obtained a matric. The number of people with a matric and a Postgrad degree constitutes 15.53% of the district municipality, 2.59% of the province and 0.03% of the national (Kai !Garib Municipality IDP 2019 – 2020). A total of 42 800 individuals in Kai !Garib Local Municipality were considered functionally literate in 2018, while 13 400 people were considered to be illiterate. Expressed as a rate, this amounts to 76.11% of the population, which is an

increase of 0.1 percentage points since 2008 (66.12%). The number of illiterate individuals decreased on average by -2.27% annually from 2008 to 2018, with the number of functional literate people increasing at 2.63% annually (Kai !Garib Municipality IDP 2019 – 2020).

Kai !Garib Local Municipality's functional literacy rate of 76.11% in 2018 is lower than that of ZF Mgcawu at 79.67%, and is lower than the province rate of 78.61%. When comparing to National Total as whole, which has a functional literacy rate of 84.42%, it can be seen that the functional literacy rate is higher than that of the Kai !Garib Local Municipality (Kai !Garib Municipality IDP 2019 – 2020).

The agricultural sector is still the main economic sector who made the biggest contribution to the economy of Kai !Garib. The Agriculture sector is also a major employer in the Municipality in terms of all formal employment. It is also the sector with the largest potential for economic growth. The commercial farmers farm especially with grapes for export, raisins and wine, while citrus types of fruit are also becoming more prevalent in the area (Kai !Garib Municipality IDP 2019 – 2020).

The municipality has indicated that there is a pressing need for houses, especially low-cost houses, as well as serviced plots within all of the communities within the Kai !Garib area. Although progress has been reported with regards to delivering brick houses to communities since 1994, unfortunately, the communities need for houses exceeds the speed at which houses are built on individual erven (Kai !Garib Municipality IDP 2019 – 2020). According to the Census 2011 (Stats SA) 88.4 % of the population live in formal dwellings and 43.1 % households live in houses which they own and have fully paid off. However, according to service delivery data from the Municipality, the number of informal settlements is rapidly growing and the demand for service provision in these areas pose great challenges. When looking at the formal dwelling unit backlog (number of households not living in a formal dwelling) over time, it can be seen that in 2007 the number of households not living in a formal dwelling were 1 840 within Kai !Garib Local Municipality. From 2007 this number increased annually at 4.51% to 2 860 in 2017 (Kai !Garib Municipality IDP 2019 – 2020).

## 5.6 HERITAGE FEATURES

Due to the nature and size of the proposed development, potential heritage resources may be affected by the proposed development. Heritage resources include any of the following, as defined by the National Heritage Resources Act (Act 25 of 1999):

- living heritage as defined in the National Heritage Council Act No 11 of 1999 (cultural tradition; oral history; performance; ritual; popular memory; skills and techniques; indigenous knowledge systems; and the holistic approach to nature, society and social relationships);
- Ecofacts (non-artefactual organic or environmental remains that may reveal aspects of past human activity; definition used in KwaZulu-Natal Heritage Act 2008);
- places, buildings, structures and equipment; places to which oral traditions are attached or which are associated with living heritage; historical settlements and townscapes;
- landscapes and natural features; geological sites of scientific or cultural importance;
- archaeological and palaeontological sites; graves and burial grounds;
- public monuments and memorials; sites of significance relating to the history of slavery in South Africa; movable objects, but excluding any object made by a living person; and battlefields.

A **Heritage Impact Assessment (“HIA”)** was conducted and is attached to this report as **Appendix 11**. The HIA identified the following heritage resources on site:

- Five occurrences of lithic material were recorded within the development footprint on Portion 30 of Farm Blaauwskop No. 36. The lithic assemblages consist of surface scatters of very few formal tools, predominantly untrimmed flakes, cores, stone working debris, and few scrapers made from the highly utilised banded ironstone formation (BIF).
- Three incidences of lithic material were recorded outside the development footprint, towards the south.

