LEAP

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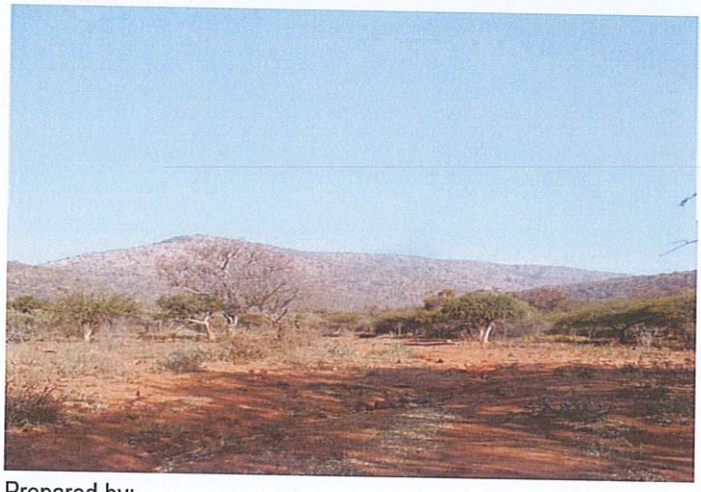
March 2020

Draft Scoping Report

for the proposed

DEBUSHING OF LAND FOR AGRICULTURAL USE ON PART OF PORTION 7 OF THE FARM BOERBOOMKRAAL 353 KT WITHIN THE GREATER TUBATSE LOCAL MUNICIPALITY OF SEKHUKHUNE DISTRICT, LIMPOPO PROVINCE

Project Ref: 12/1/9/2-GS65



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Annexures:

1.0 NEMA REQUIREMENTS

In accordance with the Regulations in terms of Chapter 5 of the NEMA, 1998, Appendix 2, Content of Scoping Report as amended, require the following:

A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include-

(a) details of-
- *(i) the EAP who prepared the report; and*
- *(ii) the expertise of the EAP, including a curriculum vita;*

(b) the location of the activity, including-
- *(i) the 21-digit Surveyor General code of each cadastral land parcel;*
- *(ii) where available, the physical address and farm name;*
- *(iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;*

(c) a plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is-
- *(i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or*
- *(ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;*

(d) a description of the scope of the proposed activity, including-
- *(i) all listed and specified activities triggered;*
- *(ii) a description of the activities to be undertaken, including associated structures and infrastructure;*

(e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;

(f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;

(h) a full description of the process followed to reach the proposed preferred activity, site and location within the site, including -
- *(i) details of all the alternatives considered;*
- *(ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;*
- *(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;*
- *(iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;*

(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts-

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be avoided, managed or mitigated;

(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;

(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

(viii) the possible mitigation measures that could be applied and level of residual risk;

(ix) the outcome of the site selection matrix;

(x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and

(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;

(i) a plan of study for undertaking the environmental impact assessment process to be undertaken, including-

(i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;

(ii) a description of the aspects to be assessed as part of the environmental impact assessment process;

(iii) aspects to be assessed by specialists;

(iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists;

(v) a description of the proposed method of assessing duration and significance;

(vi) an indication of the stages at which the competent authority will be consulted;

(vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and

(viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;

(ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

j) an undertaking under oath or affirmation by the EAP in relation to-

(i) the correctness of the information provided in the report;

(ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and

(iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;

(k) an undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;

(l) where applicable, any specific information required by the competent authority; and
(m) any other matter required in terms of section 24(4)(a) and (b) of the Act.

2.0 INTRODUCTION

LEAP was appointed as Environmental Assessment Practitioner (EAP) to undertake a Scoping Process in terms of the National Environmental Management Act and EIA 2014 Regulation, as amended for the proposed compilation of an Environmental Impact Assessment on:

- Part of Portions 7 of the Farm Boerboomkraal 353 KT (See **Figure 1**)

- The Environmental Assessment Practitioner is Dr Gwen Theron who is a registered professional member of the following associations:
- SACLAP (South African Council for Landscape Architectural Profession) - Registration number PrLArch 97082
- ILASA (Institute of Landscape Architects South Africa)
- IAIA (International Association for Impact Assessments)
- EAPASA – Founding member.

2.1 Riparian Rights

The subject property has a Certificate for irrigation from the Waterfall Irrigation Board. Refer to **Annexure C**.

2.2 Location

The project site is located on parts of Portion 7 of the Farm: Boerboomkraal 353 KT within the Burgersfort Area, Limpopo Province. It is located on the R37 between Mashishing (Lydenburg) and Burgersfort. The area is situated within the Greater Tubatse Municipality. The entire property which include portion 7 measures 500.288 hectares. The area planned for clearance is approximately **24 hectares** and will be used for the expansion citrus farm operations.

Portion 8 was cleared and used for agriculture are far back as 1984 and earlier. From the aerial photography of 1998 and the topo-cadastral maps it shows the land was cleared and cultivated all the way up to the river. Portion 8 was thus disturbed prior to the ECA legislation being promulgated and no new listed activities are triggered. Refer to **Figure 2:** Disturbance on Portion 8 at 1984.

It is thus not necessary to apply for authorisation on portion 8. During the site visit of the officials to portion 8, they can to the same conclusion.

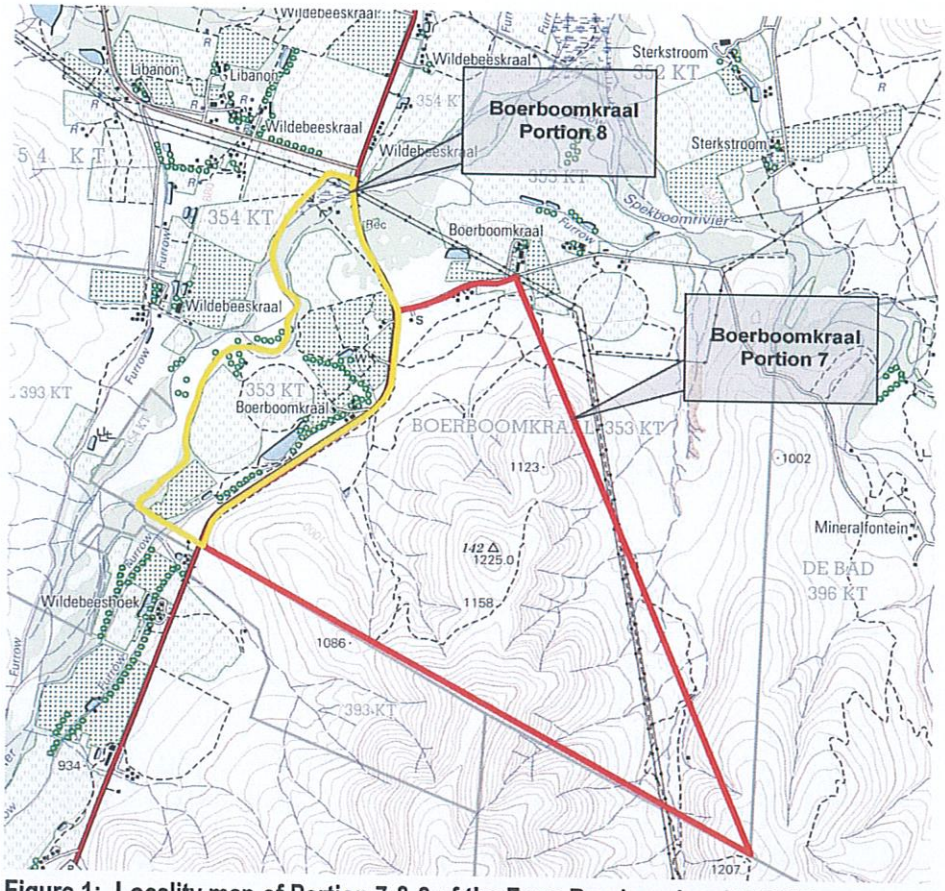


Figure 1: Locality map of Portion 7 & 8 of the Farm Boerboonkraal 353-KT

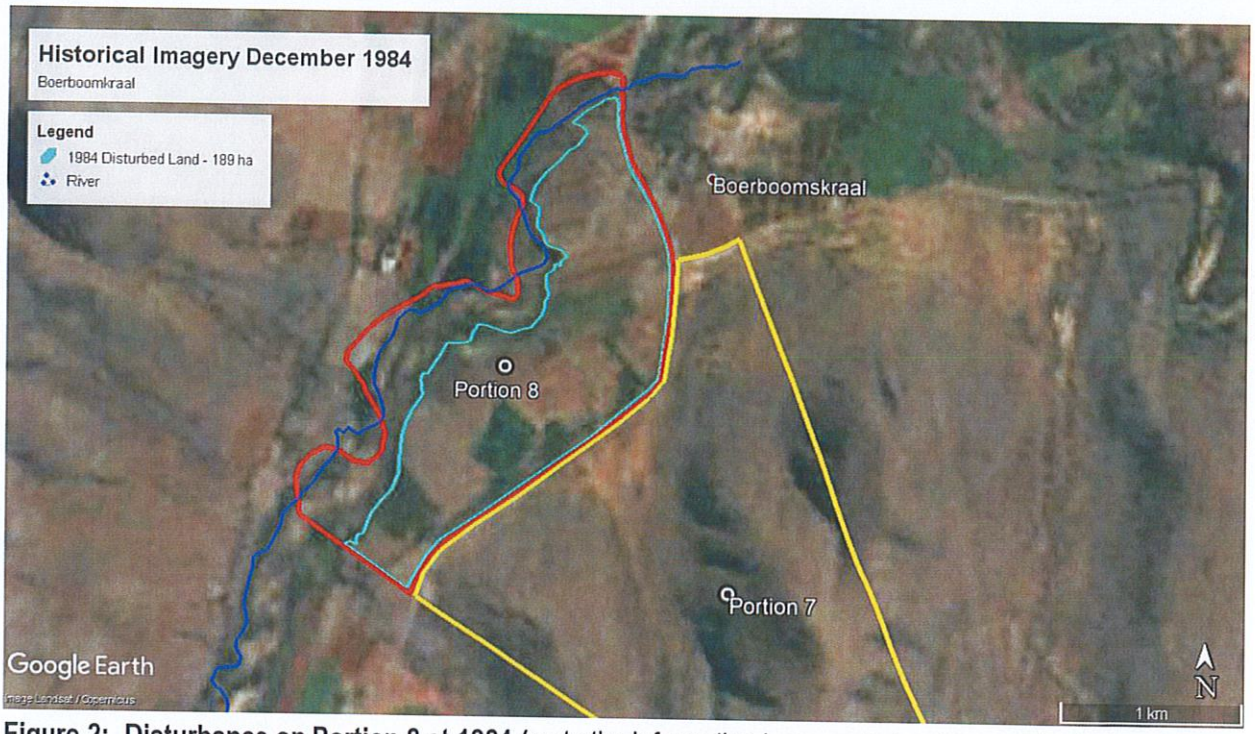


Figure 2: Disturbance on Portion 8 at 1984 (note the information is presented on the google photograph to keep consistency in the report.)

2.3 Description of the proposed development

2.3.1 Orchards

Part of Portion 7, which is under application, falls within a CBA1 Critical Biodiversity Area and was declared a Private Nature Reserve, as per Gazette 219 of 5 March 1969 It is recognised as such in terms of the National Environmental Management: Protected Areas Act, 57 of 2003. A motivation for the de-proclamation of a private nature reserve on portions of the land has been submitted to the MEC for approval in 7 November 2017. Refer to **Figure3**.

