

PROPOSED AGRICULTURAL DEVELOPMENT, FARMS 1763, 2372 AND 2363, KAKAMAS SOUTH SETTLEMENT, KAI! GARIB MUNICIPALITY, NORTHERN CAPE

DRAFT ENVIRONMENTAL SCOPING REPORT AND PLAN OF STUDY



FEBRUARY 2020

VERNEUJK PAN TRUST

**PROPOSED AGRICULTURAL DEVELOPMENT,
FARMS 1763, 2372 AND 2363, KAKAMAS SOUTH
SETTLEMENT,
KAI! GARIB MUNICIPALITY, NORTHERN CAPE**

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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 approximately 195ha of land for additional irrigation and crop production (lucerne and/or pecan nuts) on Plots 1763, 2372 and 2363, situated in the Kakamas South Settlement. The development will also include the construction of associated infrastructure for irrigation purposes for the various crops that could be cultivated.

The applicant is Verneujk Pan Trust 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 EIA and the Public Participation Process required in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA).

This Scoping Report, which will be submitted to the Department of Environment and Nature Conservation (DE&NC) for consideration, forms part of the EIA process.

The purpose of this Draft 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 authorised 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.

1.2 DESCRIPTION OF THE PROPOSED ACTIVITY

It is proposed that up to approximately 195ha of land be considered for additional irrigation on Farms 1763, 2372 and 2363, situated in the Kakamas South Settlement. The development will also include the construction of associated infrastructure for irrigation purposes for the various crops that could be cultivated. Irrigation water will be sourced from the proposed new Kakamas WWTW once constructed and operational.

The site is located approximately 6km west, south-west of the town of Kakamas, in the Kai !Garib Municipality, Northern Cape. The site is surrounded by existing crops (Lucerne and pecan nuts), previously disturbed by ostrich farming and natural undisturbed areas.

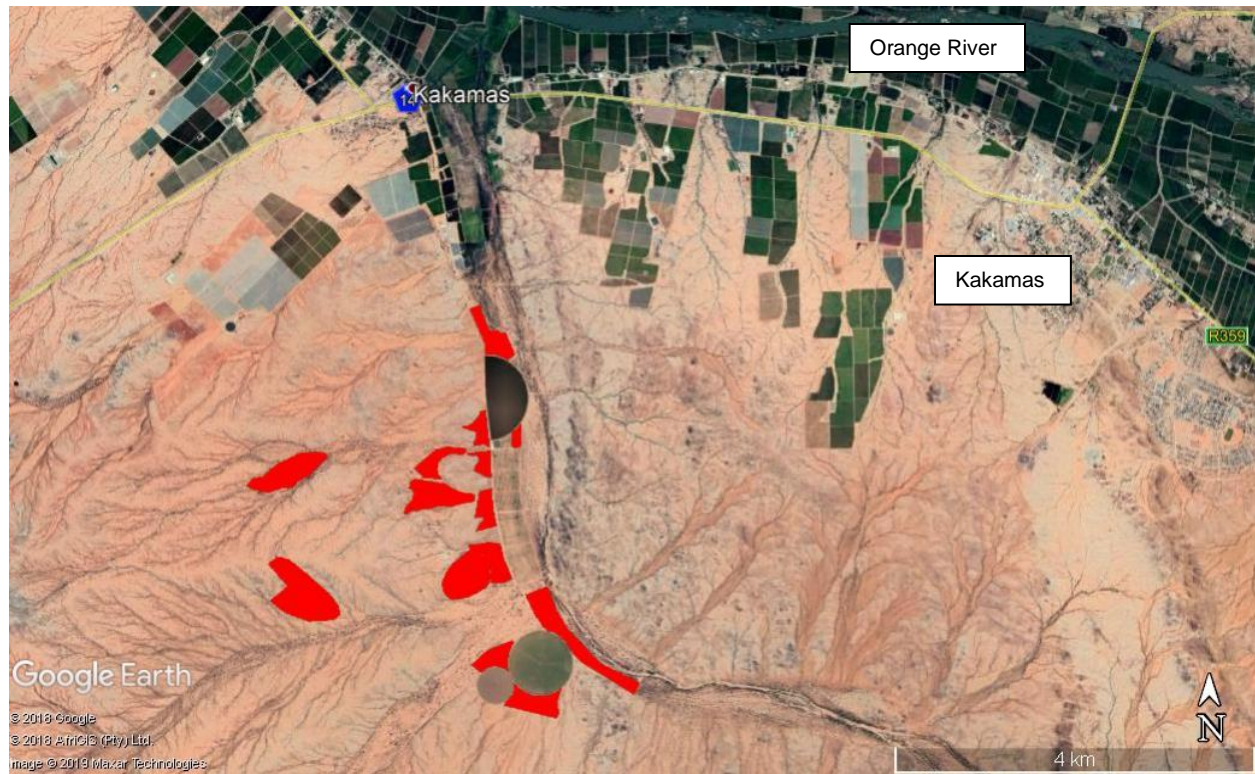


Figure 1: Google Earth Locality Plan. New development areas are indicated by the red polygons

2. NEED AND DESIRABILITY

In terms of the National Environmental Management Act, as amended, EIA 2014 regulations 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

The town of Kakamas is in need for a new Waste Water Treatment Works, since the existing treatment works does not have sufficient capacity and is aging. The Kai !Garib Municipality has therefore proposed a new Waste Water Treatment Works that will have sufficient capacity to service Kakamas (a separate NEMA Application will be required and will be submitted). The treated effluent would however need to be disposed of, or utilised. One option is to use the treated effluent for irrigation.

