

AGRICULTURAL SENSITIVITY ANALYSIS OF PORTION 15 OF PORTION 1 OF THE FARM BULTFONTYN, EASTERN CAPE

July 2021

Compiled by Dr Andries Gouws (Pr. Sci Nat – Agricultural Scientist)

Index

Pretoria

082 807 6717

1 DESCRIPTION OF THE SITE

The property is directly south of Middelburg and is approximately 43 hectares.

It is Portion 15 of Portion 1 of the Farm Bultfontyn, Inxuba Yethemba Local Municipality, Eastern Cape Province

2 DESCRIPTION OF THE ACTIVITY

The Golf Club that is indicated on the Layout Plan is an existing feature on site and no eradication of indigenous vegetation will take place on this erf. There is a furrow that was used prior to 1990 to divert water that overflowed from a reservoir that was built in the Groot Brak River towards a farm dam that is situated south west of the proposed development. The dam wall of the reservoir was demolished in the early 1990's and no water has since flown in this furrow.

The proposed development will be for the establishment of:

- a feed mill,
- agricultural recreation area,
- solar farm and
- sheep feedlot

The proposed development will also entail the construction of three Sedimentation ponds, two Evaporation ponds and a Manure Composting area in order to treat the manure and the carcasses that will originate from the Sheep Feedlot.

The zoning will remain agriculture. Proposed activities are all agricultural related.

3 SENSITIVITY ANALYSIS

Environmental authorization in terms of 2014 EIA regulations requires a sensitivity analyses. The sensitivity of a site is determined by the screening tool of the Department of Environment. According to the screening tool, the site has a high sensitivity.

More detailed analyses, however, found that this assessment is incorrect and for the following reasons:

- 1) Middelburg is in the Karroo Region that has an arid climate, it has a low and erratic rainfall and high summer temperatures. Crop production is not practiced unless it is under irrigation.
- 2) There is no irrigated cropping on the site and no water license as far as we are aware.
- 3) The soils are mostly moderately deep and deep Clovelly soils that are arable but with no irrigation water available, has low arable potential.

The conclusion is that the land has a low agricultural sensitivity.



Figure 1. Surrounding land uses (Bing map) indicating that irrigated land is the only cultivated land

Figure 2 is the Land Cover map of DALRRD that clearly indicates that the only cropping that takes place is under irrigation. The implication is: no water, no commercial cropping.