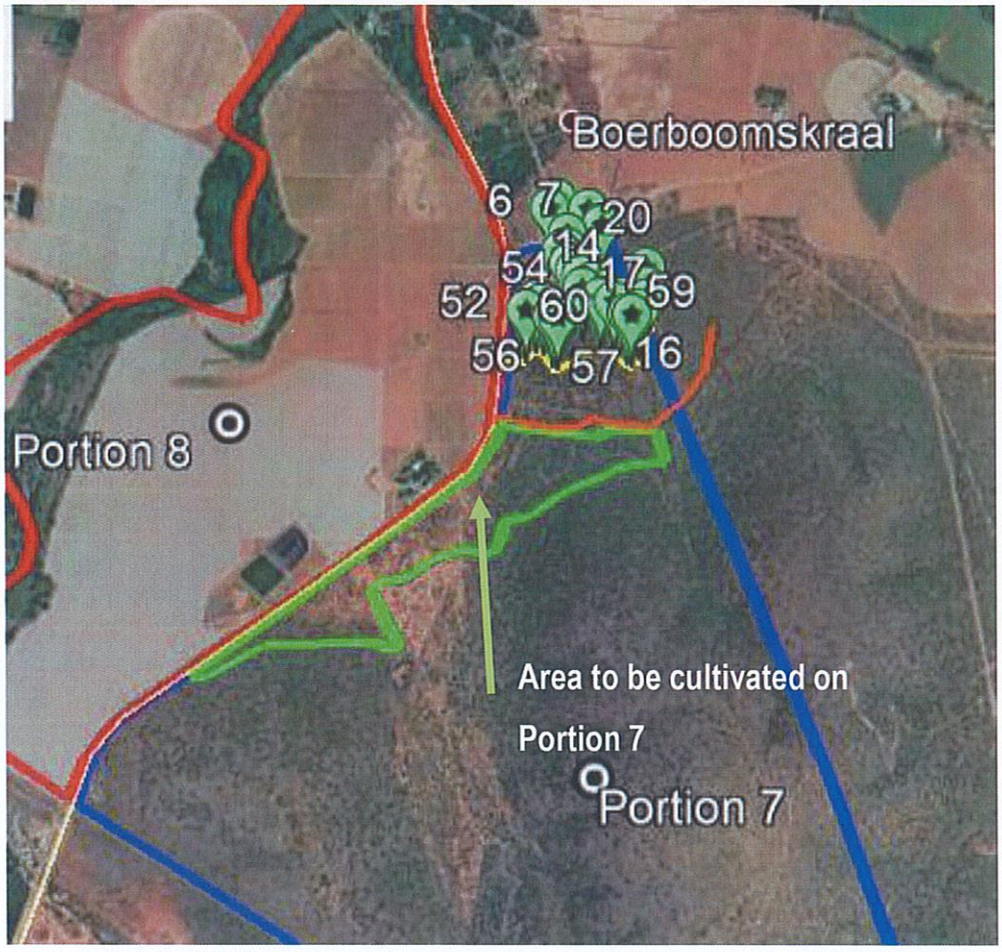


Figure 3: Area under application on Portion 7. Point indicate the *Ceropegia* plants located in the proposed conservation area.

Mr Avhurengwi Malange from LEDET Protected Areas Management confirmed on 21 January 2020 that the MEC has approved the withdrawal of Portion 7 & 8 of the Farm Boerboonkraal as a nature reserve. Refer to **Annexure E.** The Department is currently busy with facilitation to get the concurrence of the Provincial Legislature in line with Section 24 (1)(b) of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003.

The EIA report will be used to determine which areas are least sensitive and thus could be transformed into agricultural areas, to expand farming operations , The applicant intends to clear land for Agricultural use on parts of Portion 7 of the Farm Boerboomkraal 353 KT.

- The cleared area will be used to plant various citrus varieties which are earmarked for the export market.
- Approximately 24ha of indigenous vegetation will be cleared for planting of citrus varieties on Part of Portion 7 of the Farm Boerboonkraal.
- Farm roads will be less than 3.5m wide and will be designed to allow for a gradual controlled run off water using mitre drains and speed humps.
- Modern irrigation systems (micro-jet/dripline) will be installed to each orchard/field.

The final size, layout and configuration of the cultivated lands will be determined based on the following:

- Soil suitability analysis by a recognised soil specialist
- Technical requirements (runoff and stormwater management, accessibility, slope, existing infrastructure).
- Irrigation infrastructure and efficiency
- Biophysical constraints (e.g. ecological corridors, drainage lines, sensitive areas, species of special concern).

The orchards will also require the establishment of suitable windbreaks. In order to provide optimum yields and quality, citrus crops need to be protected from environmental extremes, including wind. Damage as a result of wind exposure may include reduced growth rates, reduced yields, root damage, bark damage, distorted shape, loss of fruit, as well as lesions and scarring of leaves and fruit (Australian Citrus Growers Inc. 2006). It is an accepted practice to establish exotic Silky Oaks (*Grevillia robusta*) as wind-breaks in the citrus orchards in the Sundays River valley; however, Beefwood (*Casuarina sp.*) and Yellowwood (*Podocarpus sp.*) trees are also used. The applicant is also considering a number of other tree species as potential candidates for use as windbreaks in the new orchards.

2.3.2 Irrigation

The existing orchards are irrigated with water from the Watervals River Irrigation Board (WRIB). An associated irrigation network will be installed. The orchard/s will require 122.3 hectares of water – the property has an existing entitlement to 121.28 hectares of water through the Watervalsrivier Besproeiingsraad. Water saving technology such as the drip irrigation system will be used to economise on water consumption. If required, application for additional water use will be made, however the water is being used very sparingly and extra measures are put in place prevent evaporation and thus less water is used.

It is proposed that water must be extracted from the canal, under agreement with the WRIB. Individual farmers are permitted to extract water from the canal only at certain allocated pumping / release times according to a predetermined schedule. Between the allocated pumping / release times, the holder of water entitlements does not have access to the canal water. Therefore, since water is not continually available from the canal, the orchards cannot be irrigated directly from the canal.

2.3.3 Conservation for *Ceropegia* plants.

During the ecological assessment a section of the land under investigation on the whole pf Portion 7 was found to be subject to contain *Ceropegia* plants. These were mapped and a 200m buffer is proposed. This area will not be developed and will remain as part of the private conservation area remaining on Portion 7.

3.0 NEED AND DESIRABILITY

In terms of the National Environmental Management Act, and EIA 2014 regulations, as amended by 2017, 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 community 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 the most sustainable use of land is.

3.1 Need

The expansion of the citrus industry in the area will activate many opportunities and provide a number of advantages to the local and regional community. Jobless farm workers will be afforded the opportunity to gain employment with an additional 38 permanent long-term jobs. This will benefit many other industries as the local economy will be stimulated by more than 38 persons that now have access to a regular income and this will result in community upliftment and improve livelihoods.

3.2 Desirability

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

3.2.1 Location and Accessibility

The access to the subject property from the R37 tar road is functional and does not require any changes or upgrading. Fruit/crop trucks, tractors will thus have a reliable access to harvest and collect the produce. Existing farm roads in the project area will be used where possible.

3.2.2 Compatibility with the Surrounding Area

The site is largely surrounded by agricultural activities, crop cultivation (games farms and citrus). This is evident in the land use map. Refer to **Figure 4.**

The proposed activity will therefore not be "out of character" with the surrounding land use and is expected to have a negligible impact on the visual character of the area.

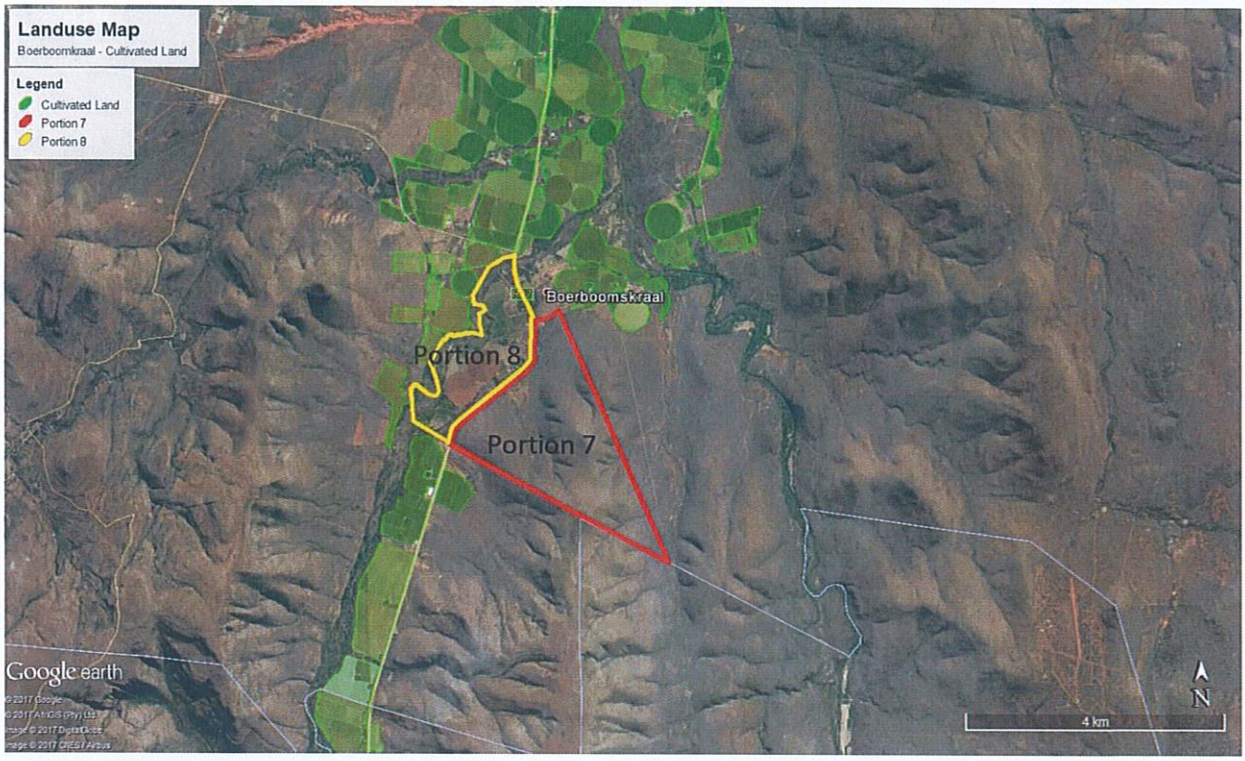


Figure 4: Surrounding Area Land Use Map

4.0 LEGISLATION, GUIDELINES AND POLICIES THAT WAS CONSIDERED AS PART OF THE SCOPING PROCESS

The following legislation was considered as part of the preparation of the Scoping report:

Table 1: Legislation considered

Name of Act or Regulation	Area of Application	Responsible Authority
Conservation of Agricultural Resources Act (No 43 of 1983) and all relevant Government regulations	The Constitution of South Africa.	Department of Agriculture, Forestry and Fisheries **The removal of protected trees licence has been issued on 12 April 2018. A motivation for renewal of the licence has been submitted as the licence expire in 12 April 2020 and no trees have been transplanted.**

Name of Act or Regulation	Area of Application	Responsible Authority
Constitution of the Republic of South Africa Act (No 108 of 1996)	The Constitution of South Africa.	National, Provincial and Local Government **No application envisioned**
The National Environmental Management: Waste Act, 2008 (Act No. 58 of 2008)	A list of waste management activities was published on the 3rd of July 2009. This list of activities identifies activities that may not be commenced, undertaken or conducted by any person unless a waste management licence is issued in respect of that activity.	Department of Environmental Affairs and Tourism; Department of Water Affairs and Forestry; Provincial Department of Environmental Affairs **No application envisioned**
NEMA - Biodiversity Act (2004) (Act No. 10 of 2004) (NEMBA)	Sets out the government's policy towards and strategy for achieving the objectives of the United Nation's Convention on Biological diversity (or biodiversity). 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).	Department of Environmental Affairs **No application envisioned** **Removal of Part of a Nature reserve is conducted through the MEC's office**
National Water Act (No 36 of 1998)	Conservation and use of water. Treatment and disposal of waste, wastewater and effluent. Pollution and pollution emergencies.	Department of Water and Sanitation **If there is a requirement for additional water use, an water use licence application will only be submitted only after the NEMA process has been concluded.**
National Heritage Resources Act (No 25 of 1999)	Conservation of national heritage and archaeological material.	South African Heritage Resources Agency; National Council for Heritage **Once the decision for de-proclamation has been received from the MEC's office, and only if required, an n application will be submitted to SAHRA**
Occupational Health and Safety Act (No 85 of 1993)	General duties of employers to their employees. Controls the exposure of employees and the public to dangerous and toxic substances or activities.	Department of Labour **No application envisioned**
National Veld and Forest Fire Act (No 101 of 1998)	Control and prevention of veld fires.	Department of Forestry **No application envisioned**

Table 2: Listed activities to be applied for:

Indicate the number of the relevant Government Notice:	Activity No (s) (relevant notice): e.g. Listing notices 1, 2 or 3	Describe each listed activity as per the wording in the listing notices:
GN. R 984, 8 December 2014 **As amended by** GNR 325 7 April 2017	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
GN. R 985, 8 December 2014 **As amended by** GNR 324 7 April 2017	12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. **e. Limpopo** 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; or (iii). 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.

5.0 ALTERNATIVES IDENTIFIED AND MOTIVATION FOR PROPOSED DEVELOPMENT

5.1 Site Alternatives

The subject property is located on part of Portion 7 the Farm Boerboonkraal 353 KT. It is situated on the R37 between Mashishing (Lydenburg) and Burgersfort. The Application runs a successful citrus farm and wishes to expand it further on the subject property. Refer to Figure 3 which identifiesthe areas to be cultivated on a part of portion 7.