The proposed location for the WWTW is on Erf 236, owned by the Verneujk Pan Trust. In agreement with the Kai !Garib Municipality, in exchange, the Verneujk Pan Trust would receive the treated effluent, which would have sufficient volume to irrigate approximately 200ha of crops.

Although exact figures are still to be determined, the proposed development is expected to create significant jobs opportunities during the construction and operational phases, with a majority of the job opportunities going towards previously disadvantaged individuals.

2.2 DESIRABILITY

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

2.2.1 Location and Accessibility

The proposed location is considered to be ideal, as it is in relatively close proximity to the source of water, the proposed Kakamas WWTW (3km). The site is also ideally situated in that its elevation is below that of the proposed Kakamas WWTW, thereby relying more on gravity and not on pump stations. The site is adjacent to existing similar crops (centre pivot irrigation areas, and pecan nuts). The site also has easy access from the N14.

Soil studies conducted also found that the proposed soils were of Medium to High potential for the establishment of perennial crops.

2.2.2 Compatibility with the Surrounding Area

The proposed activity, and site is compatible with the surrounding area. The area, particularly along the Orange River is known for its agriculture and crop production, particularly grape production (wine, table and raisin grapes) although pecan nut, corn and lucerne is also common. The sites are adjacent to existing lucerne and pecan nut crops. Agriculture is a predominant economic sector in the area.

According to the Kai !Garib Municipality Draft IDP (2018/19), the Orange River played an enormous role in the formation of the municipal area and most of the towns and settlements are to be found close to or adjacent thereto. The economy is heavily depended on the Agricultural Sector, both intensive and extensive.

The area is known for crop production, particularly wine, table and raisin grapes. Agriculture is a predominant economic sector in the area, contributing 49% to the formal employment in the Kai !Garib Municipality. According to the Kai !Garib Municipality Draft IDP (2018/19), the agricultural sector is still the main economic sector who made the biggest contribution to the economy of Kai !Garib in 2010. The Agriculture sector is also a major employer in the Municipality in terms of all formal employment. According to Statistics South Africa (Census 2011) about 399 of the households work on crops only; 1382 on livestock only; 222 on mix farming and 69 on other farming methods. 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.

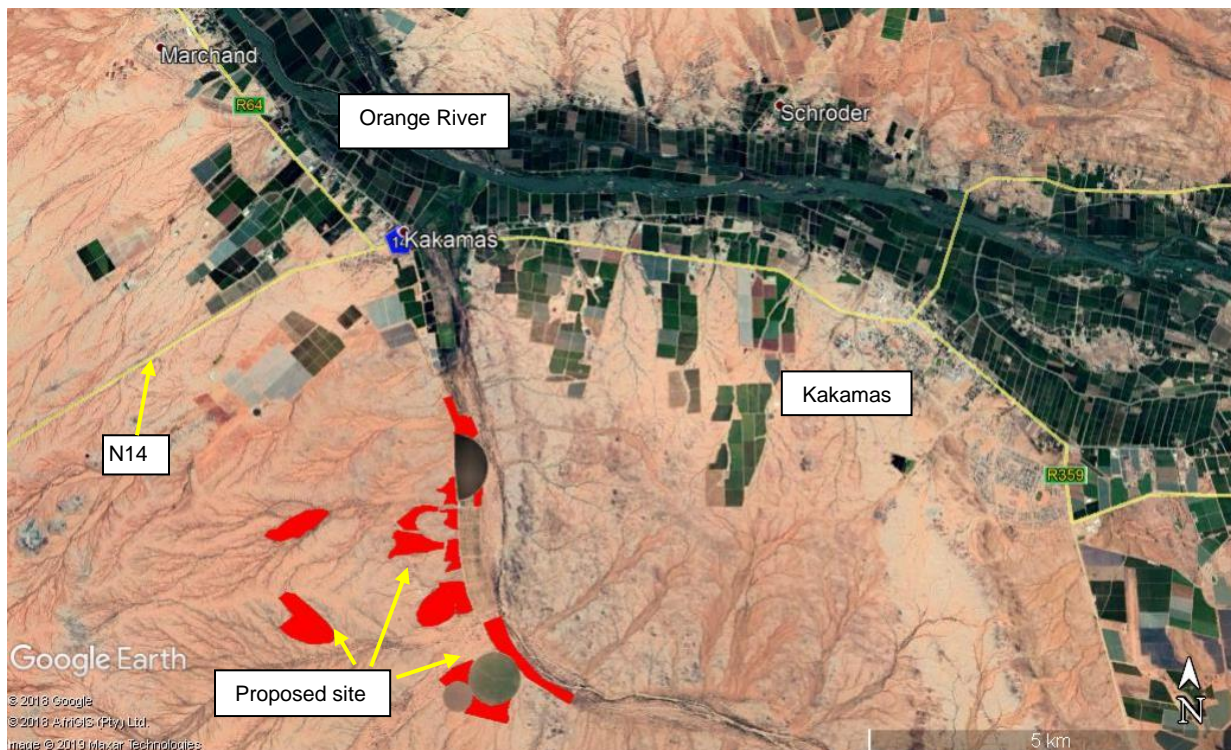


Figure 2: Google Earth image of the surrounding landscape. The predominant agricultural sector, especially along the Orange River, and surrounding the proposed site is clearly evident.

3. LEGAL REQUIREMENTS

The current assessment is being undertaken in terms of the National Environmental Management Act (Act 107 of 1998, NEMA), to be read with section 24 (5): NEMA EIA Regulations 2014. 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.

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

Government Notice R327 (Listing Notice 1) listed activities:

- 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.