- No formal or informal graves were identified.
- The proposed site has zero palaeontological significance

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:

- The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No other heritage was identified. Therefore, no further mitigation is required, and from a heritage point of view we recommend that the proposed development can continue.
- Due to the zero 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 as the igneous rocks underlying the site are not fossiliferous. It is therefore recommended that the project be exempt from a full Paleontological Impact Assessment (Butler 2019).
- 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 possible discovery of finds such as stone tool scatters, artefacts, human remains, or fossils are made, the operations must be stopped, and a qualified archaeologist must be contacted for an assessment of the find.

The HIA (**Appendix 1I**) has identified no significant heritage resources on Farm Blaauwskop No. 36, Portion 30, Blaauwskop Settlement, Kai !Garib Municipality, ZF Mgcawu District Municipality, Northern Cape as set out in the report. In the development footprint there are **no archaeological, historical, cultural sites, or paleontological resources that will be impacted on negatively by the proposed development.**

Due to the scale of the development and the level of development that is occurring within Keimoes, the availability of bulk services for the development will need to be investigated. The Kai !Garib Municipality will more than likely be the service provider for the bulk services. BVI Consulting Engineers will prepare the Bulk Engineering Services Reports on the external services for the proposed housing development.

## **6. SERVICES**

Due to the scale of the development and the level of development that is occurring within Blaauwskop Settlement, the availability of bulk services for the development will need to be investigated. The Kai !Garib Municipality will more than likely be the service provider for the bulk services. BVI Consulting Engineers will prepare the Bulk Engineering Services Reports on the external services for the proposed housing development.

### **6.1 WATER**

The water source, upgrades to existing water reticulation infrastructure and connection with the proposed internal water network will need to be determined. Back-up storage will also need to be investigated. The availability and confirmation that sufficient capacity exists to service the proposed development will need to be addressed, and confirmation received from the engineers and/or municipality.

### **6.2 SEWER**

The availability of sewer services in the Blaauwskop and Keimoes area is of concern. Potential upgrades to existing infrastructure or the potential development of new infrastructure to adequately service the proposed development will need to be investigated. The availability and confirmation that sufficient capacity exists to service the proposed development will need to be addressed and confirmed by the engineers and/or the municipality.

### **6.3 ROADS**

The internal road network and design standards, including any access roads, will need to be determined in line with the proposed layout design.

### **6.4 STORMWATER**

The internal stormwater network and links and upgrades to the existing external stormwater network, will need to be determined and addressed in the Bulk Engineering Services Reports. This will be determined once a conceptual site layout plan has been developed.

### **6.5 SOLID WASTE (REFUSE) REMOVAL**

Refuse removal will be via the Municipal waste stream and disposed of at the nearest municipal bulk solid waste disposal site. Sufficient capacity to adequately service the proposed development will need to be confirmed by the engineers and municipality.

### **6.6 ELECTRICITY**

The proposed internal electrical network, electrical infrastructure requirements, upgrades to the existing external electrical network, including the provider and confirmation of sufficient capacity will need to be determined and addressed in the Bulk Engineering Services Reports.

## 7. ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

Environmental issues were raised through informal discussions with the project team, specialists and authorities. All issues raised will be assessed in the specialist reports and will form part of the Environmental Impact Report. Additional issues raised during the public participation will be listed in the Final Scoping Report.

The following potential issues have been identified and will be addressed in the Draft Environmental Impact Report (EIR):

### 7.1. BOTANICAL

A Botanical Impact Assessment (BIA) was conducted to determine if there is any sensitive or endangered vegetation on the proposed site. According to the SANBI BGIS website the proposed site would be covered with Bushmanland Arid Grassland (Least Threatened, Figure 9) and is located within a Critical Biodiversity Area (CBA) (Figure 10). Due to the size of the development (approximately 50ha), there will be a loss of vegetation during the construction phase of the project.