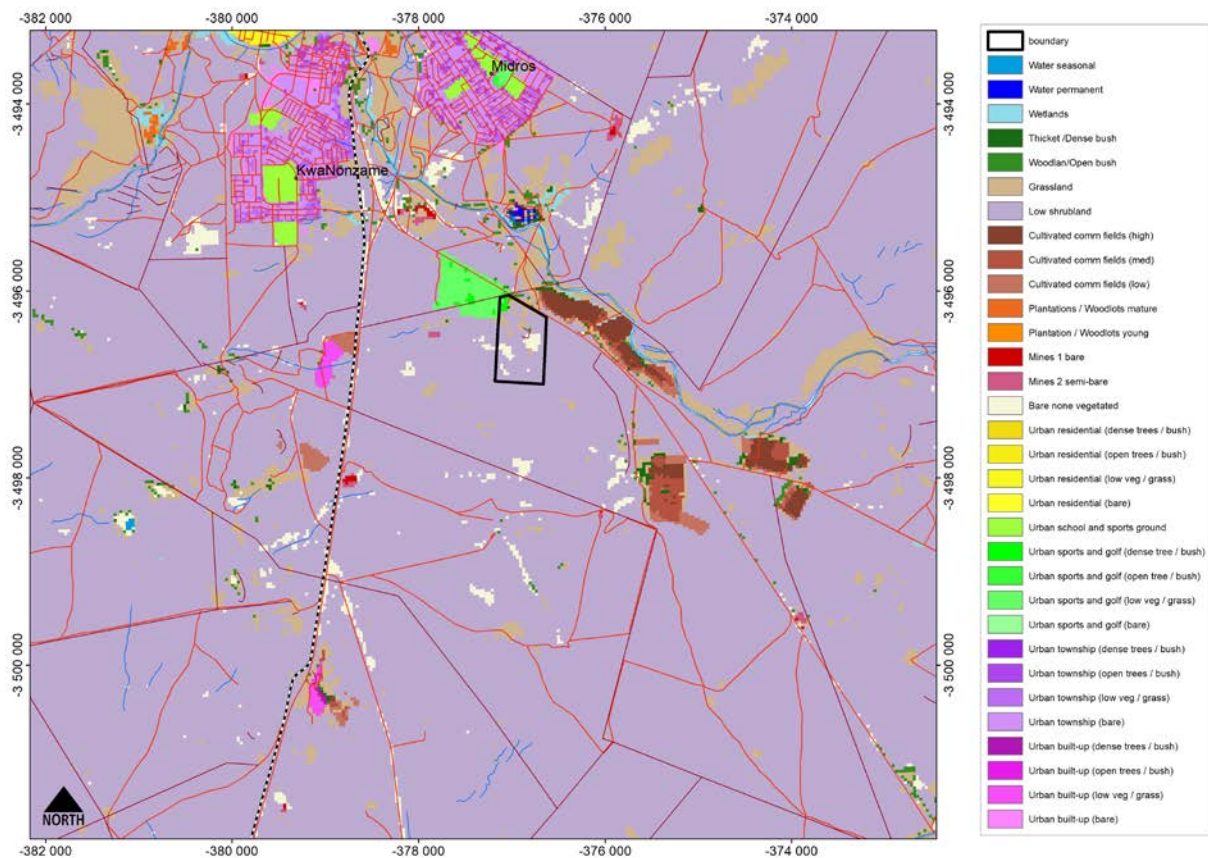


Figure 2. Land cover map (DALRRD)

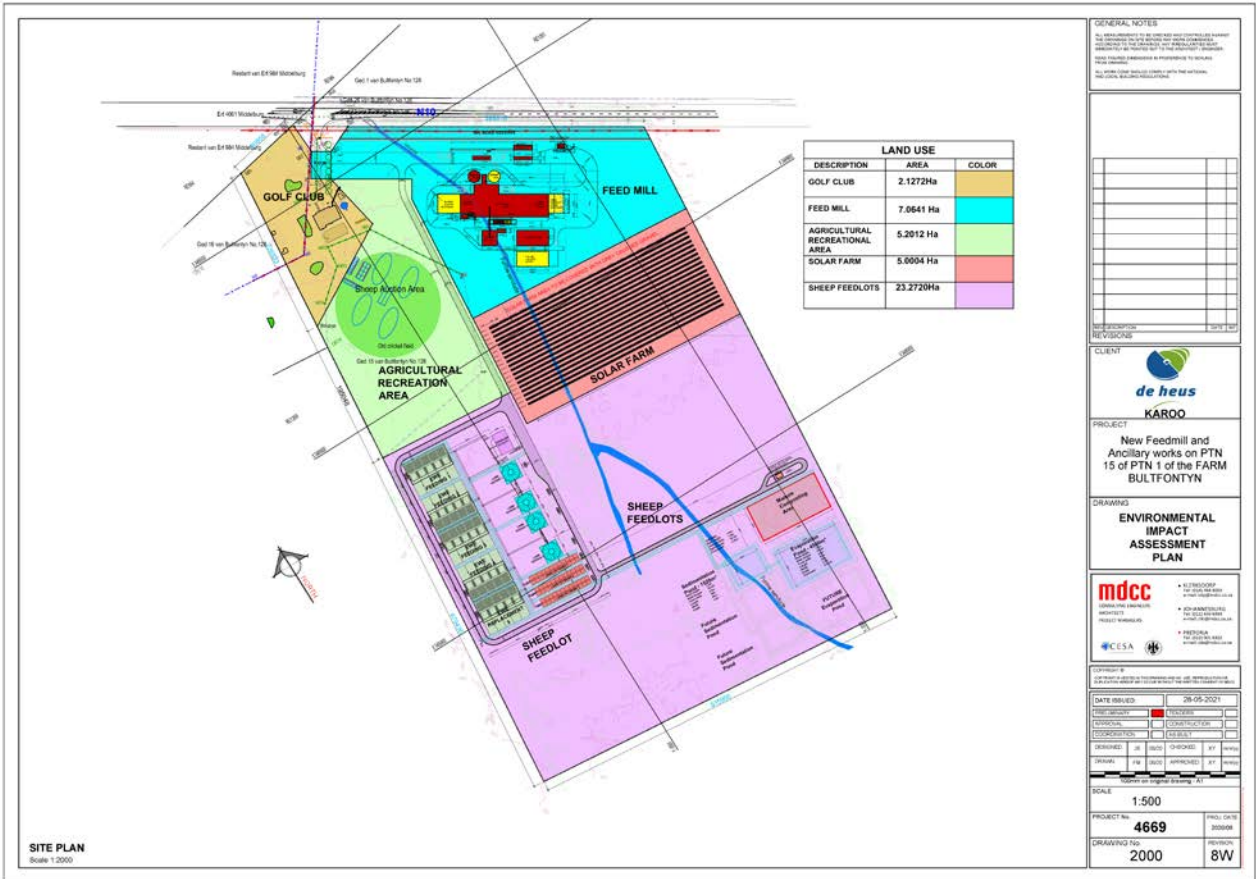
It must, therefore, be concluded that the site has low sensitivity.