The identified developable areas measure 24 hectares – Preferred Alternative area

The area is surrounded by agriculture and a diversity of similar farming operations which include citrus- and game production. In terms of compatibility of land uses and whether this development will fit in with similar developments in the area the location is regarded as ideal.

The access to the subject property will be from the R37 tar road and does not require any changes or upgrading. Fruit/crop trucks, tractors will thus have a reliable access to harvest and collect the produce.

No site alternative is available, the Applicant is the owner of the subject property and the application is therefore only relevant to this site.

5.2 Activity Alternative

As the applicant is already operating a successful agricultural citrus business on the farm (Portion 8 of the Farm: Boerboomkraal 353 KT). The applicant wishes to expand his operation and thus proposes to clear approximately 24ha of land on parts of portion 7.

No activity alternatives were considered.

5.3 No-Go Alternative

5.3.1 NO-GO Alternative

This is the option of not de-bushing of natural land for Agricultural use and expansion of the existing citrus farm. Although this might result in no potential negative environmental impacts, the direct and indirect socio-economic benefits of not the expanding the citrus will not be realised. As described in Section 3.1, it is of critical importance to the success and feasibility of the business proposal to branch out citrus orchards on farm, which is expected to create jobs in the area, that there be sufficient supply.

5.4 Demand Alternative

The demand alternative presents two logical alternatives namely:

- To retain the site as open land (the status quo); or
- To develop the land as an agriculturally focussed area, linking the site to surrounding activities and accessible infrastructure to compliment the increasing demand in the region or by providing additional business opportunities and would align to the National and local demand for economic growth.

5.5 Process / Technology Alternative

The process relevant to the establishment of the citrus farm can only be achieved by way of one of two alternatives namely:

- Cuvivation under traditional methods using significant amount of water, fertilisers and pesticides;
- A contemporary methods where the process are minimised with covered high technologically controlled farming processes.

6.0 PLAN OF STUDY

Methodology to describe receiving environment to address potential impacts

6.1 Consultation with Competent Authority (LEDET)

The Environmental Assessment Practitioner will be in contact and consultation with the Competent Authority during the entire process of the Application for Environmental Authorisation. Should any additional information in respect of the proposed development become available, apart from documents already submitted; same will be submitted to the Competent Authority. Documents to be submitted to the Competent Authority during the application process:

- Application form for the application for Environmental Authorisation (Application Phase)
- Draft Scoping Report and any additional information that may be relevant or required (Scoping Phase)
- Final Scoping Report and any additional information that may be relevant or required (Scoping Phase)
- Draft Environmental Impact Assessment and any additional information that may be relevant or required (Environmental Impact Assessment Phase)
- Final Environmental Impact Assessment and any additional information that may be relevant or required (Environmental Impact Assessment Phase)

6.2 Surrounding and Current Land Use

6.2.1 Surrounding Land Use

The proposed project site is located on the farm Boerboonkraal 353 KT. It is located on the R37 between Mashishing (Lydenburg) and Burgersfort. The current land use of the subject property is game farm and nature reserve. The surrounding land uses are games farms and citrus farms. A dam / waterbody (connected to a river system) is located on the north-western boundary of the proposed site. Refer to **Figure 3**: Land use map.

6.2.2 Current Land Use

The current land use is for a game farm and nature reserve.

6.3 Site Characteristics

When the study was initiated guidelines from the Limpopo Department Economic Development, Environment & Tourism (LEDET) and screening report from Department of Environmental Affairs these guidelines were reviewed to determine which aspects of the site must be investigated.

Figure 5 (SANBI) indicates that the site contains sections of Ecological Support Area and majority of the site is in a Critical Biodiversity. The SANBI National River and Wetland Map (**Figure 6**) also reveal that the one portion of the site is affected by a river and wetlands This will be taken into account and addressed as part of the Environmental Impact Assessment Report.

Figure 7 (DEA: Screening Tool) indicates that the site falls within a high potential agriculture sensitive zone and is thus in line with the proposed application for expansion of farming operations. **Figure 8** (DEA: Screening Tool) reveals the site as a high archaeological and cultural sensitive site, therefore a heritage study will be submitted as part of the EIA.

Figure 9 (DEA: Screening Tool) classifies the site as a high terrestrial biodiversity site. An ecological & red data study has been conducted and if required will be updated to establish the nature of the biodiversity on site.

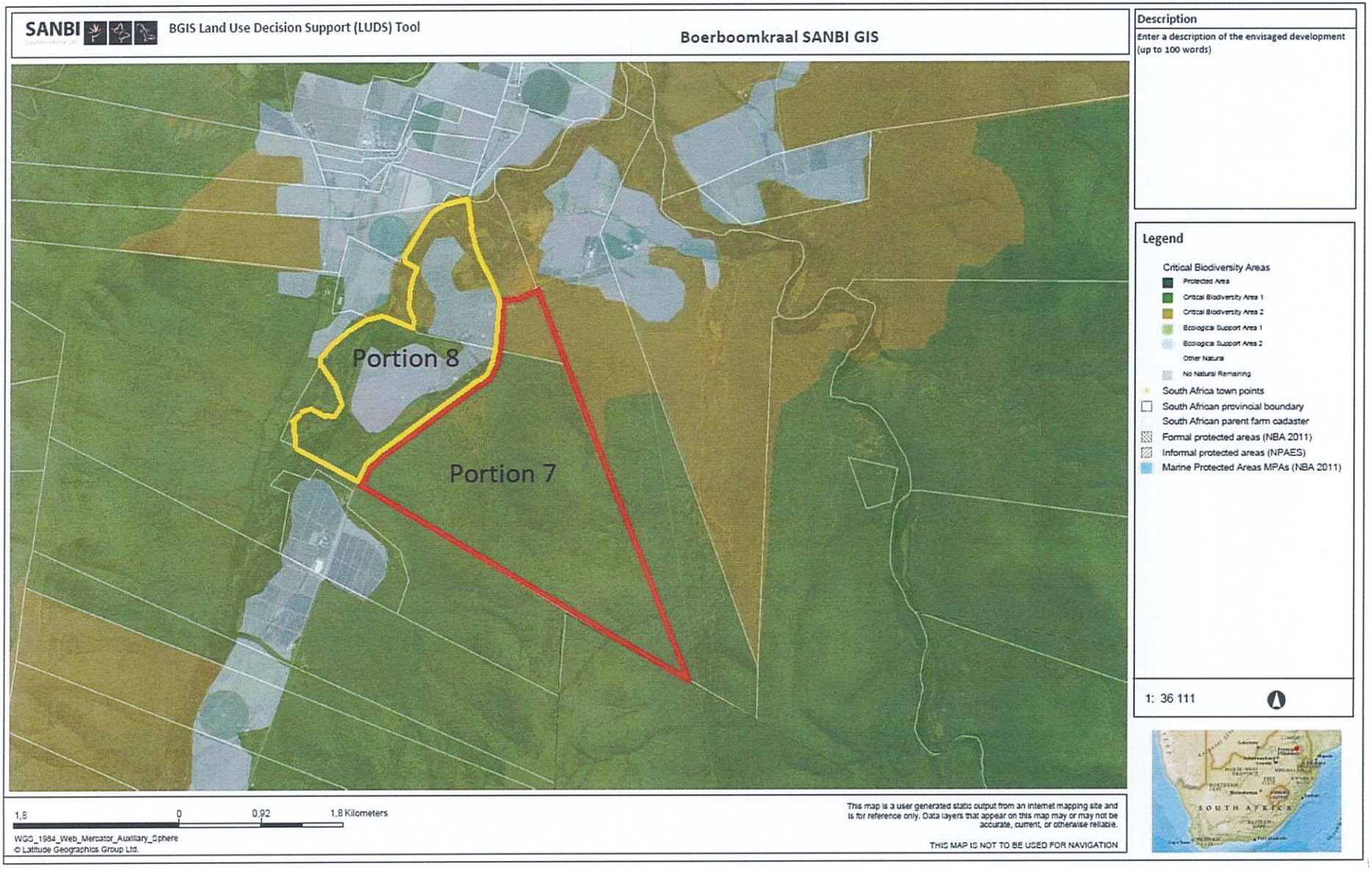


Figure 5: Ecological (Source SANBI)

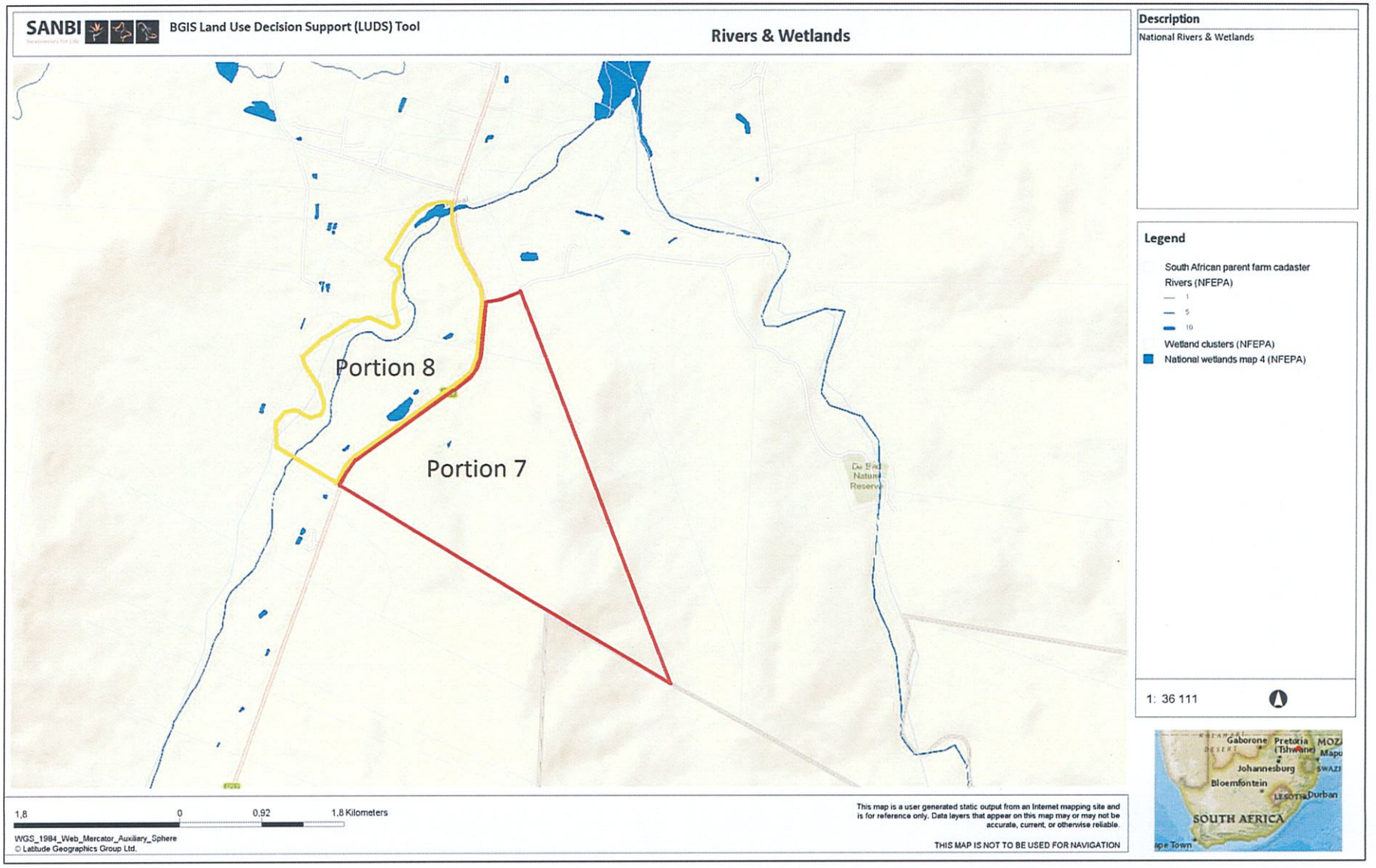


Figure 6: Rivers and Wetlands (Source: SANBI)