As per the Botanical Assessment (Appendix 1H), plant species diversity was very low and most of the veld had been impacted by the recent drought, reducing many of the plant species to dried-out shrubs. The proposed activity is expected to result in a permanent transformation of approximately 35ha of land, of which approximately 23ha have already been disturbed / transformed. The site will not impact on any recognised centre of endemism. Protected Camel Thorn (*Vachellia erioloba*) and Sheppard trees (*Boscia albitrunca*), protected by the National Forest Act (NFA), and a number of Northern Cape Nature Conservation Act (NCNCA) protected species were observed within the footprint. According to the Botanical Assessment, a Medium-Low impact, which can be reduced to a Low impact with good environmental control during construction.

With the correct mitigation it is **unlikely** that the development will contribute significantly to any of the following:

- Significant loss of vegetation type and associated habitat.
- Loss of ecological processes (e.g. migration patterns, pollinators, river function etc.) due to construction and operational activities.
- Loss of local biodiversity and threatened plant species.
- Loss of ecosystem connectivity.

In conclusion, the Botanical Specialist concluded that “with the available information it is recommended that project be approved, with the proposed mitigation actions”.

### 7.2. FRESHWATER

A **Freshwater Report** was compiled and is attached to this report as **Appendix 1H**. According to the Freshwater Report, the proposed housing development transverses a number of drainage lines.

AS per the Freshwater Report (Appendix 1H), the proposed housing development transverses a number of drainage lines. According to the Freshwater Report (attached as Appendix 1H), the proposed housing development will entirely alter the drainage lines.



The drainage lines are mostly dry, with water only during rains and perhaps shortly thereafter. Although heavy rainfall events in the area are uncommon, such events can result in the drainage lines flooding. These floods maintain the morphological integrity of the drainage lines, as sediments are transported and these water ways are scoured out. Because rainfall events are infrequent, the drainage lines must have been formed over millennia, even since geological times (see **Appendix 1H**). Around the Orange River and even the Sak and Hartbees River, large-scale agriculture has changed the drainage lines into drainage channels among the vineyards and orchards. The upper reaches away from the rivers are less impacted, even near-pristine, as intense agriculture is not possible, apart from those areas where water is piped over long distances from the Orange River (see **Appendix 1H**).

The mostly dry drainage lines in sub-catchment 2 and 3 run right through the existing housing, with houses located on the banks, without any buffer zone (see **Appendix 1H**). The drainage lines pass over the irrigation canal (located adjacent to the north western boundary of the proposed development footprint. Concrete slabs have been constructed over the canal at each of the crossings, with concrete walls on either side of the crossing to keep storm water from entering the canal (see Appendix 1G). The impacts on sub-catchments 2 and 3 are going to be the greatest, as the township will be built right over these drainage lines (see **Appendix 1H**). Drainage lines of sub-catchments 1 and 4 are adjacent to the new development and would be spared of houses right on its banks (see **Appendix 1H**). The impacts include trampling and over-grazing of the sub-catchment, destruction of the drainage lines, littering and the danger of untreated sewage ending up in the drainage lines, Orange-Fish River Tunnel (irrigation canal) as well as the Orange River (see **Appendix 1H**).

### **Mitigation Measures**

- A buffer zone of 20m should be allowed on either side of these drainage lines, a green zone through the envisaged township. The township should be arranged in such a way that the drainage lines still connect to the stormwater infrastructure over the irrigation canal. Stormwater should not be allowed to enter the irrigation canal. Where necessary, additional infrastructure should be built over the irrigation canal.
- Litter and household waste have been noted in the drainage lines of the existing township. This problem, if not properly managed, will escalate when the township expands. Litter and waste should not be allowed to enter the canal. It should not be allowed to wash down the drainage lines and into the Orange River. Infrastructure to catch the waste should be installed and these structures should be regularly cleaned.
- Another 1500 households would put strain on the current sewage and wastewater handling system. It would be disastrous if sewage ends up in the Orange River. Proper planning and infrastructure are necessary.
- The three smaller sub-catchments can probably not produce enough runoff, even during a large rainfall event, to pose a threat to the new development. The larger sub-catchment of almost 90 000 ha is large enough to produce a sudden and dangerous pulse of runoff during a high rainfall event, perhaps of 30 to 40mm in a day. Residents should be aware of the potential hazard (see **Appendix 1H**)
- The authorities will have to give the dangers of children in and around the irrigation canal some thought, because the danger of drownings increases as the township grows. A General Authorisation is required from Department of Water and Sanitation (“DWS”). The impact of the proposed development on these watercourses are to be further investigated in the Environmental Impact Report phase.