- 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 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:

- 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.
- 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 will be submitted to DE&NC. On acknowledgment from DE&NC (**Appendix 1**) 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 EMP.*
- Where waste cannot be avoided, it will be minimised and remedied through the implementation and adherence of the Environmental Management Programme (EMP) – *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.
- 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 m² 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 also requires authorizations under the National Water Act (Act NO. 36 of 1998). The Department of Water Affairs, who administer that Act, will be a leading role-player in the EIA.

If and as required by the Department of Water and Sanitation, a 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*).

4. ALTERNATIVES

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

4.1 SITE ALTERNATIVES

The proposed site is located on a property currently owned by the Applicant to be further developed for agriculture. No other feasible site alternatives are therefore available at this stage. The site is ideally situated due to its proximity and elevation to the proposed Kakamas WWTW, the N14 for access, and the surrounding area is characterised by similar crop production. Soil studies (**Appendix 3**) conducted also found that the proposed soils were of Medium to High potential for the establishment of perennial crops.

Although other areas were investigated on the properties, these were not deemed viable either due to:

- Being within drainage lines
- Being on unsuitable soil
- Unsuitable elevation with respect to the proposed Kakamas WWTW requiring additional pump stations.

4.2 ACTIVITY ALTERNATIVES

Activity alternatives (besides agriculture) are also very limited with no feasible alternatives to assess. Agriculture is the most prevalent activity in the surrounding area, with the Applicant already involved in crop production in the area. As discussed earlier, agriculture is also the predominant economic sector in the area, contributing 49% to the formal employment in the Kai !Garib Municipality.

There are therefore no feasible activity alternatives to assess.

4.3 NO-GO ALTERNATIVE

This is the option of not developing the area for additional irrigation and crop production. The current status quo will remain. Although this might result in no potential negative environmental impacts, the direct and indirect socio-economic benefits of not developing the site for crop production will not be realised. As described in *Section 2.1*, the jobs opportunities and expected contribution to the region's economy would not be realised.

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

5. SITE DESCRIPTION

5.1 LOCATION

The site is located on Farms 1763, 2372 and 2363, situated in the Kakamas South Settlement. The development will also include the construction of associated infrastructure for irrigation purposes and for the various crops that could be cultivated. Irrigation water will be sourced from the proposed new Kakamas WWTW once constructed and operational.

The site is located approximately 6km west, south-west of the town of Kakamas, in the Kai !Garib Municipality, Northern Cape. The site is surrounded by existing crops (Lucerne and pecan nuts), previously disturbed by ostrich farming and natural undisturbed areas. See Figures 1 and 2 above.

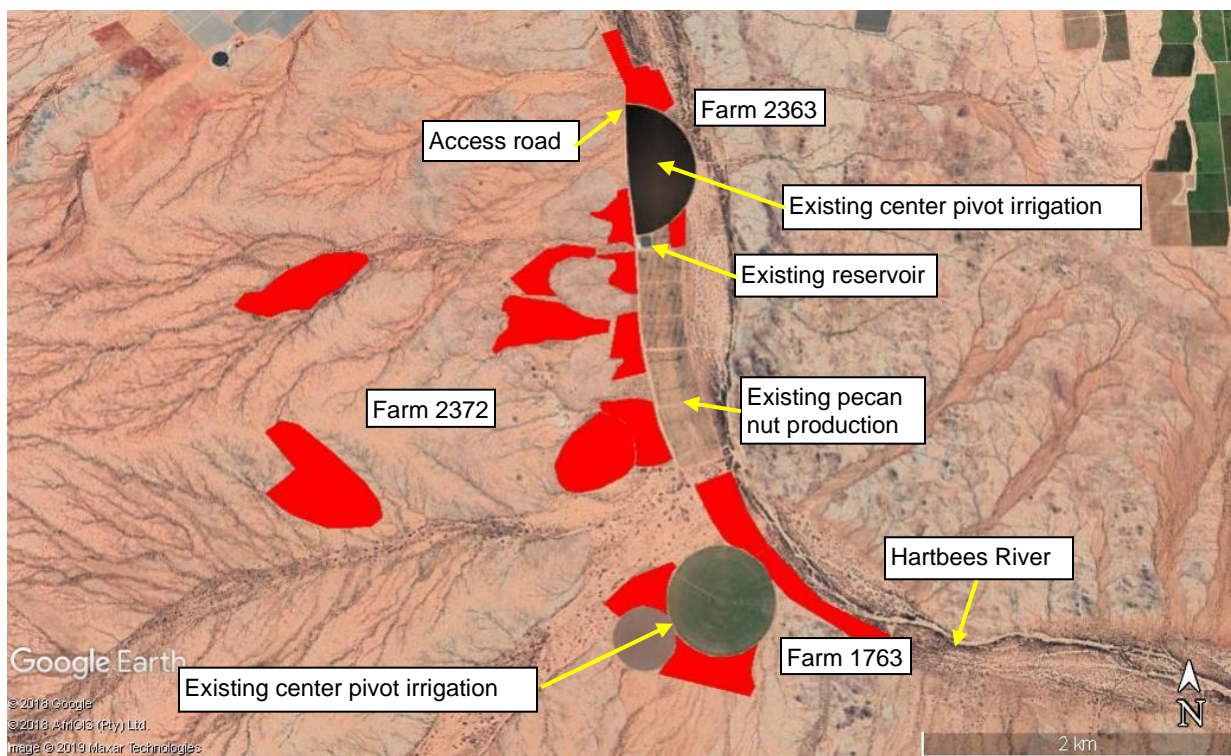


Figure 3: Google Earth Map showing the surrounding area. New development areas are indicated by the red polygons.