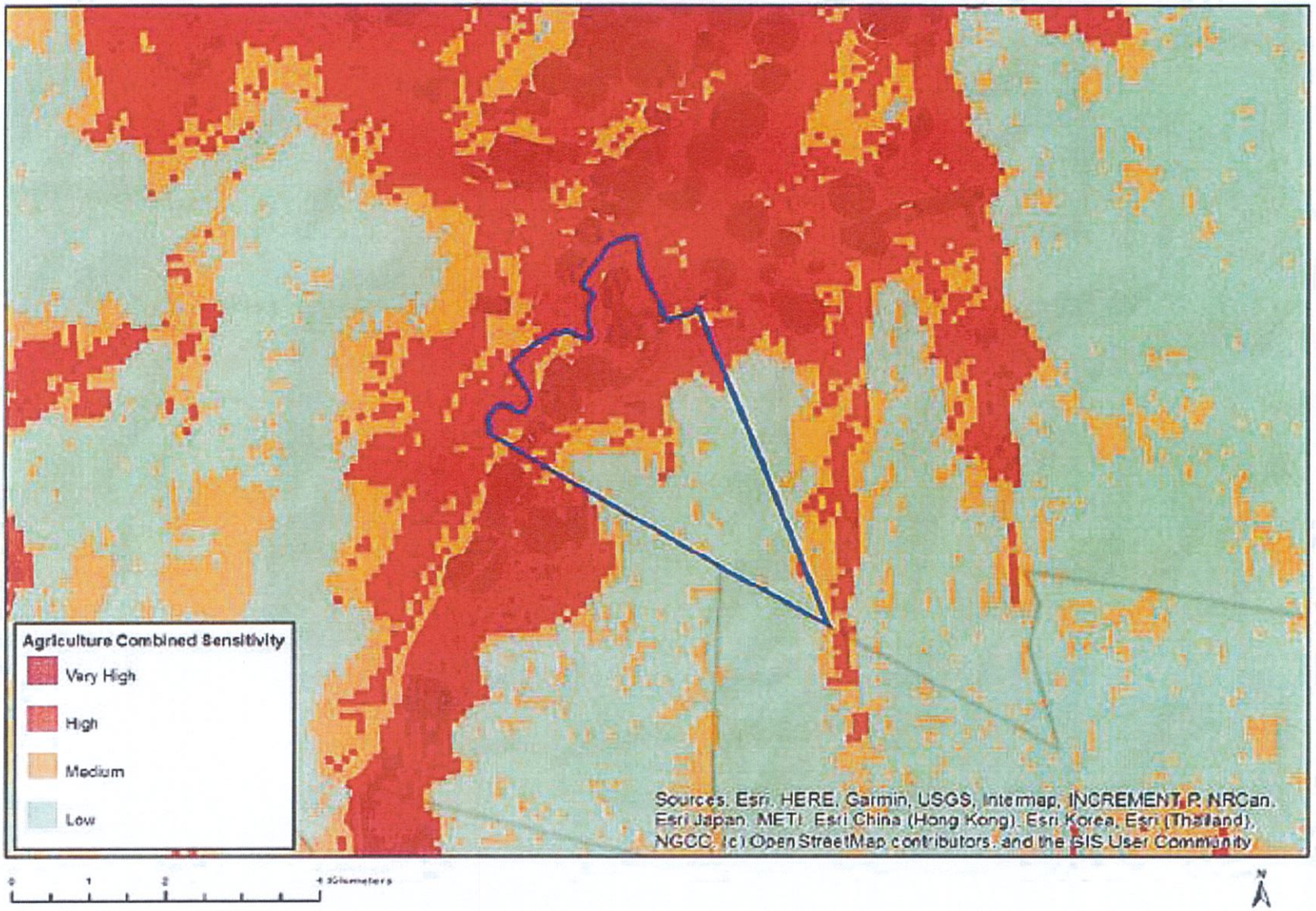


Figure 7: Agriculture Potential Map

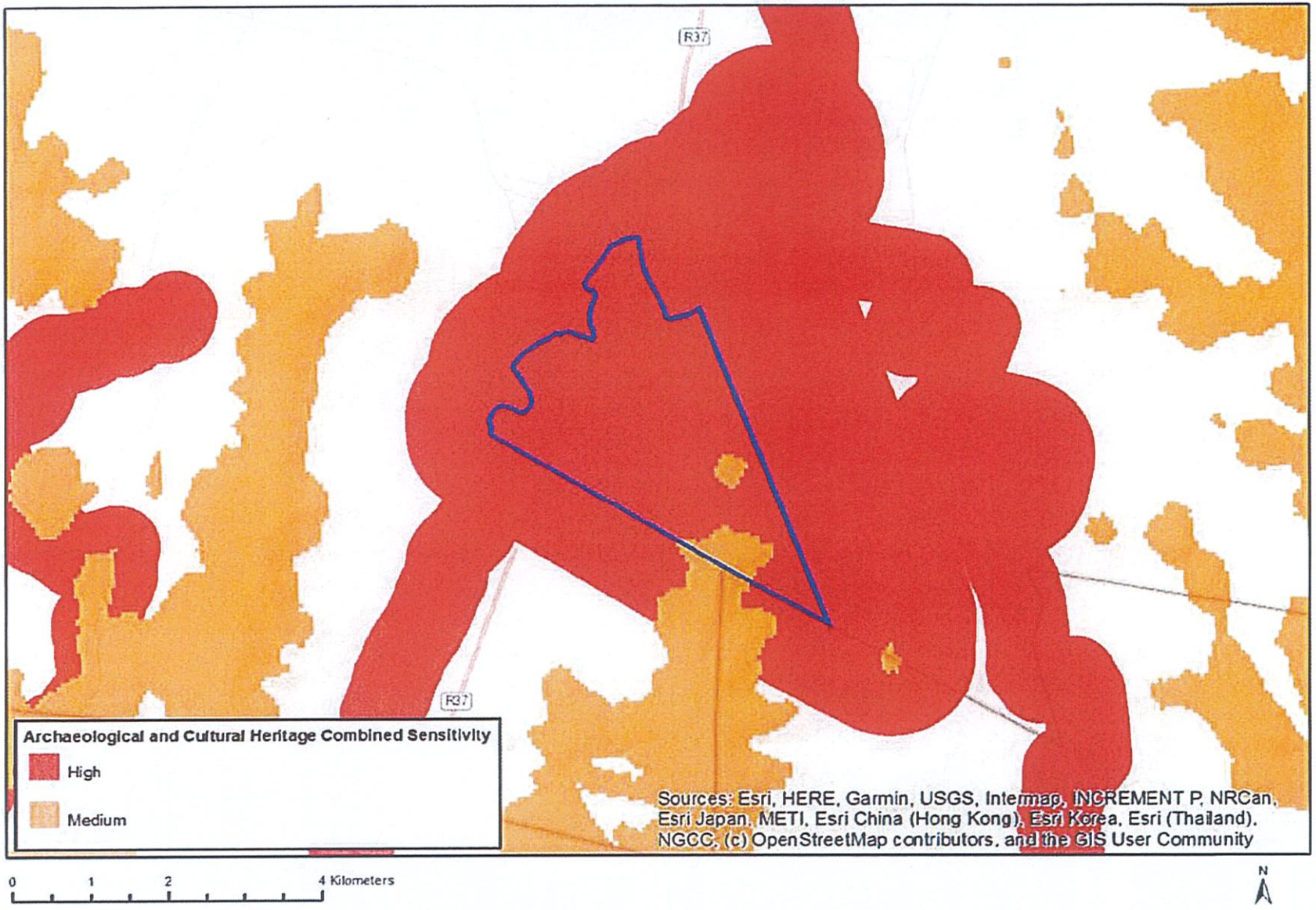


Figure 8: Archaeological and Cultural Heritage Sensitivity

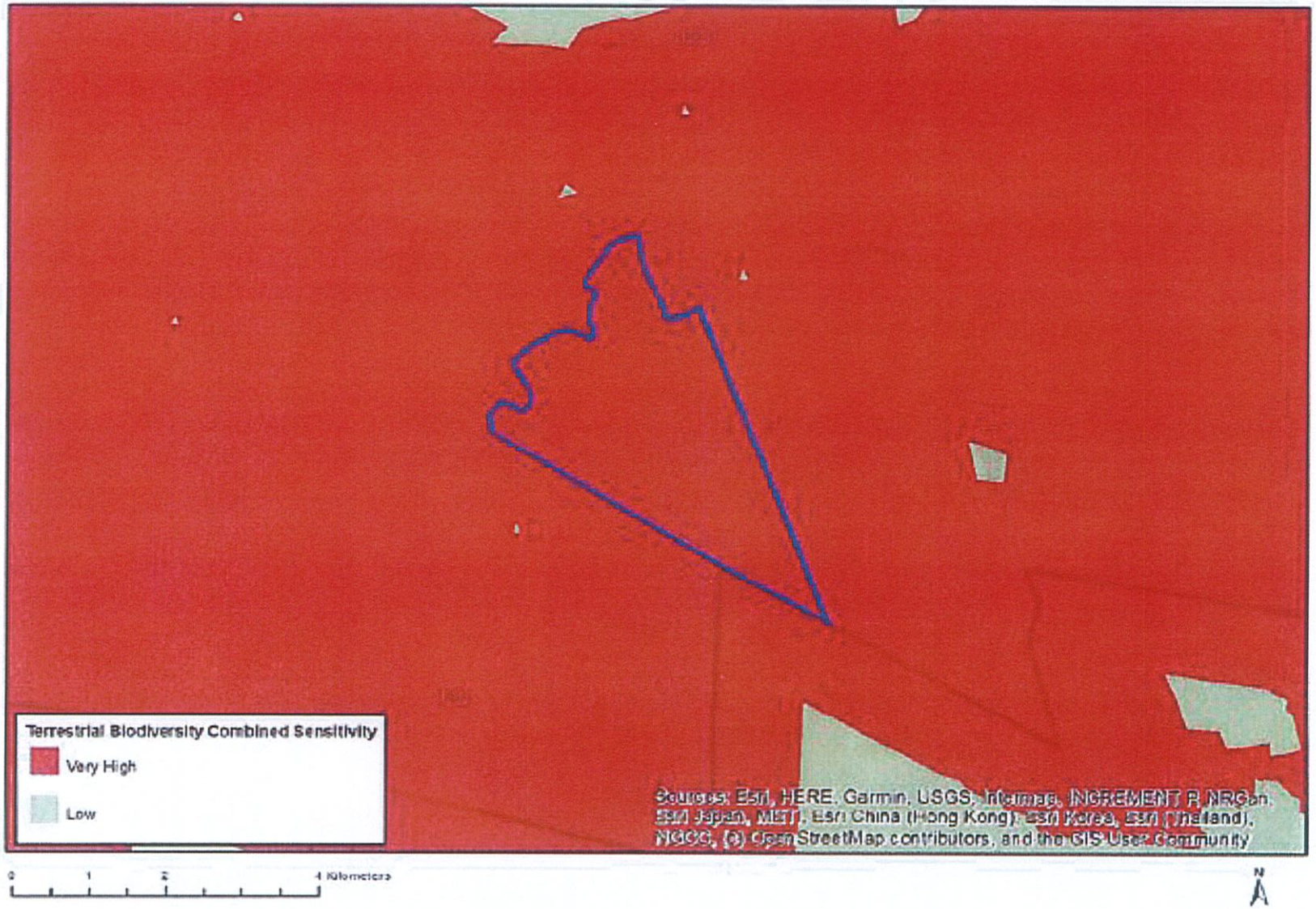


Figure 9: Terrestrial Biodiversity Sensitivity Map

6.3.1 Climatic Conditions Objectives

The climatic conditions are assessed by LEAP to determine the following:

- Positions of structures and outdoor spaces for optimum solar utilization
- General response to climatic conditions in detail design of structures and the location of certain uses inside buildings.
- Potential nuisance or health threat of dust from the site of development

- **Approach**

The South African weather service data will be obtained from the closest weather station to the site. This will include – if available

- Temperature, Wind direction, Rain fall, Frost days, Thunderstorm frequency
- Identification of potential sensitive receptors in the vicinity of the site
- Identification of existing wind-blown dust emissions.
- Characteristics of ambient air and dust fallout levels
- Regulatory context for air quality

- **Findings to date and potential impacts**

Burgersfort normally receives about 440mm of rain per year, with most rainfall occurring during summer. The chart below (lower left) shows the average rainfall values for Burgersfort per month. It receives the lowest rainfall (0mm) in June and the highest (86mm) in December. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Burgersfort range from 21.2°C in June to 28.2°C in January. The region is the coldest during July when the mercury drops to 6°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures. Refer to **Figure 10** for the climate graph.