### 7.3. HERITAGE

A **Heritage Impact Assessment (“HIA”)** was conducted and is attached to this report as **Appendix 11**. The HIA identified the following heritage resources on site:

- Five occurrences of lithic material were recorded within the development footprint on Portion 30 of Farm Blaauwskop No. 36. The lithic assemblages consist of surface scatters of very few formal tools, predominantly untrimmed flakes, cores, stone working debris, and few scrapers made from the highly utilised banded ironstone formation (BIF).
- Three incidences of lithic material were recorded outside the development footprint, towards the south.
- No formal or informal graves were identified.
- The proposed site has zero palaeontological significance

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:

- The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No other heritage was identified. Therefore, no further mitigation is required, and from a heritage point of view we recommend that the proposed development can continue.
- Due to the zero 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 as the igneous rocks underlying the site are not fossiliferous. It is therefore recommended that the project be exempt from a full Paleontological Impact Assessment (Butler 2019).
- 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 possible discovery of finds such as stone tool scatters, artefacts, human remains, or fossils are made, the operations must be stopped, and a qualified archaeologist must be contacted for an assessment of the find.

### 7.4. VISUAL IMPACT

The potential impact on the sense of place of the proposed development will also be considered. However, due to the nature of the activity, the surrounding land-uses as well as the sense of place is not expected to be significantly altered by the proposed development, and therefore, no further studies are suggested.

### 7.5. OTHER ISSUES IDENTIFIED

Any further issues raised during the public participation process or by the Competent Authority not mentioned in this section, will be dealt with during the EIA phase.



## 8. DETAILS OF THE PUBLIC PARTICIPATION PROCESS

Interested and Affected Parties (“I&APs”) have been and will be identified throughout the process. Landowners adjacent to the proposed site, relevant organs of state, organizations, ward councillors and the Local and District Municipality were added to this database. A complete list of organisations and individual groups identified to date is shown in **Appendix 1L**.

Public Participation will be conducted for the proposed development in accordance with the requirements outlined in Regulation 41 of the NEMA EIA Regulations, 2014 (as amended). The issues and concerns raised during the scoping phase will be dealt with in the EIA phase of this application.

As such, each subsection of Regulation 41 contained in Chapter 6 of the NEMA EIA Regulations, 2014 (as amended) will be addressed separately to thereby demonstrate that all potential Interested and Affected Parties (“I&AP’s”) were notified of the proposed development.

### **R54 (2) (a):**

**R41 (2) (a) (i):** The site notices (A2 and A3 sizes) were placed at different locations around the project site as well as at the municipality office in town (please refer to **Appendix 1D**)

The posters contained all details as prescribed by R41(3) (a) & (b) and the size of the on-site poster was at least 60cm by 42cm as prescribed by section R41 (4) (a).

**R41 (2) (a) (ii):** N/A. There is no alternative site.

### **R41 (2) b):**

**R41 (2) (b) (i):** N/A. The Applicant is the landowner

**R41 (2) (b) (ii):** The Initial notification letter (**Appendix 1C**) was circulated to residents within a 200m radius of the project site. Also see **Appendix 1D** for the letter drops.

**R41 (2) (b) (iii):** An initial notification letter was sent to the municipal Ward councillor at the Kai !Garib Municipality, for the ward in which the site is situated (please refer to **Appendix 1C** for proof of notification letters sent).

**R41 (2) (b) (iv):** An initial notification letter was sent to the Kai !Garib Municipality as the municipality is the Applicant.

