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SITE SENSITIVITY VERIFICATION
AND
AGRICULTURAL COMPLIANCE STATEMENT
FOR THE PROPOSED UPGRADE OF THE RAW WATER ABSTRACTION WORKS AND PUMP STATION, ON PORTION 15, 24 AND 25 OF THE FARM KLIPHEUVEL NEAR MOSSEL BAY, WESTERN CAPE

Report by
Johann Lanz & David Lakey

17 September 2025

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EXECUTIVE SUMMARY

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

This assessment disputes the high and very high sensitivity classification of the site by the screening tool and verifies the entire site as being of low to medium agricultural sensitivity because of its assessed cropping potential.

Although the climate, terrain, and soil suitability may allow for viable crop production, other factors constrain the potential of the site to practically deliver agricultural produce and therefore limit its agricultural production potential.

This is primarily because the location and use of the site will serve the purpose of upgrading the existing raw bulk water abstraction works. For this reason, the site is highly unlikely to ever be viably utilised for agricultural production, and its potential is therefore assessed here as very low

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. In this case, the entire development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations that make it unsuitable as viable cropland. The proposed development on this land will result in no loss of future agricultural production potential in terms of national food security.

Due to the facts that the proposed development will not occupy scarce, viable cropland, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved.

1 INTRODUCTION

Environmental authorisation is being sought for the upgrade of the existing raw water abstraction works and pumpstation located on portion 15, 24 and 25 of farm Klipheuvel near Mosselbay, Western Cape (see location in Figure 1). In terms of the National Environmental Management Act (Act No 107 of 1998 - NEMA), an application for environmental authorisation requires an agricultural assessment. In this case, based on the low to medium agricultural sensitivity of the assessed area (see Section 7), the level of agricultural assessment required by the protocol is an Agricultural Compliance Statement.

Figure 1. *Locality map of the development, north of Mosselbay.*

The purpose of an agricultural assessment is to answer the question:

> Will the proposed development cause a significant reduction in future agricultural production potential, and most importantly, will it result in a loss of arable land?

Section 9 of this report unpacks this question, particularly with respect to what constitutes a significant reduction. To answer the above question, it is necessary to determine the existing agricultural production potential of the land that will be impacted, and specifically whether it is viable arable land or not. This is done in Section 8 of this report. Sections 8 and 9 of this report directly address the above question and therefore contain the essence and most important part of the agricultural impact assessment.

2 PROJECT DESCRIPTION

The proposed development project entails the upgrade of the existing Raw Water Abstraction Works and Pump Station. In summary, the following is proposed to be constructed:

- The construction of a new reinforced concrete inlet hopper structure for the pump station;
- The construction of pipe protection ramp structure for the pipes into the existing pump station building.
- The reinstatement of the existing gravel access road from Blesbok Road to the site (180m long and 3.6m wide) by reinstating the existing gravel road, within the same development footprint, which has become almost impassable due to water ingress into the existing layerworks (farmers leaking irrigation channel). The final road is proposed to be 3m wide. 300mm is proposed on each side for the bottom layerworks that have to be wider than the top layerworks to transfer vehicle loads to the soil. The proposed affected area will be 3.6m but the final road will be 3m wide. The existing road is approximately 3m wide as well and we can safely assume that its layerworks would also have been similar to the proposed reinstatement design.
- A new concrete road (in an already disturbed area mostly). The new concrete road proposed is approximately 500m2 and ranges in width from 3m to 7.4m (in order for a 5 ton truck to turn around);
- Construction of an access ramp to the hopper;
- The construction of a new water meter chamber next to the pump station. The development footprint of the water meter chamber is approximately 20m^2;
- Replacing of three air-valves and construction of new chambers around the air-valves;
- Installation of new pipework, pumps and motor control centers;
- Installation of other mechanical items such as cover, trash-racks, etc.
- Upgrading of the electrical supply and breakers within the existing pump station building;
- Installation of a sediment barrier downstream of the crossing to curb sediment generation in the river;
- Final reinstatement of the river bed to the requirements of the CEMP;

3 TERMS OF REFERENCE

The terms of reference for this study are to fulfill the requirements of the *Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources*, gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of NEMA, 1998).