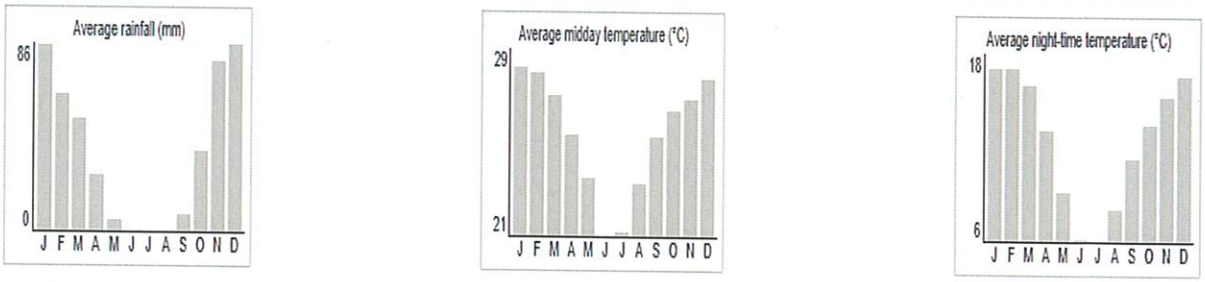


Figure 10: Climate graph for Burgersfort (source www.saexplorer.co.za)

6.3.2 Soil Classification Report

- **Objectives**

The Soil Classification Report will be completed to:

- Describe the substrate;
- Address founding requirements;
- Address excavations requirements;
- Determine compaction strength; and
- Identify susceptibility to erosion.

- **Approach**
  - Visual Site investigation;

- A walk over of the property;
- Site plan;
- Contour map;
- Aerial photo and Google Earth map; and
- Excavation with back actor where required.

- **Findings to date and potential impacts**
  - The Clovelly (Cv) (37.6 ha or 54.8%) and Hutton (Hu) (21.2 ha or 30.9%) soil forms cover most of the area on the farm.
  - The Clovelly (Cv) soil form is described as Orthic A topsoil on Yellow-brown B horizon on unspecified material (saprolite). The soilform has a wetter soilwater regime than the red apedal soils like the Hutton (Hu) soilform. These soils are also freely drained due to the lack of limiting material like high clayey horizons. The Clovelly (Cv) soilforms abbility to store water for long periods are therefore limited. The saprolithic material usually has a high bulk density and will limit root development. The deeper Clovelly (Cv) soils can be irrigated with success. Steeper slopes should be avoided.
  - The Hutton soil form is described as Orthic A topsoil on Red Apedal B subsoil on unspecified material. These soils are well drained and well aerated with good root development. Deep (>1 m) Hutton soils have a good potential for crops. These soils do not have any signs of wetness within 150cm of the soil profile. These soils are well drained and can be susceptible to drought conditions. The deep Hutton soils can be irrigated. This can alleviate the drought problem.
  - Soil potential is determined by soil depth, texture, structure, presence or absence of gravel, rock, concretions or any other limiting material within the soil profile as well as the climate.

6.3.3 Hydrology and geo-hydrology

A geohydrological investigation will be conducted in order to determine the following:

- **Objectives**
  - To determine if development on the site will have any negative impacts on the groundwater and the underlying aquifer(s); and
  - To determine if hydraulic continuity exist between open surface waterbodies and the underlying aquifer(s).

- **Approach**
  - Complete desktop survey;
  - Conduct site surveys;
  - Sampling of boreholes for chemical and isotope analysis; and
  - Access to groundwater strikes in boreholes and the geological profiles will be obtained. Down-the-hole Electrical Conductivity (EC) and temperature profiles will be carried out to establish any stratification of water quality in boreholes.

- **Findings to date and potential impacts**
  - It is anticipated that the proposed development will have an impact on the groundwater.
  - During the construction phase the Environmental Management Plan, which will form part of Environmental Impact Assessment Report, must be implemented.
  - The Geohydrological assessment will be included in the Environmental Impact Assessment Report.

6.3.4 Topography

The topographic assessment will be compiled by LEAP to address the following aspects about the proposal.

- **Objectives**
  - Identify steep slopes;
  - Identify potentially unstable and unsuitable for development;
  - Identify the suitable locations for structures; and
  - Identify suitable location for service alignment.

- **Approach**
  - Obtain an aerial photograph form an aerial production company;
  - Obtain a contour map from the Land Surveyor at a scale that can be utilized for assessment and planning process; and
  - Utilize the electronic format of the contour map to generate the slope analysis using either Idrisi or ArcView software.

- **Findings to date and potential impacts:**
  - Once the studies have been completed the results will be presented;
  - It is anticipated that the proposed development will have an impact on the Topography of the site; and
  - A storm water management plan will be implemented to best address storm water management on site to prevent erosion.

6.3.5 Ecological / Biodiversity assessment

An Ecological / Biodiversity investigation was undertaken by Dr AR Deacon in February 2015 and a verification study on the 14th of July 2017.Please note that at the time Portion 8 was included in the report, but is not under application.

- **Objectives**
  - Assessed the broad status (e.g. global status, centre of endemicity, biodiversity hotspot) of the affected environment; Provide faunal and floral species inventories for the property;
  - Assessed the distribution and extent of habitat types in the affected area in comparison to surrounding areas and within a wider regional context (i.e. contribution to habitat conservation);
  - Identified main ecosystems and their threatened and/or protected status in terms of the National Spatial Biodiversity Assessment, biodiversity legislation, new South African vegetation map and Conservation Plans.
  - Determine the presence of any red data species and the potential for such species to occur on the property;
  - Provide recommendations regarding appropriate mitigation and/or management measures should the proposed activities be authorised; and
  - Set base line for assessment of impact and cumulative impact.

- **Approach**
  - Aerial photographs. Maps, on-site assessments and literature reviews will be conducted
  - National red data species lists for fauna and flora and quarter degree lists for flora will be obtained and consulted.
  - Flora on the property will be assessed by means of modified line transects. Transects will be positioned in order to take into account the identified habitats on site.
  - Floral red data species assessments will be conducted on species listed in the latest SANBI database for the quarter degree grid with further consideration of genus.

- **Findings to date and potential impacts:**
  - Red Data List (RDL) faunal and floral species were noted within the scope of the proposed development site;
  - Three species of protected trees observed on the Game Camp area.
  - In the northern corner of the project area a number of special flowering plants (*Ceropegia* distincta subsp. verruculosa) make the area a hotspot for rare plant species.
  - Some wtigat trees, Boscia, was also found. A removal permit has been issued by DAFF for the removal of these trees.
  - Due to the total change in land cover, from natural bush to citrus production, the proposed activity will impact the natural ecology. Refer to the sensitivity map below.

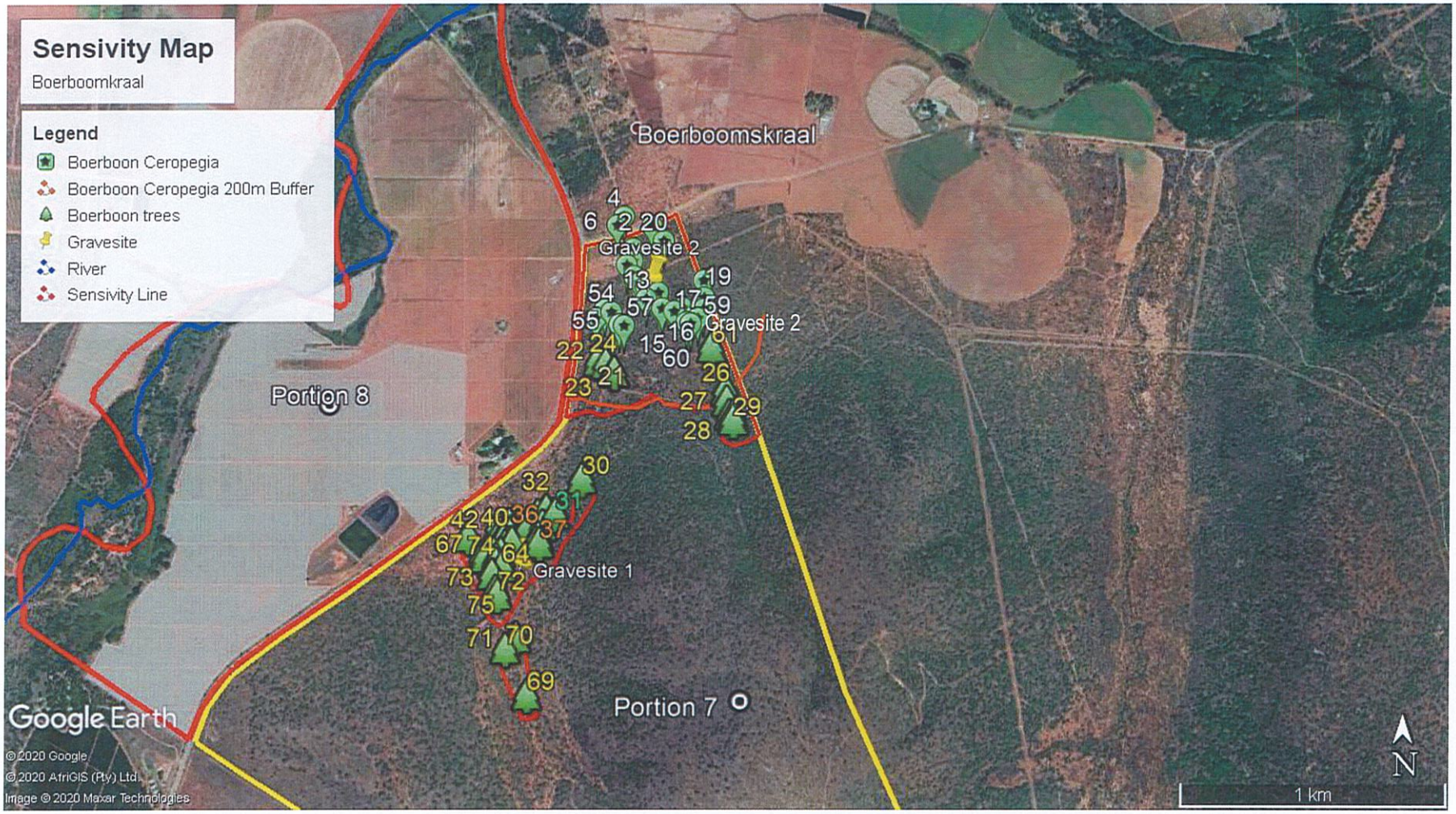


Figure 11: Sensitivity Map

6.3.6 Flood line delineation

A wetland delineation and functional assessment will be conducted in order to determine the following:

- **Objectives**
  - Indicate the area that will be subject to the 1:100 year flood line;
  - Indicate the area that will be subject to the 1:50 year flood line;
  - Indicate the area on a map;
  - Advise that no structures are to be located below the 1:100 year flood line; and
  - Set base line for assessment of impact and cumulative impact.

- **Approach**
  - Determine catchment area;
  - Obtain details contour map of the area;
  - Survey sections through the site
  - Utilize HEC2 computer program to determine flood conditions across the property;
  - Indicate flood conditions on the contour plan; and
  - Certify as being correct

- **Findings to date and potential impacts**
  - The flood line will be determined as per requirements by the National Water Act, no development will be undertaken below the 1:100 year flood line. The areas that are targeted for development at this point are not located in close proximity of the flood areas;
  - The proposed development will be constructed outside the 1:100 year floodline;
  - The proposed development is not anticipated to have an impact on the 1:100 year floodline; and
  - Stormwater measures will be implemented according to the requirements of the Greater Tubatse Local Metropolitan Municipality.

6.3.7 Cultural heritage impact assessment

A Phase 1 Heritage Impact Assessment for the proposed site has been undertaken by Adansonia Heritage Consultants in accordance with the National Heritage Resources Act 25 of 1999 (NHRA).

- **Objectives:**
  - To identify any site, structure, place, artefact, or feature as per section 38 of the NHRA.
  - To indicate these areas on a map and to ensure that where required by legislation the areas that must be protected and managed are indicated clearly.

- **Approach:**
  - A controlled-exclusive survey will be conducted, where sufficient information exists on an area to make solid and defensible assumptions and judgements about where heritage resources sites may and may not be and inspection of the surface or ground, wherever the surface is visible, is made, with no substantial attempts to clear brush, turf, deadfall, leaves, or other material that may cover the surface and with no attempt to look below the surface beyond the inspection of rodent burrows, cut banks and other exposures that are observed by accident.
  - Various provincial data bases will be consulted, including historical, archaeological and geological sources.
  - Determine the value and significance of heritage resources were assessed, as defined in the NHRA. Culturally significant landscapes will be assessed.
  - A map of the area will be provided.