**R54 (2) (b) (v):** Initial notification letter (please refer to **Appendix 1C** for proof of notification letters sent) will be sent to the following organs of state having jurisdiction in respect of any aspect of the activity:

- Department of Water and Sanitation;
- Department of Agriculture and Land Reform;
- Department of Roads and Public Works;
- Department of Agriculture, Forestry and Fisheries;
- Department of Co-operative Governance, Human Settlements and Traditional Affairs;
- Department of Environment and Nature Conservation (D:E&NC);
- South African Heritage Resources Agency;

- Kai !Garib Municipality; and
- ZF Mgcawu District Municipality.

**R41 (2) (c) (i):** An advertisement was placed in the local newspaper, **Kalahari Bulletin**, on **17 January 2019** (please refer to **Appendix 1B** for proof of advertisement).

**R41 (2) (d):** N/A

**R41 (6):**

**R41 (6) (a):** All relevant facts in respect of the application were made available to potential I&AP's.

**R41 (6) (b):** I&AP's were given more than a 30-day registration and comment period on the proposed application during the first round of public participation.

**R42 (a), (b), (c) and R43(2):** A register of interested and affected parties was opened, maintained and is available to any person requesting access to the register in writing (please refer to **Appendix 1L** for the list of I&APs).

Please find attached in **Appendix 1:**

- Appendix 1A – Concept Layout
- Appendix 1B - Proof of Notice boards, advertisements and notices that were sent out;
- Appendix 1C – Notification Letter of Availability of Draft Scoping Report
- Appendix 1D – Initial Notification Letters
- Appendix 1E – Poster Placement and Maildrops
- Appendix 1F – Initial Comments and Responses Report;
- Appendix 1G – Botanical Impact Assessment
- Appendix 1H – Freshwater Impact Assessment;
- Appendix 1I – Heritage Impact Assessment;
- Appendix 1J – Locality and Biodiversity Overlay Maps;
- Appendix 1K – Site Co-Ordinates;
- Appendix 1L – Title Deed
- Appendix 1M – List of potential interested and affected parties;
- Appendix 1N – Site Overview Photos;