The terms of reference for an Agricultural Compliance Statement, as stipulated in the agricultural protocol, are listed below, and the section number of this report which fulfils each stipulation is given after it in brackets.

1. The Agricultural Compliance Statement must be prepared by a soil scientist or agricultural specialist registered with the South African Council for Natural Scientific Professions (SACNASP) **(Appendix 3)**.
2. The compliance statement must:
    1. be applicable to the preferred site and proposed development footprint **(Figures 2 and 6)**;
    2. confirm that the site is of "low" or "medium" sensitivity for agriculture **(Section 7);** and
    3. indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site **(Section 12)**.
3. The Agricultural Compliance Statement must contain, as a minimum, the following information:
    1. details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vitae **(Appendix 1)**;
    2. a signed statement of independence by the specialist **(Appendix 2)**;
    3. a map showing the proposed development footprint (including supporting infrastructure) with a 50 m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool **(Figure 6)**;
    4. confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimize fragmentation and disturbance of agricultural activities **(Section 11.1)**;
    5. a substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not of the proposed development **(Section 12)**;
    6. any conditions to which this statement is subjected **(Section 12)**;
    7. in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase **(Section 11.2);**
    8. where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr **(Section 10)**; and
    9. a description of the assumptions made and any uncertainties or gaps in knowledge or data **(Section 5)**.

4 METHODOLOGY OF STUDY

The assessment was based on an on-site investigation conducted on 28 February and 2 April 2025. It was also informed by existing climate, soil, and agricultural potential data for the site (see references). The aim of the on-site assessment was to verify current cropping status, agricultural land use, and agricultural conditions across the site. An assessment of soils and long-term agricultural potential is in no way affected by the season in which the assessment is made, and therefore the date on which this assessment was done has no bearing on its results. The level of agricultural assessment is considered entirely adequate for an understanding of on-site agricultural production potential for the purposes of this assessment

5 ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

There are no specific assumptions, uncertainties or gaps in knowledge or data that affect the findings of this study.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

This section identifies all applicable agricultural legislation and permit requirements over and above what is required in terms of NEMA.

The project may require agricultural approval (or at least comment from Department of Agriculture) as part of the required approval in terms of applicable municipal land use legislation.

7 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The purpose of this section is firstly to present the baseline information that controls the agricultural production potential of the site and then, most importantly, to assess that potential. Agricultural production potential, and particularly cropping potential, is one of four factors that determines the significance of an agricultural impact, together with magnitude of impact, size of footprint, and duration of impact. (see Section 9). Cropping potential also directly determines the true agricultural sensitivity of the land and therefore informs the site sensitivity verification.

All the important parameters that control the agricultural production potential of the site are given in Table 1. Soil data are given in Appendix 4. A satellite image map of the site is given in Figure 2 and photographs of site conditions are shown in Figures 3 to 5.

Table 1: Parameters that control and/or describe the agricultural production potential of the site.

	Parameter	Value
Climate	Köppen-Geiger climate description (Beck *et al*, 2018)	Arid, steppe, hot
	Mean Annual Rainfall (mm) (Schulze, 2009)	444
	Reference Crop Evaporation Annual Total (mm) (Schulze, 2009)	779
	Climate capability classification (out of 9) (DAFF, 2017)	5 (moderate)
Terrain	Terrain type	Hilly terrain
	Terrain morphological unit	Varied
	Slope gradients (%)	0 to 18
	Altitude (m)	35
	Terrain capability classification (out of 9) (DAFF, 2017)	3 (low) to 6 (moderate-high)
Soil	Geology (DAFF, 2002)	Mainly alluvial valley deposits. Mainly conglomerate, sandstone, siltstone and mudstone of the Enon Formation, Uitenhage Group.
	Land type (DAFF, 2002)	Ia40, Dc28
	Description of the soils	Very shallow to deep, Light to medium soils with underlying clay
	Dominant soil forms	Oakleaf, Vaalrivier, Dundee, Sterkspruit, Shortlands
	Soil capability classification (out of 9) (DAFF, 2017)	4 (low-moderate) to 6 (moderate-high)
	Soil limitations	Depth
Land use	Agricultural land use in the surrounding area	Planted Pastures, Lucern/Medics
	Agricultural land use on the site	None
General	Long-term grazing capacity (ha/LSU) (DAFF, 2018)	35
	Land capability classification (out of 15) (DAFF, 2017)	4 (low-very low) to 8 (moderate)
	Within Protected Agricultural Area (DALRRD, 2020)	Yes, Grootbrak-George PAA, Type: Rainfed, Rating: C