4 CONCLUSIONS


The development proposed will remain agriculture but will intensify the agricultural activities. Instead of degraded barren land, it will be converted to include a feed mill, agricultural recreation area, solar farm and sheep feedlot.

An environmental authorization as required by the 2014 EIA Regulations when the sensitivity is medium or high. An evaluation of the site found that the site has a low sensitivity.

It is our professional view that no high potential land will be lost and that the development proposed will only benefit farming as a land use and as an industry.



DR. ANDRIES GOUWS

1. PERSONAL DATA				
Family name: Johan Andries Gouws Year of birth: 12 April 1955 Nationality: South African				
Contact details: Tel: +27 12 346 5307 (South Africa) E-mail: index@iafrica.com Country of permanent residence: South Africa				
2. EMPLOYMENT RECORD				
Employer's Company Name:	Period of service and length:	Position with the Enterprise:		
Integrated Development Expertise (INDEX)	Since 1993	Managing Director		
Barari Forest Management (seconded)	2008 - 2016	Chief Technology Officer		
Farmer – crops, forestry and stud cattle	2016 - 2020	Co-owner and manager		
Farmer – Hydroponic vegetable and flowers	2004 - 2008	Co-owner and manager		
Part-time sheep farmer at Dullstroom	1986 - 1990	Co-owner and manager		
South African Development Trust (STK)	1984 - 1993	Senior agriculturist, agronomy and planning		
Eastern Transvaal Cooperative	1979 - 1981	Soil scientist		
3. EDUCATION				
Institution	Length of education	Degree/Diploma obtained:		
University of Pretoria, South Africa	1975 - 1979	BSc. Agriculture		
University of Bloemfontein	1986 - 1987	BSc. Honours, Agriculture		
Potchefstroom Collage for Agriculture	1981	Diploma: Stereoscopic aerial photo interpretation of natural resources for farm planning		
University of South Africa	1992	Diploma: Financial management		
University of Trinity	2007	PhD: Integrated agricultural development		
4. LANGUAGE SKILLS				
Languages	Formal Education	Speaking	Reading	Writing
English	Presentation and writing skills	Mother tongue	Excellent	Excellent
Afrikaans	Presentation and writing skills	Mother tongue	Excellent	Excellent
5. PROFESSIONAL EXPERIENCE				
<p>Andries is a soil and land use specialist that provides input in environmental planning, hydro-pedology and impact assessment.</p> <p>His farming activities started in Halfway House in the 70s, where he managed a family farm that produced peaches and apricots for the Pretoria and Johannesburg Fresh Produce Market. Further, while employed with STK he operated a part time wool and mutton farm at Dullstroom in the Eastern Highveld.</p> <p>In 2004 he established a hydroponic farm just east of Pretoria that produced vegetables and flowers. The company employed more than 50 labourers. In 2008 the property was sold and the proceeds used to buy a farm at Belfast (this farm is still operational). The farm consists of a Senapol Stud, forestry and guest houses.</p> <p>He further has extensive experience in surveys with GPS, mapping and spatially-based resource analysis through which informed management decisions can be made. Aerial surveys are done through drones with the aid of photogrammetry and analysis through spectral analysis of digital NIR, red edge and RGB aerial photos.</p> <p>Because of his skills in GIS integration he was appointed by Barari Forest Management in Abu Dhabi to install and implement their GIS and manage the technical aspects of irrigated forests of some 113 000 hectares of forest trees. Under his control was technology development in irrigation systems and infrastructure and to capture that geographically, and then implement a strategy that that management could use in monitoring and evaluation of assets. This system is now fully operational.</p> <p>His skills further extend to implementation and technical auditing where his responsibility is to identify operational problems and recommend remedial actions. His research and development expertise includes modelling of tree performance in relation to soil conditions where they are irrigated with saline water, the effect of well washing on sustainable groundwater yield, irrigation systems evaluation and recommendations on maintenance, the identification of trees resistant to saline soil conditions.</p> <p>Apart from his management responsibilities, he is a specialist in evaluation and implementation of farming enterprises, with special reference to vegetation, soil and climate's capacity to accommodate enterprises such as animal production and crops. This includes, for</p>				

example, assessment of soil, veld conditions (including wetlands), farm layout planning, farm management programmes (maintenance of veld conditions through sound grazing rotation strategies and pasture utilisation) and water quality assessment for agricultural use. He has done more than 250 professional reports on agriculture and the environmental impact that development will have on natural resources.