## 9. PLAN OF STUDY FOR THE EIA

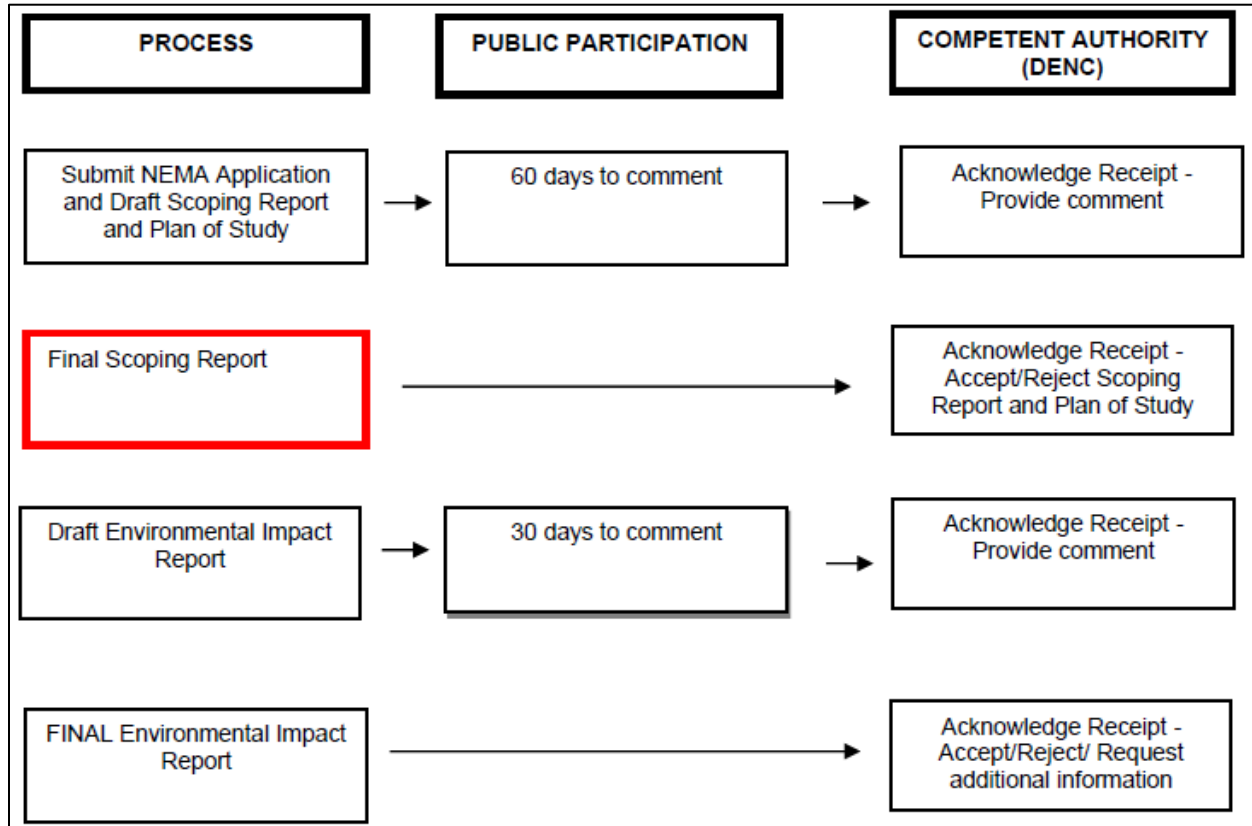
### 9.1.1. TASKS TO BE UNDERTAKEN

Due to the nature of the proposed development there are a number of activities that will still need to be undertaken during the next phase of the project. The proposed process is as described as follows (This follows from a Scoping process to be accepted by the D:E&NC):

The NEMA Application Form was submitted to D:E&NC on the 14<sup>th</sup> August 2020 along with the Draft Scoping Report. The Application Form and Draft Scoping Report were made available for a 30-day comment period starting from **14<sup>th</sup> August 2020 to 16<sup>th</sup> October 2020**. Comments received during the Public Participation Process (“PPP”) will be incorporated into the Final Scoping Report, to be submitted to D:E&NC for a decision, and will be addressed in the Draft Environmental Impact Report (EIR).

The following is a list of tasks to be performed as part of the EIA Process. Should the process be modified significantly, changes will be copied to D:E&NC.

EIA PROCESS	
TASK	TIMEFRAMES
Submit NEMA Application and Draft Scoping Report (DSR) and Plan of Study for EIA to D:E&NC and distribute to registered I&APs for comment	August 2020
Submit Final Scoping Report (FSR) and Plan of Study to D:E&NC for a decision	October 2020
Receive approval for the FSR and the Plan of Study for EIA.	November 2020
Undertake specialist studies. <ul style="list-style-type: none"> <li>Heritage Impact Assessment received; and</li> <li>Freshwater Report received.</li> <li>Awaiting the submission of the Biodiversity Impact Assessment and Geotechnical Report.</li> </ul>	August 2020 – November 2020
Compile the Draft Environmental Impact Report (EIR) for public comment based on specialist information.	November 2020
Submit Draft EIR for public comment.	December 2020
Receive responses to the Draft EIR.	December 2020
Preparation of a FINAL EIR and submission to D:E&NC.	January 2021 – February 2021



**Figure 14.** Summary of the EIA process and public participation process. The red indicates the stages where the competent authority will be consulted during the process.

## 8.1 PUBLIC PARTICIPATION AND INTERESTED AND AFFECTED PARTIES

Please refer to Figure 15 to see where the public participation process is present in the environmental impact assessment. The Interested and Affected Parties will have a chance to view and comment on all the reports that are submitted in the Draft Environmental Impact Report (EIR) phase. The figures also indicated what timeframes are applicable to what stage in the process. If required, meetings with key stakeholders will be held.

At the end of the comment period, the EIR will be revised in response to feedback received from I&APs. All comments received and responses to the comments will be incorporated into the Final EIR. The Final EIR will then be submitted to D:E&NC for consideration and decision-making.

Correspondence with I&APs will be via e-mail, post, fax, telephone, and newspaper advertisements.