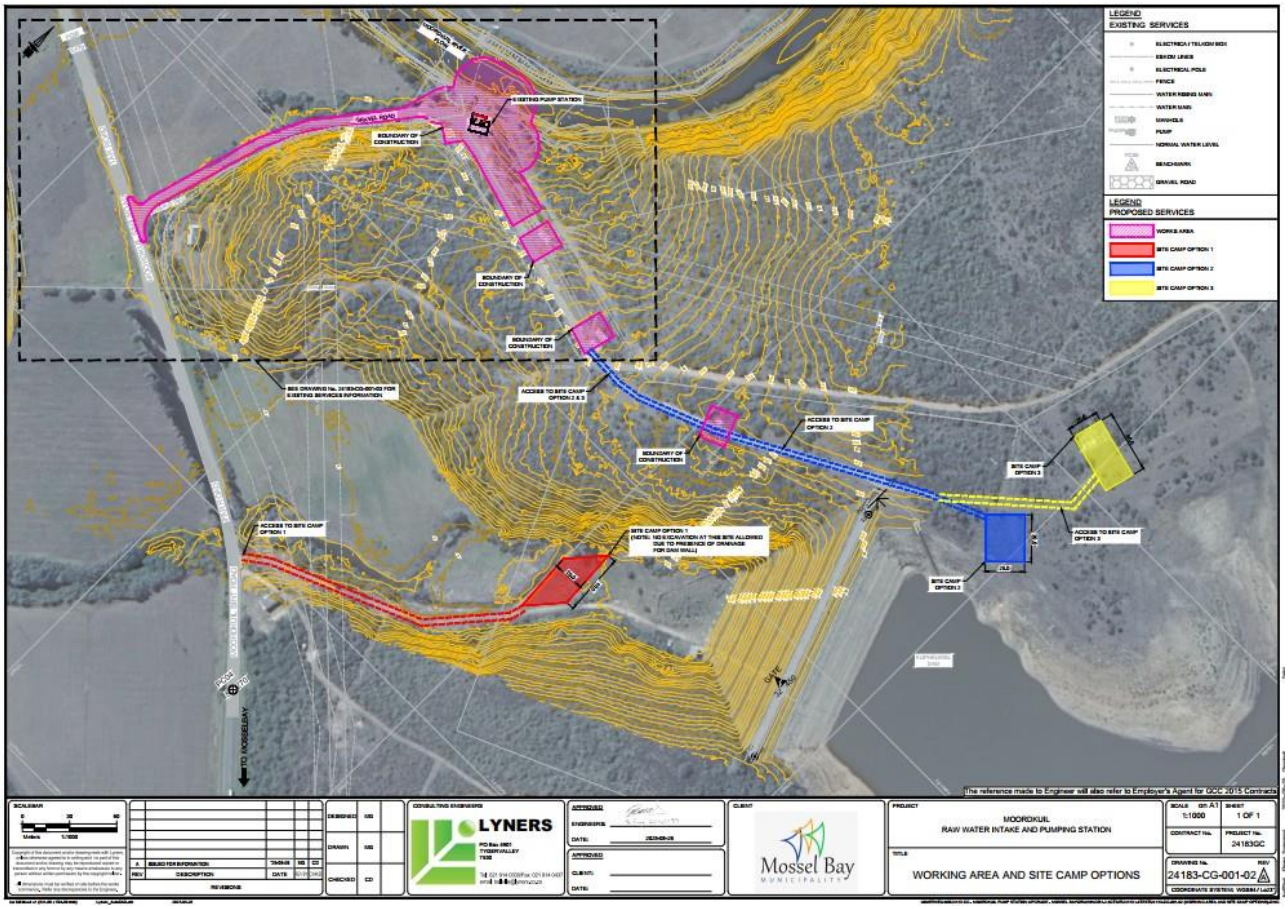

Figure 2. *Site Development Plan of the proposed development.*

Figure 3. *Sewer System Upgrades along Sandhoogte Road*

Figure 4. *Sewer System Upgrades within Residential Neighbourhood*

Figure 5. *New Pumpstation next to the Cricket Field Pumpstation*

7.1 Assessment of the agricultural production potential

This assessment of the agricultural production potential of the site is based on an integration of the different parameters in Table 1 above.

Although the climate, terrain, and soil suitability may allow for viable crop production, other factors constrain the potential of the site to practically deliver agricultural produce and therefore limit its agricultural production potential.

This is primarily because the location and use of the site will serve the purpose of upgrading the existing raw bulk water abstraction works. For this reason, the site is highly unlikely to ever be viably utilised for agricultural production, and its potential is therefore assessed here as very low

8 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to include a verification of the agricultural sensitivity of the development site as per the sensitivity categories used by the web-based environmental

screening tool of the Department of Forestry, Fisheries and the Environment (DFFE). The screening tool's classification of sensitivity is merely an initial indication of what the sensitivity of a piece of land might be, as indicated by the only data that is available. What the screening tool attempts to indicate is whether the land is suitable for crop production (high and very high sensitivity) or unsuitable for crop production (low and medium sensitivity). To do this, the screening tool uses three independent criteria, from three independent data sets, which are all indicators of suitability for crop production but are limited and were not designed for this purpose. The three criteria are:

1. Whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019). All classified cropland is, by definition, either high or very high sensitivity.
2. Its land capability rating as per the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). Land capability is defined as the combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. The direct relationship between land capability rating, agricultural sensitivity, and rain-fed cropping suitability is summarised by this author in Table 2.