- Geographic coordinates will be obtained with a handheld global positioning instrument.
- Photographs will be taken and submitted in electronic format

- **Findings to date and potential impacts:**

  The survey revealed the following archaeological material:

  - Section A (76.96ha): Two grave sites were identified in this section, as well as many recent square clay and stone foundations. Several upper grinders, two lower grinders, red clay potsherds together with glass, porcelain, ceramic and rusted iron were identified throughout this section.
  - Section B (12.56ha): This section is situated along the Waterfall River. A distinct Late Iron Age (LIA) stone wall, as well as an indistinct circular LIA stone wall and an upper grinder were identified.
  - Section C (3.82ha), This section was also situated along the Waterfall River but no archaeological material was identified.
  - Section D (3.12ha): This section is historical agricultural lands. No archaeological, historical structures or material were identified.
  - Section E (3.18ha): This section is historical agricultural lands and disturbance from previous road infrastructure was also visible. Alien vegetation had infested the northern part of this section. No archaeological, historical structures or material were identified.

  Recommendation

  It is recommended that the owner be made aware that distinct archaeological material or human remains may only be revealed during the debushing / agricultural operation. Based on the survey and the findings in this report, Adansonia Heritage Consultants state that there are no reasons which may prevent the proposed development to continue in sections C, D and E. Mitigation measures for the two grave yards in section A is recommended before development may continue in this section. Mitigation measures are also recommended for section B, before any development may take place in this section. All earthmoving activities must be monitored by a qualified archaeologist and should any archaeological material be found an assessment must be done.

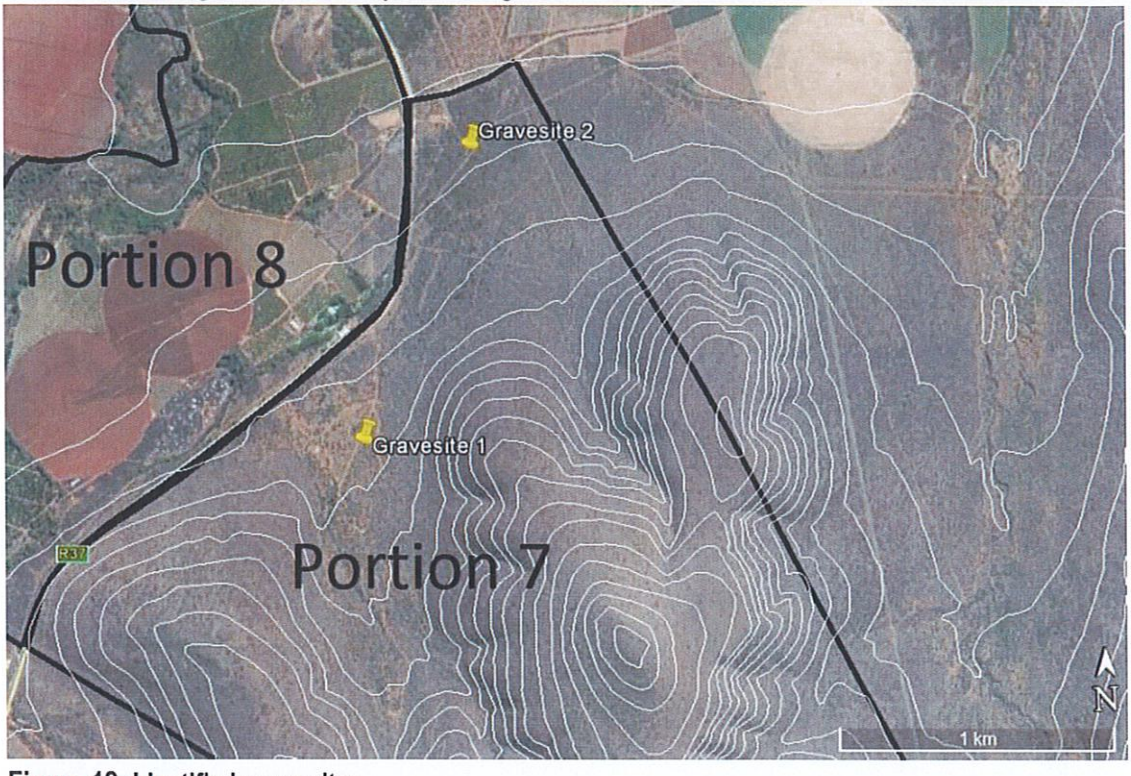


Figure 12: Identified grave sites

6.3.8 Visual Impact Assessment

The surrounding area is characterised by agricultural activities and the proposed debushing and expansion of the citrus farm will therefore not be uncharacteristic for the area. The sense of place is not expected to be altered by the proposed dam, and no further studies are suggested.

A visual assessment will not be completed.

6.3.9 Traffic Impact Assessment

The access to the subject property will be from the R37 tar road is functional and does not require any changes or upgrading. Fruit/crop trucks, tractors will thus have a reliable access to harvest and collect the produce. Existing farm roads in the property will be used where possible.

It is not anticipated that the development will cause any significant traffic impact - a traffic impact assessment will not be completed.

6.3.10 Services Statement

An engineering services statement will be completed. This report will address the provision or upgrading of infrastructure to deal with potable water, effluent; solid waste; electrical reticulation and storm water that will be needed to service the proposed development.

- **Objectives**
  - To examine and assess the impact of the proposed upgrades of the existing services to include water, sewer, storm water and roads;
  - Determine the most feasible phasing since the upgrades and further development of the service infrastructure will take place in phases with the development of the property; and
  - Set base line for assessment of impacts and cumulative impacts.

- **Approach**
  - The detail design of the civil service and necessary infrastructure will be undertaken in accordance with the standards as set out in the "Guidelines for the provision of Engineering Services and amenities" in commercial and industrial; township development;
  - The specifications and methods of construction of the works will be carried out and supervised in accordance with the "Standard Specifications for Civil Engineering Construction (SABS 1200);
  - Exploration and explanation with full detail design of the installations required to connect to the national ESKOM electricity grid;
  - The following issues will be considered in the detail if environmental impact assessment report;
  - Sewage reticulation will be provided by the Greater Tubatse Local Municipality. Any systems that require upgrading will be identified;
  - Water supply is provided from the municipal system;
  - Waste disposal will be minimal; however, recycling and waste reducing principles will be followed in the disposal of the waste; and
  - Electricity supply to the maintenance facilities will be supplied by either the Greater Tubatse Local Municipality system or by Eskom. This will be determined once the investigation by the Civil Engineers has been completed.

- **Findings to date and potential impacts**
  - Once the studies have been completed the results will be presented;
  - The full impact of the installation of services can only be determined once the necessary studies have been completed by all the consultants. These impacts will be assessed and addressed as part of the environmental impact assessment and mitigation measures will be provided as part of the Environmental Management Plan to be submitted as part of the Environmental Impact Assessment Report;
  - Services will be installed according to City of Tubatse Municipality standards and guidelines;
  - During the installation of services the Environmental Management Plan, which will be submitted as part of the Environmental Impact Assessment Report will be implemented;
  - Storm Water Management Infrastructure will be installed in terms of the sustainable urban drainage system (SUDS) principles; and
  - Should mitigation measures provided in the Environmental Management Plan be implemented no additional impact is anticipated.

6.3.11 Social- Economic Impact

The Greater Tubatse Municipality's Integrated Development Plan it is shown that the agriculture sector is still emerging and heavily under- invested. This due to a lack of mechanisation makes smallholder farming one of the least contributor to the municipality's economic growth.

In 2001 agricultural sector provided job security to 1316 people. On the contrast, 2006 represents the sector's darkest period as its job absorption capacity was reduced to 504 jobs. However, the sector's job intake rate started to spike up in 2012 when 768 jobs were realised in The Greater Tubatse local Municipality. Although the sector is far from reaching its 2001 peak, in 2013, 109 more jobs were added from the 2012 figure of 768. Considering that the municipality is blessed with vast tracts offer tile arable land and livestock farming potential, the optimal job absorption capacity of the sector is still below expectations.

It is expected that the proposed development will have positive impacts with respect to the creation of employment opportunities within the construction and operational phases. The currently of the property would provide work for 2 or 3 farm workers in the long term. The advent of the proposed project could however see this climb to 300 during the development phase (temporary, seasonal jobs) and 20 permanent job opportunities in the long term after the project is completed and fully operational. Job opportunities will include but not be limited to: maintenance positions on the irrigation systems and fences; weeding and fertilizer operations; planting, harvesting and packing.

The opportunities above do not include subsidiary services such as an increase in maintenance of vehicles; retail needs and medical facilities. This development will thus benefit the businesses in Burgersfort and Lydenburg.

Social impacts which would have been expected to increase as a resultant of the construction phase such as crime and illegal squatters may be reduced. All mitigation and management issues will be addressed within the Environmental Management Plan.

7.0 ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

Key issues identified include:

- Impact on adjacent community
- Provision and use of services in a responsible manner
- Visual integrity of the area
- Traffic and road improvements
- Preservation of ecologically significant plant communities & fauna habitat.
- Preservation of ecologically significant areas

7.1 Methodology and Impact Identification

7.1.1 Methods used to identify potential impacts

A combination of the following methods was used to identify impacts during the Scoping Process:

- **Specialist Study Findings**

A minimum of legally responsible specialist studies is conducted (as usually required by the relevant authority). These usually include a red data fauna & flora assessment, wetland assessment and heritage impact assessment. The findings of such specialist studies will highlight potential impacts on protected or endangered species or environments. A competent specialist will also carry out an in-depth study of the aquaculture, wetland and edge condition of the pans.

- **Site Inspection**

The environmental consultant and specialists conduct a site visit and identify potential sensitive environments such as streams, wetlands, and ridges. These areas are then red-flagged to be investigated further and excluded from development.

- **Public Participation**

Conducting public participation produces an issues list. Such a list needs to be screened for relevant impacts, which then need to be addressed, by specialist studies or further investigation. A very comprehensive public participation process will be followed, with numerous public meetings as well as with the committee that will be established, who will represent the various sectors of the community.

- **Provincial Review / Terms of Reference**

Provincial departmental reviews the application and the different sub-directorates within the department give comments to the relevant environmental officer. The issues identified are forwarded to the environmental consultant and these issues is addressed or translated as impacts.

7.1.2 Impact Identification

- **Specialist Study Findings**

Preliminary sensitivities have been indicated that will be taken into consideration in the proposed layout. The final sensitivity map will be compiled after all concerns and issues have been received from the public and after all the specialist reports have been completed.

- **Site inspection**

Various site visits have been conducted by the relevant EAP and the specialist.

- **Public Participation**

A public participation and comment process was conducted and a number of issues identified that will be addressed in the Environmental Impact Assessment report. Any additional comments, issues and concerns will be addressed and forwarded to the relevant authorities. [Please note that only potential impacts will be listed that is not identified as standard expected impacts for such developments].

7.1.3 Potential Impacts:

- Dust during construction;
- Pollution of or lack of ground water availability in the area;
- Services will malfunction polluting the ground and surface water or surrounding ecological areas;
- Erosion; and
- Positive impact on the community, in providing jobs and increased income to local businesses.

7.2 Physical Impacts

7.2.1 Air/Dust Pollutions

The main impact expected during the construction phase is that of dust pollution from construction vehicles on site, to the adjacent residential area and pans. This impact must also be addressed during the operational phase.

7.2.2 Pollution of the groundwater resource

Smaller impacts such as fuel or chemical spillage have mostly to do with good housekeeping of the contractor. Preventative measures in this regard are standard requirements of the Environmental Management Plan.

7.2.3 Water Quality

There may be a negative impact on surface and ground water quality that may result from surface water contamination or from irrigation from sewage treatment units due to a lack of maintenance of the units.

7.2.4 Geology

There might be some sensitive soils underlying the site that will have to be examined. The geology of the site will influence the founding requirements for construction. All recommendations of the Geotechnical Report must be adhered to.

7.2.5 Erosion

Erosion may be caused by improper clearing of vegetation as well as significant increase in the runoff velocity of surface water.

7.3 Biophysical Impacts

7.3.1 Loss of Red Data Vegetation and Fauna Habitat

The possibility of the occurrence of Red Data species will be determined. Refer to the section on plan of study / methodology to describe the receiving environment.

7.4 Socio-Economic Impacts

7.4.1 Traffic

The development will generate additional traffic in the area although. No road upgrades will be required for the proposed development as traffic will have a minimal impact on the existing infrastructure. All requirements of the provincial roads agency will be adhered to. No significant impacts are thus expected.