6. SPECIAL EXPERIENCE FROM DEVELOPING COUNTRIES

Year:	Project name:	Country:	Responsibility:	Name of Client:
2007/15	Compiling period technical reports for the company to the Environmental Agency Abu Dhabi	Abu Dhabi	Writing and coordinate data collection	Barari & EAD
2014/5	Modelling water use by forest trees by with the aid of Psychrometers, sap-flow meters and prevailing climatic data.	Abu Dhabi	Full assignment. In collaboration with Univ. of Free State	Barari
20013/15	Planning of 30 000 hectares in Abu Dhabi Emirate for irrigation with waste water.	Abu Dhabi	All technical components	Barari
1997/8	Klein & Middle Letaba rivers - Water augmentation project: Agriculture & land use	South Africa	Full assignment	Department of Water Affairs and Forestry
2004/5	Compilation of an EMF for the North-eastern part of Ekurhuleni	South Africa, Gauteng	Agriculture	DACE, Local Municipality

6. SPECIALIST STUDIES ON AGRICULTURAL POTENTIAL (selected)

Year:	Project Name:	Name of Client:
2020	Land Capability And Agricultural Impact Soil Assessment: Bronkhorstspuit SEZ Development. The assessment was to determine the impact of rezoning on loss of high potential agricultural land and cultivated areas, loss of grazing land, loss of agricultural infrastructure and then indicate impacts of the project from an agricultural perspective; and suggest suitable mitigation measures to address the identified impacts. The size of the properties investigated is 1 029 hectares.	Nemai Consulting
2020	Land capability and soil assessment for the Elands Mine consolidation area, Northwest province. The size of the properties investigated is 1 834 hectares. The report indicate the impact of the development on agriculture.	JEMS (Pty) LTD
2020	THE GREATER LANSERIA MASTER PLAN: an agricultural study of the greater Lanseria area: it's potential as an agri-hub and as a driver for the growth node. This position paper provides an approach that will be followed in assessing the impact and possible development of the agricultural activities in the Lanseria area while also identifying the potential opportunities that could be pursued.	GAPP, Joburg Metro
2020	Land use planning and subdivision recommendations were made for the farm Vischgat in Gauteng. A development plan was compiled in order to obtain approval for subdivision from the Department of Water Affairs in terms of Section 21 of the Water Act.	Quinhove
2016-2018	An agricultural study for Umkhomazi Water Project Phase 1 Environmental Impact Assessment. The study is done in two parts, uMWP-1 Raw Water and for the uMWP-1 Potable Water. The uMWP-1 Potable Water component is situated in the southern part of KZN, in the uMgungundlovu District Municipality. The western part of the project area falls within the Richmond local Municipality and the eastern part in the Mkhambathini Local Municipality.	Nemai Consulting
2018	Impact of mining development on agriculture in north-eastern Ekurhuleni	Boston Associates
2018	Agricultural potential study of Portion 21 (portion of portion 1) of the farm Koppieskraal 1157-IR	Adv. Johan du Plessis
2016	Promoting Intensive Agriculture in Ekurhuleni	Ekurhuleni Metro
2013	MSOBO COAL – HARWAR; economic study for the farming enterprises that will be affected by the proposed coal mine. Discussion of the natural resources that influences agricultural potential; Farming and the potential for different enterprises; Indicate the potential income from main enterprises and Indicate the financial impact of the development on the farmers.	DEMACON
2014	Agricultural Impact Assessment for a Proposed Pipeline Between Brandkop 1504 And Leeu Kop (105), Located South-East Of Bloemfontein	Nemai Consulting

J A Gouws



I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications and experience

Date: 2021



THE SOUTH AFRICAN COUNCIL
FOR
NATURAL SCIENTIFIC PROFESSIONS

herewith certifies that

Johan Andries Gouws

Registration number: 400140/06

has been registered as a

Professional Natural Scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003

(Act 27 of 2003)

in the following field(s) of practice

(Schedule I of the Act)

Agricultural Science

11 July 2006

Pretoria

President

Chief Executive Officer