3. Whether the land is classified as a protected agricultural area (PAA) or not (DALRRD, 2020). All classified PAAs are, by definition, either high or very high sensitivity.

The limitations for determining cropping suitability based on these data are as follows:

1. The field crop boundary data set used by the screening tool is very outdated
2. Land capability mapping is fairly coarse, modelled data which is not accurate at site scale.
3. PAAs are demarcated broadly, not at a fine scale, and there is therefore much variation of cropping suitability within a PAA. All land within these demarcated areas is not necessarily of sufficient agricultural potential to be suitable for crop production, due to finer scale terrain, soil, and other constraints.

These three inputs operate independently, and the screening tool's agricultural sensitivity is simply determined by whichever of these gives the highest sensitivity rating. The agricultural sensitivity of the site, as classified by the screening tool, is shown in Figure 6.

The true agricultural sensitivity of any land is equivalent to its actual suitability for crop production on the ground, rather than being determined by a parameter that serves as a proxy for crop suitability in a dataset, which is how the screening tool determines sensitivity. The land's suitability for cropping directly determines how important it is to conserve that land as agricultural production land. To determine suitability for crop production, and hence sensitivity, requires a site-specific assessment, as has been conducted in this assessment, rather than a reliance on data sets that have significant limitations.

Despite the detail in this section above, the determinants of agricultural sensitivity are actually very straightforward and may be summed up as follows. If land is suitable for viable crop production - that is if it has the capability to deliver an above break-even crop yield on a sustainable basis - then it is of high or very high agricultural sensitivity. If it has limitations that prevent it from being able to deliver an above break-even crop yield on a sustainable basis, then it is of medium or low agricultural sensitivity.