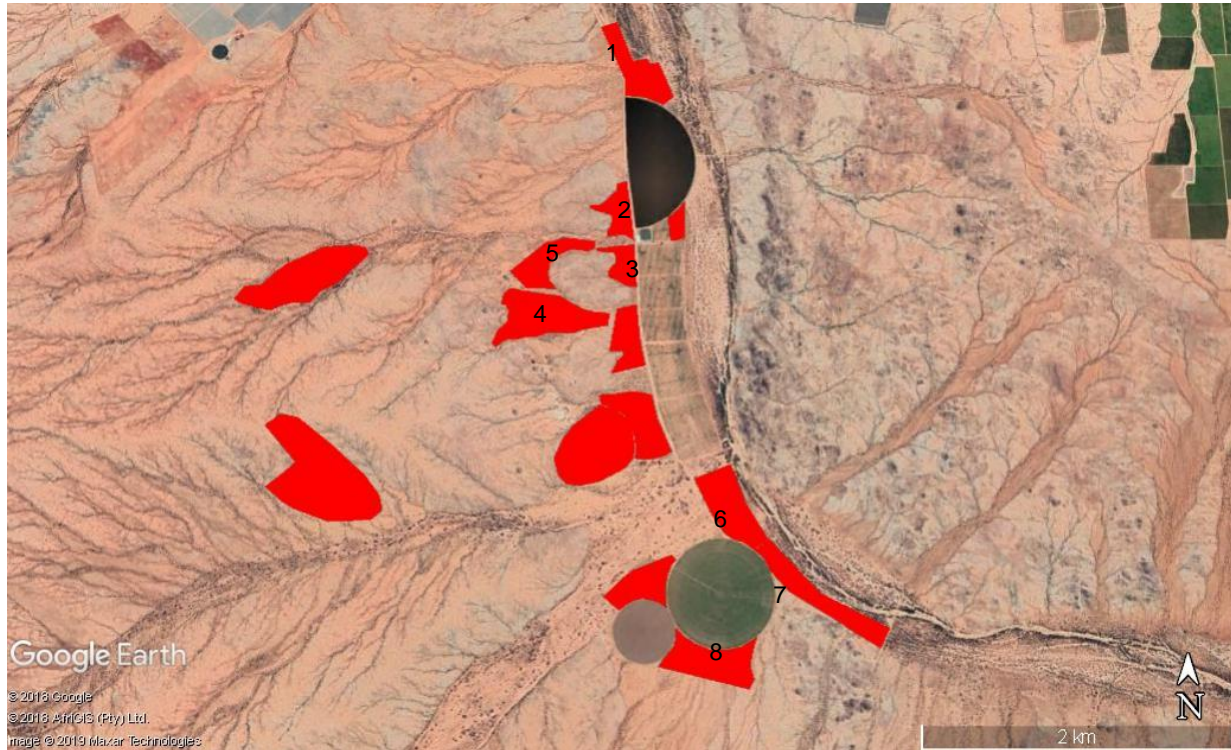


Figure 4: Google Earth Map showing photo locations and directions as per photographs below.



Figure 5: General view of the proposed site looking east from the access road. Taken from Point 1



Figure 6: General view of part of the site looking south-west. Taken from Point 2



Figure 7: General view of part of the existing centre pivot irrigation area looking south from the access road. Taken from Point 2.



Figure 8: General view of part of the proposed site, looking south from the access road. Taken from Point 3.



Figure 9: General view of the existing pecan nut trees, looking north from the access road. Taken from Point 3.



Figure 10: General view of the proposed centre pivot irrigation area, and previous ostrich farming area, looking north. Taken from Point 4.



Figure 11: General view of the proposed centre pivot irrigation area, and previous ostrich farming area, looking south. Taken from Point 4.



Figure 12: General view of the proposed development area, looking north. Taken from Point 5.



Figure 13: General view of the proposed development area, looking north-east. Taken from Point 6.



Figure 14: General view of the proposed development area (to the left of the access road), looking east. The existing centre pivot irrigation area can be seen to the right of the image. Taken from Point 6.



Figure 15: General view of the proposed development area looking north-east. Taken from Point 7.



Figure 16: General view of the proposed development area (to the left of the road), looking south-west. The existing centre pivot irrigation area can be seen to the right of the image. Taken from Point 8.



Figure 17: General view of the existing irrigation dam and shed on site.

5.2 VEGETATION

The proposed site of the agricultural development is generally undeveloped, fallow and generally near natural. Some proposed areas have been partially disturbed by previous agricultural activities (ostrich and crop farming).

According to the Vegetation map of South Africa, Lesotho and Swaziland (Mucina & Rutherford, 2006, as updated in the 2012 beta version) only one broad vegetation type is expected in the proposed area and its immediate vicinity, namely Bushmanland Arid Grassland. The vegetation encountered generally conforms to Bushmanland Arid Grassland.

Three plant communities were encountered namely:

- A sparse (semi-desert type) low shrubland with grasses sometimes present on the open undulating plains
- A denser and higher riparian vegetation was encountered next to the watercourses. The more pronounce these water courses the more established the riparian zone became.
- Sparse woodland dominated by magnificent trees was encountered in the deeper sandy soils next to the Hartbees River.