7.5 Assessment of Impacts

7.5.1 Definition of terms

Construction Phase: All construction or related activities, from occupation by the contractor, until the contractor leaves the site.
Operational Phase: All activities related to and including the operation and maintenance of the proposed development.
Nature: The type of effect the specific activity will have on the environment
Probability: Degree of certainty of impacts
Duration: Lifetime of the impact
Scale: Spatial scale of the impact
Magnitude: Degree/severity of impact

7.5.2 Methodology

The significance of the identified impacts will be determined using the approach outlined below. This incorporates two aspects for assessing the potential significance of impacts (terminology from the Department of Environmental Affairs Guideline document on EIA Regulations, April 1998), namely occurrence and severity, which are further sub-divided as follows:

As the process is currently in the scoping phase the information to determine a more complete assessment of the impacts relating the proposed development is not available. Therefore the proposed impacts that have been determined to date are addressed below.

Table 3: Methodology to Assess Impacts

Occurrence		Severity	
Probability of occurrence	Duration of occurrence	Magnitude (severity) of impact	Scale / extent of impact

To assess each of these factors for each impact, the following four ranking scales are used:

Probability	**Duration**
5 – Definite/don't know	5 – Permanent
4 – Highly probable	4 – Long-term
3 – Medium probability	3 –Medium-term (8-15 years)
2 – Low probability	2 – Short-term (0-7 years) (impact ceases after the operational life of the activity)
1 – Improbable	1 – Immediate
0 – None	
Scale	**Magnitude**
5 – International	10 – Very high/don't know
4 – National	8 – High
3 – Regional	6 – Moderate
2 – Local	4 – Low
1 – Site only	2 – Minor
0 – None	

Once these factors are ranked for each impact, the significance of the two aspects, occurrence and severity, is assessed using the following formula:

SP (significance points) = (probability + duration + scale) x magnitude

The maximum value is 150 significance points (SP). The impact significance will then be rated as follows:

SP >75	Indicates high environmental significance	An impact which could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 – 75	Indicates **moderate** environmental significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP <30	Indicates **low** environmental significance	Impacts with little real effect and which should not have an influence on or require modification of the project design.

7.5.3 Construction Phase (e.g. site clearing and site preparation)

Table 4: Quantification of impacts related to construction

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
7.5.3.1	**Environmental Component:** Vegetation, Fauna, Soils and									
Geology	There is no expected impacts on the geology of the proposed development site and surrounding areas.									• None, although geological monitoring should commence during the Construction Phase by the Geotechnical engineer
Topography	Impact on prominent physical or landscape features with site clearing and site preparation.	Erosion	4 3	2 2	2 1	6 4	48 24	SBM SAM	M L	• Demolition of existing infrastructure on the site and construction activities should preferably take place during the dry months • All surface run-offs shall be managed in such a way so as to ensure erosion of soil does not occur • All surfaces that are susceptible to erosion shall be covered with a suitable vegetative cover as soon as construction is completed • Where erosion may potentially occur, dissipaters such as gravel beds or straw bales must be installed to prevent erosion.
Air quality	Land clearing activities Site preparation	Generation of dust from denuded areas, prior to planting of orchards and windbreaks, due to wind erosion.	3 2	2 2	2 1	6 4	42 20	SBM SAM	M L	• Dust to be minimised by spraying down (water truck) of construction site daily
Soils and land capability	Removal of vegetation and vegetation clearing:	o Increased susceptibility of cleared areas to erosion.	4 2	2 2	1 1	6 4	42 20	SBM SAM	M L	• During the clearing of vegetation in the project area most vertebrates will move away from the site. During this activity, the project team may encounter slow moving reptiles and smaller mammals. These animals should be allowed to move away unharmed or be assisted to relocate to adjacent uncleared areas in the Game Camp. • During the survey of the Game Camp, a number of large, old Shepherd's trees (Boscia albitrunca) which are listed as protected

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
										(National Forests Act. 1998) were noted on the foot-slope of the mountain. It is proposed that these trees be marked (with danger tape by the ECO) and left intact after clearing. In fact, the trees may be used to demarcate the edge of the orchard itself. • The top (200-300mm) layer (as applicable) of all areas to be excavated for the purposes of construction shall be stripped and stockpiled in areas where this material will not be damaged, removed or compacted. • This stockpiled material shall be used for the rehabilitation of the site. • Weeds appearing on the stockpiled topsoil shall be removed by hand before seeding.
	Site vehicles and storage of fuel on site	Pollution of the soil resources by hydrocarbons (i.e. oil and diesel) as a result of potential leaks in machinery used for clearing activities during site preparation	3 2	2 2	1 1	5 4	30 20	SBM SAM	M L	• Provision of proper re-fuelling and maintenance facilities and procedures will reduce the likelihood of soil contamination
Water quality and availability	Surface and Groundwater contamination	Contamination of water resources through storm water runoff.	3 1	2 2	2 2	6 4	42 20	SBM SAM	M L	• Good housekeeping by contractor • Store new and used oils in bunded areas • No co-handling of reactive liquids or solids should be allowed • Create and monitor an inventory of chemicals held on site

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
7.5.3.2	**Biophysical Impacts**									
Flora	clearing and Removal of vegetation	Loss of species diversity and Degradation, destruction of habitats/ ecosystem and impact on connectivity – classified as a Critical Biodiversity Area (CBA)	5 4	2 2	1 1	10 8	80 56	SBM SAM	H M	• During the survey of the Game Camp, a number of large, old Shepherd 's trees (Boscia albitrunca) which are listed as protected (National Forests Act. 1998) were noted on the foot-slope of the mountain. It is proposed that these trees be marked (with danger tape by the ECO) and left intact after clearing. In fact, the trees may be used to demarcate the edge of the orchard itself. • In the northern corner of the project area a number of special flowering plants (Ceropegia distincta subsp. verruculosa) make the area a hotspot for rare plant species. Following an assessment to establish distribution and abundance of these special plants, it is proposed that the area demarcated in Figure 38, should be classified as a special plant reserve where no development will take place • During the clearing of vegetation in the project area most vertebrates will move away from the site. During this activity, the project team may encounter slow moving reptiles and smaller mammals. These animals should be allowed to move away unharmed or be assisted to relocate to adjacent uncleared areas in the Game Camp. • All trees and other plants of commercial use (e.g. Aloes) should be made available to nurseries and wood factories. In this way the removal of the plants will benefit the communities economically, creating jobs and business opportunities as a spin-off of the project • The Environmental Control Officer (ECO) is to be trained to be able to identify any possible red data species • Set up a planting list together with the ecologist from which all rehabilitation in the development must be done – only indigenous and non-invasive species • Further information will be provided in the EMP which will be attached to the Environmental Impact Assessment Report.

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
Fauna	Disturbance to fauna and habitat modification / destruction	Loss of species diversity and habitat characteristics	5 4	2 2	1 1	10 8	80 56	SBM SAM	H M	• Should any of the slower moving Red Data species be encountered (e.g. Southern African python and Pangolin), a special effort should be made to release these animals unharmed into the unaffected Game Camp area to the east. • The Environmental Control Officer (ECO) is to be trained to be able to identify any possible red data species
7.5.3.3	**Socio-economic Impacts**									
Noise pollution	Noise impact from machinery on the neighbouring properties during debushing of natural land.	Generation of nuisance noise from machinery used for clearing activities during site preparation	4 3	3 3	2 1	6 4	54 28	SBM SAM	M L	• Locate noisy machines and equipment maintenance areas as far away from sensitive receptors as possible • Adherence to acceptable working hours • Adherence to Occupational Health and Safety Act • Ear protection for workers that may be affected by noise • Further information will be provided in the EMP which will be attached to the Environmental Impact Assessment Report.
Visual integrity	Land clearing activities and Site preparation.	Visibility of dust	3 2	3 3	2 2	6 4	48 28	SBM SAM	M L	• Apply dust control measures diligently, especially on provincial roads • Apply recommendations of specialist regarding colour and construction of site structures during the Construction Phase
Sites of cultural significance	Impacts on Heritage Resources	This impact relates to potential effects of construction (site clearing) activities may have on existing archaeological artefacts and graves.								• The graves must be fenced off and access must be allowed for visitation / Alternatively it may be negotiated to relocate the graves. • Should any other potentially culturally significant artefacts or graves, etc be found during construction activities all activities should be stopped until an assessment by a Cultural Heritage practitioner has been completed

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
Safety and security	Workers in the area	Increase in crime in area and increase in squatters of vacant land	4 2	3 3	3 2	8 4	80 28	SBM SAM	H L	• Proper management and planning • No construction work will be allowed on Sundays • A limited number of workers along with security guards will be allowed to sleep on site, however within a cordoned-off secure area • All staff will carry identification, access control will be enforced and the site will be swept and a search will be done each night • The development will have 24-hour access control and security • A CLO (Community Liaison Officer) should be employed
	Workers	Migration of job seekers into the area in search of employment	3 2	3 3	2 2	6 4	48 28	SBM SAM	M L	• No on-site recruitment is to take place • The CLO (Community Liaison Officer) to be consulted regarding employment of members of the surrounding communities.
		Increase in construction traffic	4 3	3 3	3 2	8 4	80 32	SBM SAM	H M	• The access of large trucks will be investigated to provide a suitable access route that does not become a nuisance to existing residents • Only a specified number of trucks at any one time will be allowed onto the property • Construction vehicles and activities must aim to avoid peak hour traffic times (weekdays 7-8am and 5-6pm) • Establish an all-weather site access and wheel wash or shake down to prevent soil and materials from being trekked onto the road
		Decrease in safety due to increased traffic	4 3	3 3	2 2	10 6	90 48	SBM SAM	H M	• Security fencing and barriers • Perimeter fence patrols
Improved tax base for local municipality	Employment of farm workers	Decrease in unemployment and crimes related to unemployment	4 5	3 3	2 2	8 8	72 80	SBM SAM	M H	• Local labour to be used as far as possible for the installation of services and the construction of the township and associated infrastructure • Local training and capacity building programmes • Construction timeframe could be lengthy due to the extent and phased nature of the proposed development

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
		BEE development opportunities	2 3	3 3	2 2	4 6	28 48	SBM SAM	L M	• Contract requirements to involve and train BEE companies
	Local demand for goods and services	Decrease in unemployment and empowerment of local trade and industry	2 3	3 3	2 2	4 6	28 48	SBM SAM	L M	• Local products, goods and services to be utilised as far as possible during the construction phase • Local training and capacity building programmes

7.5.4 Operational Phase

Table 5: Quantification of impacts related to the operational phase

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
7.5.4.1 Physical Impacts										
Geology	There are no expected operational related impacts on the geology of the proposed development site and surrounding areas									• None, although geological monitoring should possibly commence during the Construction Phase by the Geotechnical engineer.
Topography	Impact on prominent physical or landscape features with site clearing and site preparation.	Erosion	4 3	2 2	2 1	6 4	48 24	SBM SAM	M L	• All surface run-offs shall be managed in such a way so as to ensure erosion of soil does not occur. • All surfaces that are susceptible to erosion shall be covered with a suitable vegetative cover as soon as construction is completed. • Where erosion may potentially occur, dissipaters such as gravel beds or straw bales must be installed to prevent erosion.
Air quality	Land clearing activities Site preparation	Generation of dust from denuded areas, prior to planting of orchards and windbreaks, due to wind erosion								• Dust to be minimised by spraying down (water truck) of construction site daily

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
Soils and land capability	Soil erosion									• Design and implement a stormwater management system for the site to be implemented for the operational lifespan thereof, especially along access roads and internal vehicle tracks. • Make judicious use of appropriate runoff control measures (e.g. cut-off berms, contour ploughing, shaping) to reduce sheet-flow and concomitant soil erosion. • Monitor the site for erosion on a regular basis and take corrective action immediately if detected. • Weeds appearing on the area must be maintained and eradicated
Water quality and availability	Changes to the local water quality due to return agricultural run-off high in nutrients or insecticides, herbicides / pesticides	Once the footprint area has been cleared, and the citrus orchards are established, the trees will require irrigation. The proponent will use drip irrigation methods, which delivers the exact water requirements directly to	4 2	4 1	3 2	6 4	66 20	SBM SAM	M L	• Waste water to be recycled and re-used as far as possible to ensure that minimum amounts are required for aspects like irrigation. • Good monitoring and management measurements to be set in place by facilities managers

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
		the trees. This method also ensures that no run-off is created, i.e. water is wasted during irrigation process. Any surface water flows as a result of rainfall will be contained within the orchards, which are then used to supplement the irrigation needs of the farm.								
	Changes to the local sediment transport regimes with an increase in downstream erosion and sedimentation (suspended solids)	Any additional runoff would leave the footprint area and then enter the nearby water courses / wetlands. The increased volumes with increased velocities and usually sediment hungry (low suspended sediment loads) increase the potential for downstream erosion and sedimentation. Sedimentation results from a decrease in flow velocities and sediments then settle								