Table 2: Relationship between land capability, agricultural sensitivity, and rain-fed cropping suitability.

Land capability value	Agricultural sensitivity	Rain-fed cropping suitability	
		Summer rainfall areas	Winter rainfall areas
1 - 5	Low	Unsuitable	Unsuitable
6	Medium		
7			Suitable
8	High	Suitable	
9 - 10			
11 - 15	Very High		

Figure 6. *The assessed area overlaid on agricultural sensitivity, as given by the screening tool.*

Figure 7. *Agricultural sensitivity of the assessed areas, as verified by this assessment.*

The screening tool classifies the assessed site as ranging from low to very agricultural sensitivity and therefore classifies the overall site sensitivity, which is the highest sensitivity encountered across the site, as very high. The very high sensitivity classification by the screening tool is due to the PAA status of part of the site. The high sensitivity classification by the screening tool that underlies the PAA layer is due some land being classified as high sensitivity because of a classified land capability rating of 8 as per Table 2 above. However, as shown in the previous section, the site is not suitable for viable crop production and its true sensitivity, as assessed on the ground, is therefore low to medium. This assessment therefore disputes the high and very high sensitivity classification of the site by the screening tool and verifies the entire site as being of low to medium agricultural sensitivity because of its assessed cropping potential.

9 ASSESSMENT OF THE AGRICULTURAL IMPACT

9.1 Impact identification and assessment

It should be noted that an Agricultural Compliance Statement is not required to formally rate agricultural impacts by way of impact assessment tables.

It should be noted that an Agricultural Compliance Statement is not required to formally rate agricultural impacts by way of impact assessment tables.

An agricultural impact is a change to the future agricultural production potential of land. In this

development, the potential for any change is primarily caused by the exclusion of agriculture from the footprint of the development. Soil erosion and degradation may also contribute to loss of agricultural production potential. However, these can be effectively prevented by generic mitigation measures that are all inherent in the project engineering of such a development and are standard, best-practice for construction sites. Soil degradation does not therefore pose a significant impact risk. The significance of any exclusion of agriculture from land is a direct function of the following three factors:

1. the size of the footprint of land from which agriculture will be excluded
2. the baseline production potential (particularly cropping potential) of that land
3. the length of time for which agriculture will be excluded

The most significant loss of potential, for any development anywhere in the country, is on high yielding cropland, and the least significant possible, is on low carrying capacity grazing land. Cropping potential is highlighted in factor 2, above, because the threshold, above which it is a priority to conserve land for agricultural production, is determined by the scarcity of arable crop production land in South Africa (approximately only 13% of the country's surface area) and the relative abundance of the rest of agricultural land across the country that is only good enough to be used for grazing. If land can support viable and sustainable crop production, then it is considered to be above the threshold and is a priority for being conserved as agricultural production land. If land is unable to support viable and sustainable crop production, then it is considered to be below the threshold and of much lower priority for being conserved.

In this case, the entire development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations that make it unsuitable as viable cropland. The proposed development on this land will result in no loss of future agricultural production potential in terms of national food security.

Due to the facts that the proposed development will not occupy scarce, viable cropland, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

9.2 Cumulative impact assessment

Specialist assessments for environmental authorisation are required to include an assessment of cumulative impacts. The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present, or reasonably foreseeable future activities that will affect the same environment. The potential cumulative agricultural impact of importance is a regional loss of future agricultural production potential.

Agricultural land throughout South Africa is under inevitable pressure from various non-agricultural land uses, including urban expansion. The cumulative impact of agricultural land loss is significant. However, the agricultural priority should be to conserve future agricultural production, not simply agriculturally zoned land. As has been shown above, the site has limited current agricultural production and limited capacity for future agricultural production. Therefore, it is a site which can be used for non-agricultural purposes without a high loss of agricultural production potential. The cumulative agricultural impact of the proposed development is therefore assessed as being of low significance and therefore as acceptable. The development will not have an unacceptable negative impact on the agricultural production capability of the area, and it is therefore recommended, from a cumulative agricultural impact perspective, that the development be approved.