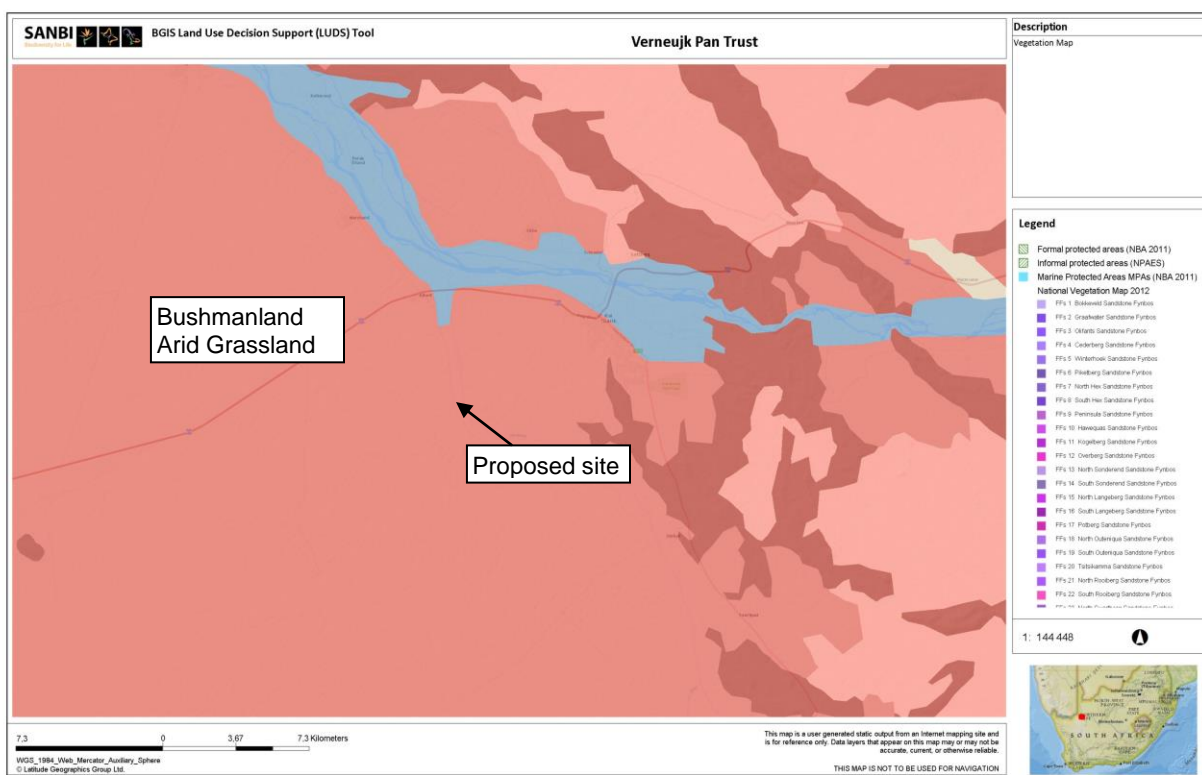


Figure 18: SANBI Vegetation map of the area.

5.3 FRESHWATER

There are potentially two watercourses that may be impacted by the proposed development:

- The Hartbees River (located to the east of the development, with some of the proposed development areas on the western bank of the river)
- A number of drainage lines (ephemeral stream) within the area.

The Orange River and the Hartbees River confluence is located approximately 3.3km north of the development site.

A series of pans separate the Sak River from the Hartbees River. The Hartbees River only flows when these pans overflow. This happened in 1999 and in 2010.

The Lower Orange River is flanked by numerous drainage lines, which are mostly dry and only contain water during the occasional thunder storm. These drainage lines are a part of the arid landscape. The drainage lines only have water during very large rainfall events. Most of the time the drainage lines are dry, for months and even years on end.

Next to the farm road along the Hartbees River, the drainage lines fan out to connect to one another in a broad and continuous fan, interconnected, with no visual demarcation between drainage lines.

5.4 CLIMATE

The Kakamas area is regarded as an arid area (regions with a rainfall of less than 400 mm per year are regarded as arid). This area normally receives about 106 mm of rain per year. Kakamas normally receives about 134 mm of rain per year, with rainfall largely in late summer/early autumn (major peak) and very variable from year to year. The least amount of rainfall occurs in June. The average in this month is 3 mm. Most of the precipitation here falls in March, averaging 27 mm.