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
		out downstream of the site								
7.5.4.2 Biophysical Impacts										
Flora	Citrus farming	Loss of species diversity and habitat characteristics	4 2	4 1	1 1	6 4	54 16	SBM SAM	M L	• Walkways throughout the open spaces will be strategically placed and users will be enforced to only use delineated walkway areas so as not to damage surrounding habitats • Landscaping guidelines which include an allowable indigenous vegetation list that attracts fauna is to be formulated and made a condition of sale • No exotic vegetation will be allowed
Fauna	Citrus farming	Loss of species diversity and habitat characteristics	4 2	4 1	1 1	6 4	54 16	SBM SAM	M L	• Walkways throughout the open spaces will be strategically placed and users will be enforced to only use delineated walkway areas so as not to damage surrounding habitats • Landscaping guidelines which include an allowable indigenous vegetation list that attracts fauna is to be formulated and made a condition of sale • Minimal to no exotic vegetation will be allowed

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
Conservation	Riparian Wetlands	The activity will not be located adjacent or close to riparian areas	2 4	1 4	2 5	4 8	20 88	SBM SAM	L H	• It is proposed that the Waterval River riparian zone should be excluded from the development. Therefore, Areas B and C will not be cleared as they are considered important wetlands acknowledged by NFEPA and therefore protected by law.
7.5.4.3 Socio-economic Impacts										
Noise pollution	As the site will be established no major impacts are expected, however, due to the phased nature of the project.									• Please refer to the noise mitigation measures during construction phase to the above Table
Visual integrity	Higher density caused by development and change in land use	Change in sense of place of the specific site, however appropriate and good design will result in an improved urban character and will positively enhance the site and surrounding urban context potentially raising economic value of surrounding areas	4 3	4 4	2 2	8 4	80 36	SBM SAM	H M	• Architectural guidelines (including aspects of roof and wall finishes, colours, heights of buildings, and lighting), as well as Landscape Architectural guidelines (screening, buffering, functioning, aesthetics etc) for the development will be developed to promote the enhancement of this urban area and therefore creating new and valuable places with a modified and positive urban mixed-use sense of place that is vibrant and diverse

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
Sites of cultural significance	This impact relates to potential effects of construction (site clearing) activities may have on existing archaeological artefacts and graves									• Should any potentially culturally significant artefacts or graves, etc be found during the operational phase, the development management is to be informed and a Cultural Heritage practitioner is to be contacted to decide on a way forward
Safety and security	Active operational phase with variety of functions and activities ranging from residential, business and commercial	Decrease in crime due to the creation of a more secure environment and minimising of vacant land	2 4	2 4	1 2	4 8	20 80	SBM SAM	L H	• Security provided via passive surveillance • Appropriate environmental design to address safety and security issues (CSIR publication) • Good accessibility for emergency and police services
Traffic increase	Increase of and users of the area	Additional vehicles on road	4 3	4 3	3 2	8 4	88 24	SBM SAM	H L	• All requirements of local municipality to be adhered to • All improvements to road infrastructure as recommended by traffic engineer to be adhered to
Fire	bush fires									• Exotic tree and shrub species at the site must be controlled and the litter removed from site. • No open fires should be allowed on the site, except in a designated controlled area.

Environmental Component	Activity	Potential Impact	Environmental Significance Score							Mitigation Measures
			P	D	S	M	Total	Rating		
										• Suitable firefighting equipment should be available on site.
Improved tax base for local municipality	Creation of additional permanent and temporary employment opportunities	Decrease in unemployment and crimes related to unemployment	4 5	2 4	2 3	4 8	32 96	SBM SAM	M H	• Local labour and employees to be made use of as far as possible for all aspects of the operational phase • Local training and capacity building programmes
		BEE development opportunities	2 3	2 4	2 2	4 6	24 54	SBM SAM	L M	• BEE companies to be trained and involved in during the operational phase of the development – e.g. Management of retail facilities, maintenance, landscaping, etc.
	Local demand for goods and services	Decrease in unemployment and empowerment of local trade and industry	2 3	2 4	2 2	4 6	24 54	SBM SAM	L M	• Local products, goods and services to be utilised as far as possible during the operational phase – shops, craft centre, etc. • Local training and capacity building programmes

8.0 PUBLIC PARTICIPATION PROCESS

(Note: For full details please refer to the Public Participation Report attached hereto)

8.1 Notification of Interested and Affected Parties

- **Newspaper Advertisement**

Advertisements were published in the Beeld newspaper on Thursday, 29 August 2019.

- **Basic Information Document**

A Background Information Document (BID) is being posted, faxed, emailed or hand delivered to registered I&APs. Written acknowledgement has been gathered from each of these landowners. The BID document provides information concerning the proposed development. Interested and affected parties were invited to submit written comments concerning the proposed development and become part of the Scoping Process.

- **Site Notices**

Detailed site notices were prepared in accordance with the requirements of the Regulations and were placed at strategic and visible places alongside the property on which the proposed development on 23 August 2020.

- **Public Meeting**

If required, a public meeting will be arranged with adjacent land owners and other stakeholders that has been identified after the Draft Environmental Impact Assessment has been completed, to ensure that available information can be provided to Interested and Affected Parties.

- **Ward Councillor**

The Ward Councillor is one of the key community representatives within the area of development. Therefore, he/she should be informed, and be given an opportunity to provide comments and input into the process. Notifications was sent to Ward Councillor Mrs SJ Mohlala (Ward 31) will be kept informed of the proposed development.

8.2 Written Correspondence from IAPs

Comments received from I&AP's will be incorporated in the comments and response register that will be incorporated in the Final Scoping Report. Written comments are welcome throughout the process and will be included as part of the report as the process continues.

8.2 Issues and Concerns

A list of issues and concerns was drawn up from the following sources:

- **Issues raised by specialist consultant reports and site visits**

This Scoping Report aims to note issues raised by the specialists and from observations during the site visits.

- **Issues from IAPs**

No comments have been received to date but will be captured as outlined in Table 7 below:

Table 6: Comments received from registered Interested and Affected Parties and response

	NAME	DATE RECEIVED	COMMENT	RESPONSE
1.	Mervyn Lotter (I&AP)	14/09/2019	Dear Tinkie Thank you for forwarding me this application. As it seems this area hs not yet been deproclaimed, and there is a threatened species in very close proximity that may be negatively impacted by the citrus orchard, I not not support this application. Can I be provided with a KML file of the proposed citrus expansion area? It looks very close to the Ceropegia population. Please see my attached registration form. Regards Mervyn ATTACHED: Distance of cleared area from Ceropegia plants. States of the deproclamation application to LEDET Until the resource is deproclaimed, I cannot support the application to clear/debust on portion 7.	**FROM: NEAL DUNSTON** **DATE: 18.09.2019** Afternoon Mervyn Attached please find the KMZ file for Boerboomkraal as requested. Vriendelike groete/Kind regards Neal Dunston
2.	Tshindzi Ndlhovu (I&AP)	16/09/2019	Please note that section 21 a, b, c should be appeal for Heilgooring farmers, LEDET and custodians of nature reserve should be consulted. Limpopo Economic Development, Environmental and Tourism, Thabero Tsuipate, email address tshipatei@dws.gov.za	The interested and affected parties as identified were included in the I&AP list and registered as stakeholders.
3.	GW Sieburg (I&AP)	12/10/2019	Good evening As from 1st November 2019, my email address with change to gwsieburg@gmail.com. Please could you amend your email list accordingly. Thank you very much G W Sieburg	**FROM: TINKIE KUHN** **DATE: 14.10.2019** Good day, Your email address has been corrected
4.	Sagwata Manyike (SANBI)	08/01/2020	Dear Ludwig Geldenhuys, Thank you for writing to the South African National Biodiversity Institute (SANBI).	**FROM: LUDWIG GELDENHUYS** **DATE: 2020.01.09**

	NAME	DATE RECEIVED	COMMENT	RESPONSE
			I am writing this email to respond to a notification letter sent to SANBI as a potential Interested and Affected Party for the application (Expansion of farming operation on part of portion 7 and portion 8 of the farm Boerboomkraal 353 kt within the greater Tubatse Local Municipality of Sekhukhune District, Limpopo Province). Kindly find the attached response letter. Thanks and Kind Regards Thato Mala ATTACHMENT Dear Ludwig Geldenhuys Thank you for your invitation to the South African National Biodiversity Institute (SANBI) to register as an Interested and Affected Party (I&AP) for the application about the "*Expansion of Farming Operation on part of Portion 7 and Portion 8 of the Farm Boerboomkraal 353 KT within the Greater Tubatse Local Municipality of Sekhukhune District, Limpopo Province*". However, please note that SANBI only participates in applications for Environmental Authorisation as an I&AP if the application is for a development on a SANBI property or a property adjacent to a SANBI property, or if the application would impact on an area that has been highlighted as a priority implementation area within one of SANBI's Bioregional Programmes. SANBI thus kindly declines to participate in this application as an I&AP at this point in time. SANBI is a public entity mandated to act in an advisory or consultative capacity on matters relating to biodiversity to the Department of Environmental Affairs (i.e the 'competent authority). The Department and its provincial counterparts are welcome to engage SANBI for advice and/or comment on specific matters related to biodiversity information relevant to this application, if such input is required. Such advice or comment is not equivalent, however, to the comment required as per the NEMA regulations from commenting authorities. SANBI restricts its comment to the accuracy and relevance of the biodiversity information that should inform the Environmental Assessment. SANBI thus also declines to participate as a commenting authority in this application. For comment on the biodiversity impacts of the development, please consult the relevant provincial conservation agency.	Good day Thato Maila Thank you for the response regarding my request. I take note of the fact that SANBI will not be registered as an Interested and Affected Party. Regards

	NAME	DATE RECEIVED	COMMENT	RESPONSE
			I also encourage you to visit our web portal http://biodiversityadvisor.sanbi.org for free access to spatial biodiversity information relevant for land-use planning and decision-making processes. Referencing the spatial biodiversity resources found on the Biodiversity Advisor in the *early stages* of project development can support informed planning and decision-making while helping to timeously 'iron out' obstacles that might otherwise result in delays and additional costs to the project proponent. Such as proactive approach can: • Show the decision-making authority that potential conflict between biodiversity priorities and other land-uses has been identified and resolved by well-informed project planning; • Allow the proponent to take an informed decision about the biodiversity (and administrative and, by implication, financial) risks of proceeding with a particular project; and • Identify the scope, type and intensity of environmental assessment that is likely to be required if an application were to proceed. This approach also supports best practice in environmental assessment and planning by: • Ensuring that a project is consistent with the 'Duty of Care' principle (i.e. that the project proponent has taken reasonable measures to prevent significant degradation of the environment): • Emphasising the fundamental role of alternatives in selecting the best practicable environmental option; • Giving effect to the mitigation hierarchy, i.e. the sequential avoidance, minimising, mitigating and remedying of impacts that may result in loss of biodiversity or disturbance to ecosystems; and • Supporting the principle that environmental management must pay specific attention to planning procedures pertaining to sensitive, vulnerable, highly dynamic or stressed ecosystems. Please feel free to contact me should you require any assistance or have any queries re: using the resources on our http://biodiversityadvisor.sanbi.org web portal. Yours sincerely Sagwata Manyike Specialist Advisor: Planning and Land Use Management	

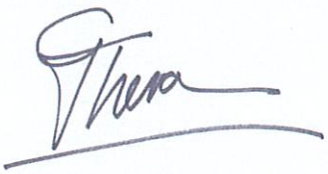
8.3 Public Insight on the Scoping Report and the Draft EIA Report

The draft scoping report will be /made available for public insight from 6 March 2020 to 6 April 2020 in electronic format to all I&AP and in hard copy at offices of LEAP. The offices of LEAP can be contacted for directions. The draft scoping report will be sent to LEDET at the same time for consideration. The expected impacts are included in the issues and response register as attached to this report. Once approval for the Scoping report has been received from the province the Draft EIA will be completed. The Draft EIA report will be made available for public insight for a period of thirty days. Interested and affected parties will be notified of this public insight period. Any written comments received during the above time frame will be addressed in the Final Environmental Impact Assessment Report to be submitted to the province.

9.0 CONCLUSION

It is believed that the methodology and plan of study that will be used to assess the current state of the environment will be sufficient to identify potential impacts. The data will assist in the compilation of the Environmental Impact Assessment as an instrument in the decision making process. Mitigation measures for the impacts identified in this Scoping Report will be described in detail in the EIA.

Sincerely,



Dr. Gwen Theron

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Annexures:

Annexure A: EAP Declaration
Annexure B: EAP CV
Annexure C: Location Map
Annexure D: Screening Tool Report
Annexure E: Email from MEC's office
Annexure F: Public participation report