9.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to include a comparative assessment of alternatives, including the no-go alternative. Because of the insignificant agricultural impact of the development, there can be no material difference between the agricultural impacts of the proposed alternatives. All have insignificant agricultural impact and are considered equally acceptable in terms of agricultural impact.

The no-go alternative considers impacts that will occur to the agricultural environment in the absence of the proposed development. There are no agricultural impacts of the no-go alternative, but this is not significantly different from the very low impact of the development, and so from an agricultural impact perspective, there is no preferred alternative between the no-go and the development.

10 MITIGATION

The most important and effective mitigation of agricultural impacts for any development is avoidance of viable croplands. This development has already applied this mitigation by selecting a site on which there are not viable croplands. No mitigation measures are required for the protection of agricultural production potential on the site because the development poses negligible degradation risk to agricultural resources.

11 ADDITIONAL ASPECTS REQUIRED IN AN AGRICULTURAL ASSESSMENT

11.1 Micro-siting

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. Because the site is not used for agriculture, micro-siting will make no material difference to agricultural

impacts and disturbance.

11.2 Confirmation of linear activity exclusion

If linear infrastructure has been given exclusion from complying with certain requirements of the agricultural protocol because of its linear nature, the protocol requires confirmation that the land impacted by that linear infrastructure can be returned to the current state within two years of completion of the construction phase. No such exclusion applies to this project.

12 CONCLUSION: AGRICULTURAL COMPLIANCE STATEMENT

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

This assessment disputes the high and very high sensitivity classification of the site by the screening tool and verifies the entire site as being of low to medium agricultural sensitivity because of its assessed cropping potential.

Although the climate, terrain, and soil suitability may allow for viable crop production, other factors constrain the potential of the site to practically deliver agricultural produce and therefore limit its agricultural production potential.

This is primarily because the location and use of the site will serve the purpose of upgrading the existing raw bulk water abstraction works. For this reason, the site is highly unlikely to ever be viably utilised for agricultural production, and its potential is therefore assessed here as very low

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. In this case, the entire development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations that make it unsuitable as viable cropland. The proposed development on this land will result in no loss of future agricultural production potential in terms of national food security.

Due to the facts that the proposed development will not occupy scarce, viable cropland, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved. The conclusion of this assessment on the acceptability of the proposed development and

the recommendation for its approval is not subject to any conditions.

13 REFERENCES

Beck, H.E., N.E. Zimmermann, T.R. McVicar, N. Vergopolan, A. Berg, E.F. Wood. 2018. Present and future Köppen-Geiger climate classification maps at 1-km resolution, Nature Scientific Data. Available at: https://gis.elsenburg.com/apps/cfm/.

Crop Estimates Consortium, 2019. *Field Crop Boundary data layer, 2019*. Pretoria. Department of Agriculture, Forestry and Fisheries.

Department of Agriculture Forestry and Fisheries (DAFF). 2018. Long-term grazing capacity map for South Africa developed in line with the provisions of Regulation 10 of the Conservation of Agricultural Resources Act, Act no 43 of 1983 (CARA), available on Cape Farm Mapper. Available at: https://gis.elsenburg.com/apps/cfm/

Department of Agriculture, Forestry and Fisheries (DAFF). 2017. National land capability evaluation raster data layer, 2017. Pretoria.

Department of Agriculture, Forestry and Fisheries (DAFF). 2002. National land type inventories data set. Pretoria.

Department of Agriculture, Land Reform and Rural Development (DALRRD). 2020. Protected agricultural areas – Spatial data layer. 2020. Pretoria.

Schulze, R.E. 2009. South African Atlas of Agrohydrology and Climatology, available on Cape Farm Mapper. Available at: https://gis.elsenburg.com/apps/cfm/

Soil Classification Working Group. 2018. Soil Classification: A Natural and Anthropogenic System for South Africa. ARC-Institute for Soil, Climate and Water, Pretoria.

APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz
Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting **Self employed** **2002 - present**

Within the past 5 years of running my soil and agricultural consulting business, I have completed more than 170 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; Arcus; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives.
In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant **Agricultural Consultors International (Tinie du Preez)** **1998 - 2001**

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist **De Beers Namaqualand Mines** **July 1997 - Jan 1998**

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine.*

I am a reviewing scientist for the *South African Journal of Plant and Soil*.

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APPENDIX 2: SPECIALIST DECLARATION FORM AUGUST 2023

Specialist Declaration form for assessments undertaken for application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

REPORT TITLE: THE PROPOSED UPGRADE OF THE RAW WATER ABSTRACTION WORKS AND PUMP STATION, ON PORTION 15, 24 AND 25 OF THE FARM KLIPHEUVEL NEAR MOSSEL BAY, WESTERN CAPE

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.dffe.gov.za/documents/forms.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020)'*, where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Agricultural Assessment
Specialist Company Name	SoilZA – sole proprietor
Specialist Name	Johann Lanz
Specialist Identity Number	6607045174089
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa
Physical address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz** declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing –
  - any decision to be taken with respect to the application by the competent authority; and;
  - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the NEMA Act.

Signature of the Specialist

SoilZA (sole proprietor)

Name of Company:

8 September 2025

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

SoilZA – sole proprietor

Name of Company

8/9/2025

Date

Signature of the Commissioner of Oaths

Date 08/09/2025

I certify that the DEPONENT has acknowledged that he/she knows and understands the content of this affidavit; that he/she does not have any objection to taking the oath, and that he/she considers it to be binding on his/ her conscience, and which was sworn to and signed before me at CONSTANTIA on this 08 day of SEPT 2025 and that the administering oath complied with the regulations contained in Government Gazette No R1258 of 21 July 1972, as amended.

COLIN POULTNEY
COMMISSIONER OF OATHS
BY APPOINTMENT – REPUBLIC OF SA
POSTNET CONSTANTIA, SHOP 6, OLD VILLAGE S/C,
MAIN ROAD, CONSTANTIA, 7806
TEL: 021 794 0447

APPENDIX 3: SACNASP REGISTRATION CERTIFICATE

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Johan Lanz

Registration Number: 400268/12

is a registered 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 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012** Expires **31 March 2026**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

APPENDIX 4: Soil data

Table 3: Land type soil data

Land type	Soil series (forms)	Depth (mm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Ia40	Oa	> 1200	8 - 15	15 - 30		27.5
Ia40	Va	200 - 350	8 - 15	35 - 65	vp	15.5
Ia40	Du	> 1200	3 - 6			13.8
Ia40	Oa	> 1200	3 - 8	6 - 12		12.0
Ia40	We	300 - 500	8 - 12	15 - 30	sp	9.5
Ia40	Kd	500 - 800	6 - 10	30 - 50	gc	9.3
Ia40	S					6.0
Ia40	Sw	150 - 250	8 - 15	35 - 55	vr	3.8
Ia40	Hu	600 > 1200	6 - 10	15 - 35	R	2.8
Dc28	T					20.0
Dc28	Va	200 - 300	15 - 25	40 - 65	vp	14.3
Dc28	Ss	300 - 400	4 - 12	35 - 60	pr	13.0
Dc28	Va	200 - 350	15 - 20	35 - 55	vr	12.8
Dc28	Sd	400 - 700	15 - 25	30 - 50	R	11.5
Dc28	Hu	> 1200	8 - 15	10 - 30		9.5
Dc28	Va	200 - 350	15 - 20	35 - 55	vp	8.5
Dc28	Es	400 - 500	4 - 12	35 - 60	pr	5.8
Dc28	Oa	> 1200	3 - 6	3 - 12		2.3
Dc28	Du	> 1200	6 - 10			1.5
Dc28	We	400 - 500	8 - 15	15 - 35	sp	1.0