Should it be required, this process may be adapted depending on input received during the on-going process and as a result of public input. D:E&NC will be informed of any changes in the process.

## 8.2 CRITERIA FOR SPECIALIST ASSESSMENT OF IMPACTS

As a result of the environmental issues and potential impacts identified in *Section 6*, the need for the following specialist studies has been identified:

- Biodiversity Assessment
- Freshwater Assessment
- Heritage Impact Assessment
- Geotechnical Report

The impacts of the proposed activity on the various components of the receiving environment will be evaluated in terms of duration (time scale), extent (spatial scale), magnitude and significance as outlined in Table 1. These impacts could either be positive or negative.

The magnitude of an impact is a judgment value that rests with the individual assessor while the determination of significance rests on a combination of the criteria for duration, extent and magnitude. Significance thus is also a judgment value made by the individual assessor.

Table 1: Criteria used for evaluating impacts

Criteria	Category
<b>Nature of impact</b>	This is an evaluation of the effect that the construction, operation and maintenance of a proposed dam would have on the affected environment. This description should include what is to be affected and how.
<b>Duration</b> (Predict whether the lifetime of the Impact will be temporary (less than 1 year) short term (0 to 5 years); medium term (5 to 15 years); long term (more than 15 years, with the Impact ceasing after full implementation of all development components with mitigations); or permanent.	<b>Temporary:</b> < 1 year (not including construction) <b>Short-term:</b> 1 – 5 years <b>Medium term:</b> 5 – 15 years <b>Long-term:</b> >15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) <b>Permanent:</b> Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary
<b>Extent</b> (Describe whether the impact occurs on a scale limited to the site area; limited to broader area; or on a wider scale)	<b>Site Specific:</b> Expanding only as far as the activity itself ( <i>onsite</i> ) <b>Small:</b> restricted to the site's immediate environment within 1 km of the site ( <i>limited</i> ) <b>Medium:</b> Within 5 km of the site ( <i>local</i> ) <b>Large:</b> Beyond 5 km of the site ( <i>regional</i> )
<b>Intensity</b> (Describe whether the magnitude (scale/size) of the Impact is high; medium; low; or negligible. The specialist study must attempt to quantify the magnitude of impacts, with the rationale used explained)	<b>Very low:</b> Affects the environment in such a way that natural and/or social functions/processes are not affected <b>Low:</b> Natural and/or social functions/processes are slightly altered <b>Medium:</b> Natural and/or social functions/processes are notably altered in a modified way <b>High:</b> Natural and/or social functions/processes are severely altered and may temporarily or permanently cease
<b>Probability of occurrence</b> Describe the probability of the Impact <u>actually</u> occurring as definite (Impact will occur regardless of mitigations)	<b>Improbable:</b> Not at all likely <b>Probable:</b> Distinctive possibility <b>Highly probable:</b> Most likely to happen <b>Definite:</b> Impact will occur regardless of any prevention measures

<p><b>Status of the Impact</b> Describe whether the Impact is positive, negative (or neutral).</p>	<p><b>Positive:</b> The activity will have a social/ economical/ environmental benefit  <b>Neutral:</b> The activity will have no affect  <b>Negative:</b> The activity will be socially/ economically/ environmentally harmful</p>
<p><b>Degree of Confidence in predictions</b> State the degree of confidence in predictions based on availability of information and specialist knowledge</p>	<p><b>Unsure/Low:</b> Little confidence regarding information available (&lt;40%)  <b>Probable/Med:</b> Moderate confidence regarding information available (40-80%)  <b>Definite/High:</b> Great confidence regarding information available (&gt;80%)</p>
<p><b>Significance</b> (The impact on each component is determined by a combination of the above criteria and defined as follows) The significance of impacts shall be assessed <u>with and without mitigations</u>. The significance of identified impacts on components of the affected biophysical or socio-economic environment (and, where relevant, with respect to potential legal requirement/s) shall be described as follows:</p>	<p><b>No change:</b> A potential concern which was found to have no impact when evaluated  <b>Very low:</b> Impacts will be site specific and temporary with no mitigation necessary.  <b>Low:</b> The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures  <b>Moderate:</b> Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures.  <b>High:</b> Impacts have a high magnitude and will be experienced regionally for at least the life span of the development, or will be irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.</p>