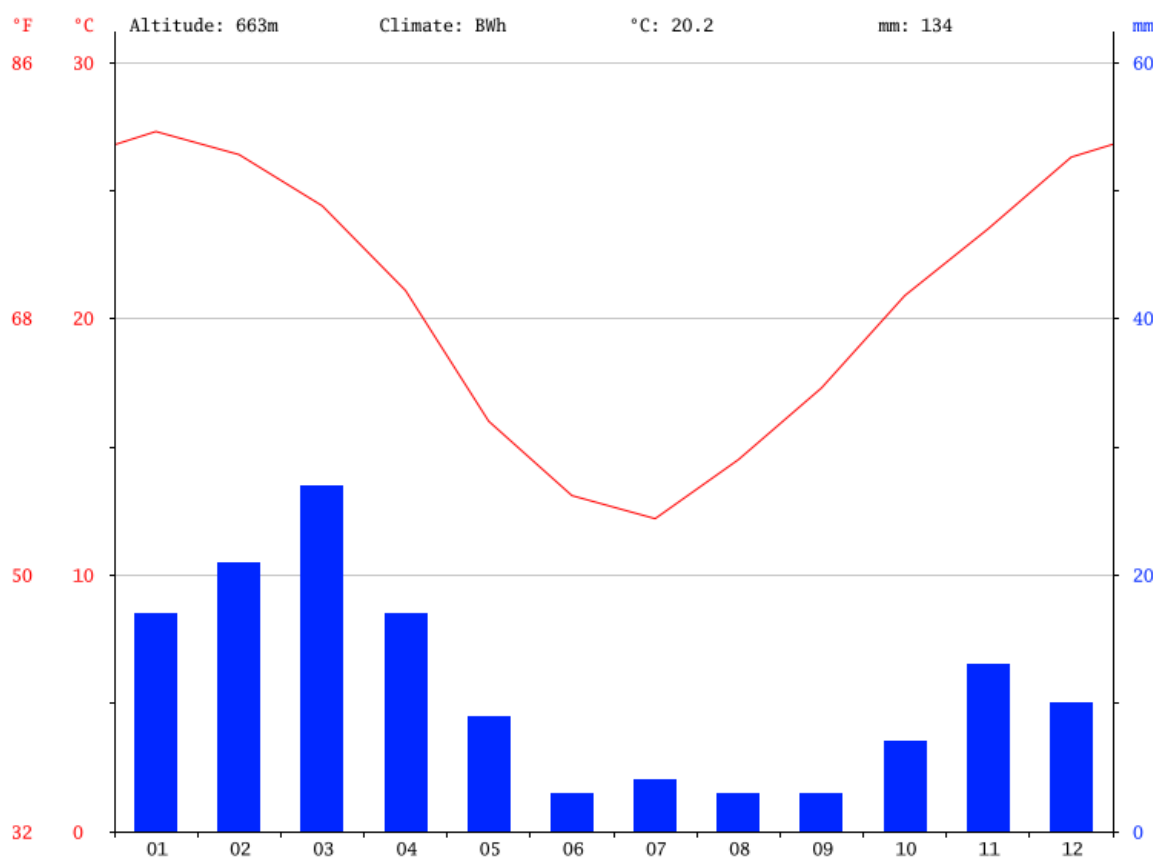


Figure 19: Average temperatures and rainfall for Kakamas (Source: <https://en.climate-data.org/africa/south-africa/northern-cape/kakamas-27068/>)

5.5 SOCIO-ECONOMIC CONTEXT

According to the Kai !Garib Municipality IDP Review 2018/19, the Orange River played an enormous role in the formation of the municipal area and most of the towns and settlements are to be found close to or adjacent thereto. The economy is heavily depended on the Agricultural Sector, both intensive and extensive. However, the major roads (N14, R27 and R359) assist in the growth the municipal area experience.

Agriculture is the biggest contributor towards employment in Kai !Garib, contributing 49% to the Formal Sectoral Employment. It is followed by the government as an employer of about 17%; the household 14%, Finance sector at 8% with the trading sector at 7%. Construction contributes 4%; Construction is at 4% with transport, manufacturing and mining all at 2% and 0% for the electrical sector.

According to the Kai !Garib Municipality IDP Review 2018/19 it is indicated that 49 391 people are economically active (employed or unemployed but looking for work) (Stats SA, 2016), and of these, 10% are unemployed. Of the 49 391 economically active population 30 537 are youth (15 – 34 years) in Kai !Garib Municipal area.

As stated above, the agricultural sector is still the main economic sector who made the biggest contribution to the economy of Kai !Garib in 2010. The Agriculture sector is also a major employer in the Municipality in terms of all formal employment. According to Statistics South Africa (Census 2011) about 399 of the households work on crops only; 1382 on livestock only; 222 on mix farming and 69 on other farming methods. 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.

There are also three wine cellars in the area at Keimoes, Kakamas and Kanoneiland. High quality table grapes are produced at these cellars, as well as quality grape juice. Several permanent jobs are created through these wine cellars. Two major raisin export companies are also established in Kai !Garib area.

The emerging farmers focus more on small stock farming, lucern, cotton, corn, and nuts which are cultivated under irrigation from the Orange River.

Major constraints for agricultural development include poor quality of access roads to and from farms, farming skills amongst the youth and finances for emerging farmers.

5.6 HERITAGE FEATURES

Due to the nature and size of the proposed development, potential heritage resources may be affected by the 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.

The Northern Cape is rich in archaeological sites and landscapes that reflect the complex South African heritage from the Stone Age to Colonial history.

6. 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:

6.1 BOTANICAL

A botanical impact assessment will be conducted to determine if there is any sensitive or endangered vegetation on the proposed site. Due to the size of the development (approximately 195ha), there will be a loss of natural vegetation during the construction phase of the project.

A Botanical Impact Assessment will be conducted, which will describe and assess the botanical sensitivity of the area. The terms of reference for this study required a baseline analysis of the flora of the property, including the broad ecological characteristics of the site.

The botanical assessment will include the following:

- The significance of the potential impact of the proposed project, alternatives and related activities – with and without mitigation – on biodiversity pattern and process at the site, landscape and regional scales.
- Recommended actions that should be taken to prevent or, if prevention is not feasible, to mitigate impacts.

6.2 FRESHWATER

Due to the size and nature of the development and the location of the proposed development on the banks of the Hartbees River and the surrounding drainage lines, a freshwater impact assessment will be conducted.

The terms of reference for the Freshwater assessment are as follows:

- Literature review and assessment of existing information
- Site Assessment of the proposed activities and impact on the associated freshwater systems. This will include an assessment of the freshwater ecological condition, using river health indices such as in-stream and riparian habitat integrity, aquatic macro-invertebrates and riparian vegetation to determine set back lines and geomorphological condition of the streams, which will then determine the overall Ecostatus of the streams and provide data that will inform the Water Use Licence Application of the project. This will include both the stream to be impacted by the dam development and the pump station establishment.
- Describe ecological characteristics of freshwater systems and compile report based on the data and information collected in the previous two tasks, describe ecological characteristics of the freshwater systems, comment on the conservation value and importance of the freshwater systems and delineate the outer boundary of the riparian zones/riverine corridors.

- Evaluate the freshwater issues on the site and propose mitigation measures and measures for the rehabilitation of the site as well as setback lines for future development.
- Compilation of the documentation for submission of the water use authorisation application (WULA) to the Department of Water Affairs (if deemed necessary).

6.3 HERITAGE

The possible impact on heritage resources has been identified as a possible environmental impact as a result of the development.

A Heritage Impact Assessment will be conducted on the site.

The terms of reference for the heritage and archaeological study are as follows:

- To determine whether there are likely to be any important archaeological sites or remains that might be impacted by the proposed development;
- To identify and map archaeological sites/remains that might be impacted by the proposed development;
- To assess the sensitivity and conservation significance of archaeological sites/remains in the inundation area;
- To assess the status and significance of any impacts resulting from the proposed development, and
- To identify measures to protect any valuable archaeological sites/remains that may exist within the estimated inundation area.

6.4 VISUAL IMPACT

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

6.5 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.

7. 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 2A**.

Public Participation will be conducted for the proposed agricultural development in accordance with the requirements outlined in Regulation 41 of the NEMA EIA Regulations 2014. 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 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): Posters were also be placed at conspicuous sites around the site, mostly along the main access road and entrances to the various proposed areas. Posters were also placed in Kakamas, including at the Agrimark in Kakamas, and at the Kai !Garib Municipality offices, as well as the Hartebees Cash Store in Alheit near the site road and the Agrimark on the road towards Augrabies (please refer to **Appendix 2D**)

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): An initial notification letter was sent to the landowner/s (please refer to **Appendix 2C** for proof of notification letters sent) and letter drops were conducted at the staff housing on the site.

R41 (2) (b) (ii): Initial notification letters will be delivered to landowners and occupiers adjacent to the site (please refer to **Appendix 2C** for proof of notification letters sent and **Appendix 2D** for photographic proof of 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 2C** for proof of notification letters sent).

R41 (2) (b) (iv): An initial notification letter was sent to the Municipal Manager and mayor of Kai !Garib Municipality as the municipality is the Applicant

R54 (2) (b) (v): Initial notification letter (please refer to **Appendix 2C** 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 Cooperative Governance, Human Settlements and Traditional Affairs
- Department of Environment and Nature Conservation

R41 (2) (c) (i): An advertisement was placed in the local newspaper, Express Northern Cape, on 28 November 2018 (please refer to **Appendix 2B** 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 2A** for the list of Interested and Affected Parties).

Please find attached in **Appendix 2:**

- Proof of Notice boards, advertisements and notices that were sent out
- List of potential interested and affected parties
- Summary of issues raised by interested and affected parties

8. PLAN OF STUDY FOR THE EIA

8.1 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 Draft Scoping Report is being advertised for a 30-day comment period starting from the 03rd February 2020 to 05th March 2020. Comments received during the Public Participation Process will be incorporated into the Final Scoping Report. The NEMA Application Form will be submitted to D:E&NC along with the Final Scoping Report, which will be made available for comment for a further 30 days to all registered I&APs.

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 (FSR) and Plan of Study for EIA to D:E&NC and distribute to registered I&APs for comment	February 2020
Submit Final Scoping Report and Plan of Study to D:E&NC for a decision	March 2020
Receive approval for the FSR and the Plan of Study for EIA.	May 2020
Undertake specialist studies.	
Compile the Draft Environmental Impact Report (EIR) for public comment based on specialist information.	May 2020
Submit Draft EIR for public comment.	June 2020
Receive responses to the Draft EIR.	June 2020
Preparation of a FINAL EIR and submission to D:E&NC.	July/August 2020