In addition to determining the individual impacts against the various criteria, the element of mitigation, where relevant, will also be brought into and addressed in the assessment. In such instances the impact will be assessed with a statement on the mitigation measure that could/should be applied. An indication of the certainty of a mitigation measure considered, achieving the end result to the extent indicated, is given on a scale of 1-5 (1 being totally uncertain and 5 being absolutely certain), taking into consideration uncertainties, assumptions and gaps in knowledge.

Table 2: The stated assessment and information will be determined for each individual issue or related groups of issues and presented in descriptive format in the following table example or a close replica thereof.

<b>Impact Statement:</b>		
<b>Mitigation:</b>		
<b>Ratings</b>	Duration	
	Extent	
	Intensity	
	Probability of impact	
	Status of Impact (Positive/negative)	
	Degree of confidence	
<b>Significances</b>	Significance <b>without</b> Mitigation	
	Significance <b><i>WITH</i></b> Mitigation	
Indication of the certainty of a mitigation measure considered, achieving the end result to the extent indicated, is given on a scale of 1-5 (1 being totally uncertain and 5 being absolutely certain), taking into consideration uncertainties, assumptions and gaps in knowledge		
<b>Legal Requirements</b> (Identify and list the specific legislation and permit requirements which are relevant to this development):		

## 10. CONCLUSION AND RECOMMENDATIONS

A scoping exercise is being undertaken to present the proposed activities to the Interested and Affected Parties (“I&APs”) and to identify environmental issues discussed in this report and concerns raised as a result of the proposed development alternatives to date. The issues and concerns were raised by I&APs, authorities, the project team as well as specialist input, based on baseline studies undertaken.

This Final Scoping Report, being undertaken in terms of NEMA, summarises the process undertaken, the alternatives presented, and the issues and concerns raised.

As a result of the above, the need for the following specialist studies, have been identified:

- Botanical Assessment (Appendix 1G)
- Freshwater Assessment (Appendix 1H)
- Heritage Impact Assessment (Appendix 1I)
- Geotechnical Report

Any further issues raised as a result of the Public Participation Process (“PPP”) will be dealt with and addressed during the Environmental Impact Assessment (“EIA”) phase.

The significance of the impacts associated with the alternatives proposed will be assessed in these specialist studies, as part of the EIA. Once the specialist studies have been completed, they will be summarised in an Environmental Impact Report (“EIR”), which integrates the findings of the assessment phase of the EIA.

Based on the significance of the issues raised during the ongoing PPP Process and Scoping Phase, it is evident that an EIA is required. Moreover, as per section 22 of the EIA Regulations, the competent authority must; *(a) accept the scoping report, with or without conditions, and advise the applicant to proceed or continue with the tasks contemplated in the plan of study for environmental impact assessment. It is therefore recommended that authorisation for the commencement of an EIA for the proposed development is granted.* Should the EIA process be authorised, the significant issues raised in the process to date will be addressed and the specialist studies noted in this report, will be undertaken.



## 11. DETAILS AND EXPERTISE OF THE EAP

This Final Scoping Report was prepared by Anthony Mader who has a BSc (Honours) Degree in Ecology, Environment and Conservation and is currently completing his PhD, at the University of the Witwatersrand. Anthony has over three years' experience as an Environmental Consultant and an Environmental Control Officer, having worked on projects, in Western Cape, Northern Cape, KwaZulu-Natal, and Eastern Cape, where he facilitated Environmental (EA) and Water Use (WUA) applications and audited a variety of projects including, but not limited to, Civil engineering infrastructure projects such as water supply schemes, roads, culverts, bridges, warehouses, and a substation; and Auditing of water supply schemes, housing developments, warehouses, roads, bridges, and reservoirs. The entire process and report was supervised by Bernard de Witt who has more than 30 years' experience in environmental management and environmental impact assessments.

(-----END-----)