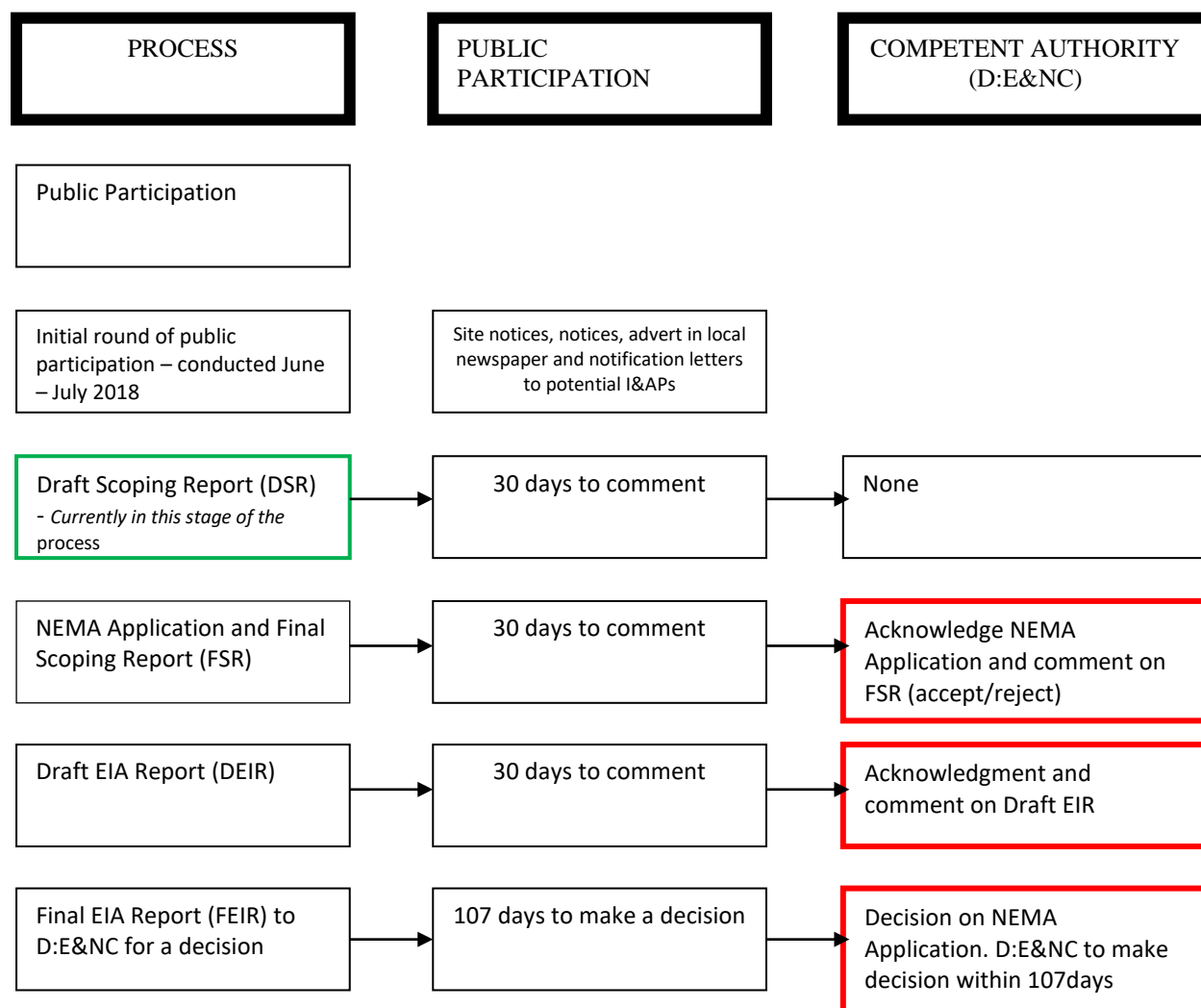


Figure 20. Summary of the EIA process and public participation process. The red indicates the stages where the competent authority will be consulted during the process.

8.2 PUBLIC PARTICIPATION AND INTERESTED AND AFFECTED PARTIES

Please refer to Figure 20 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. 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 Environmental

Impact Report (EIR). The Final EIR will then be submitted to D:E&NC for consideration and decision-making.

Correspondence with I&APs will be via post, fax, telephone, email 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.

8.3 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

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
Nature of impact	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.
Duration (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.	Temporary: < 1 year (not including construction) Short-term: 1 – 5 years Medium term: 5 – 15 years Long-term: >15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) Permanent: 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
Extent (Describe whether the impact occurs on a scale limited to the site area; limited to broader area; or on a wider scale)	Site Specific: Expanding only as far as the activity itself (<i>onsite</i>) Small: restricted to the site's immediate environment within 1 km of the site (<i>limited</i>) Medium: Within 5 km of the site (<i>local</i>) Large: Beyond 5 km of the site (<i>regional</i>)
Intensity (Describe whether the magnitude (scale/size) of the Impact is high; medium; low; or negligible. The	Very low: Affects the environment in such a way that natural and/or social functions/processes are not affected Low: Natural and/or social functions/processes are slightly altered Medium: Natural and/or social functions/processes are notably altered in a

specialist study must attempt to quantify the magnitude of impacts, with the rationale used explained)	modified way High: Natural and/or social functions/processes are severely altered and may temporarily or permanently cease
Probability of occurrence Describe the probability of the Impact <u>actually</u> occurring as definite (Impact will occur regardless of mitigations)	Improbable: Not at all likely Probable: Distinctive possibility Highly probable: Most likely to happen Definite: Impact will occur regardless of any prevention measures
Status of the Impact Describe whether the Impact is positive, negative (or neutral).	Positive: The activity will have a social/ economical/ environmental benefit Neutral: The activity will have no affect Negative: The activity will be socially/ economically/ environmentally harmful
Degree of Confidence in predictions State the degree of confidence in predictions based on availability of information and specialist knowledge	Unsure/Low: Little confidence regarding information available (<40%) Probable/Med: Moderate confidence regarding information available (40-80%) Definite/High: Great confidence regarding information available (>80%)
Significance (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:	No change: A potential concern which was found to have no impact when evaluated Very low: Impacts will be site specific and temporary with no mitigation necessary. Low: 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 Moderate: 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. High: 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.

In addition to determining the individual impacts against the various criteria, the element of mitigation, where relevant, will also be brought into 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.

Impact Statement:		
Mitigation:		
Ratings	Duration	
	Extent	
	Intensity	
	Probability of impact	
	Status of Impact (Positive/negative)	
	Degree of confidence	
Significances	Significance without Mitigation	
	Significance <u>WITH</u> 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		
Legal Requirements (Identify and list the specific legislation and permit requirements which are relevant to this development):		

9. CONCLUSION AND RECOMMENDATIONS

A scoping exercise is being undertaken to present the proposed activities to the 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 Draft 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:

- Biodiversity Assessment
- Freshwater Assessment
- Heritage Impact Assessment

Any further issues raised as a result of the Public Participation Process will be dealt with during the 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 Public Participation Process and Scoping Phase, it is evident that an Environmental Impact Assessment (EIA) is required. ***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.

10. DETAILS AND EXPERTISE OF THE EAP

This Draft Scoping Report was prepared by Clinton Geyser who has a MSc. Degree in Environmental Management. He has been working as an Environmental Assessment Practitioner since 2009 and is currently employed at EnviroAfrica CC. The whole process and report is supervised by Bernard de Witt who has more than 20 years experience in environmental management and environmental impact assessments.

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