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**AGRICULTURAL COMPLIANCE STATEMENT FOR
THE PROPOSED GEORGE AIRPORT PIPELINE,
NEAR GEORGE, WESTERN CAPE PROVINCE**

**Report by
Johann Lanz**

6 November 2024

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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 confirms the very high sensitivity rating of the site by the screening tool because of the site's cropping potential and current agricultural land use, which includes irrigated croplands. The climate, terrain and soils are suitable for, and much of the area is utilised for, the production of lucern, planted pastures, oats and macadamia nuts.

An agricultural impact is a change to the future agricultural production potential of land. In this case, the impact duration is confined to the construction period only. The pipeline is buried underground which means that agriculture can continue unaffected above it, once construction is completed. Therefore, no land, is permanently lost to agriculture. Furthermore, the pipeline route is along the existing R102, on the edge of existing croplands, with very minimal impingement on agricultural production land.

The proposed development will cause negligible loss of agricultural production potential, and the agricultural impact is therefore assessed as being of very low significance. 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 other than that the recommended mitigation is implemented.

1 INTRODUCTION

Environmental authorisation is being sought for the proposed George Airport Pipeline along the R102 near George, Western Cape Province (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, because the project is for linear infrastructure with minimal agricultural impact, the level of agricultural assessment required by the agricultural protocol is an Agricultural Compliance Statement.



Figure 1. Locality map of the pipeline route (blue line), west of George.

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

Will the proposed development cause a significant reduction in 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 majority of the pipeline will be constructed below ground, and the pipeline route will be parallel to Trunk Road TR 002/9 (R102) and on the edge of existing croplands. Where the pipe crosses bridges, the pipe will be mounted above ground on the bridge. The pipe will cross the R102 at several locations, and the crossing will be installed using trenchless methods (Horizontal Directional Drilling).

3 TERMS OF REFERENCE

The terms of reference for a specialist agricultural assessment 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 (**Figure 2**);
 2. confirm that the site is of “low” or “medium” sensitivity for agriculture (**not applicable to linear infrastructure**); 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 2**);

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 a verification of current agricultural land use on the site predominantly using satellite imagery. The assessment was done within a context of understanding the general agricultural conditions of the area and understanding the issues that control agricultural impact. 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

The project will 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 where it crosses land that is zoned for agriculture.

7 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). Agricultural

sensitivity is an indication of the capability of the land for agricultural production, based only on its climate, terrain, and soil capabilities and its agricultural land use. The different categories of agricultural sensitivity indicate the priority by which land should be conserved as agricultural production land. However, the screening tool's agricultural sensitivity is often of very limited value for assessing agricultural impact. What is of importance to an agricultural assessment, rather than the site sensitivity verification, is its assessment of the cropping potential and its assessment of the impact significance, both of which are not necessarily correlated with sensitivity.

The screening tool classifies agricultural sensitivity according to two independent criteria, from two independent data sets, both of which may be indicators of the land's agricultural production potential but are limited in that the first is outdated and the second is fairly coarse, modelled data. The two criteria are:

1. whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019), and
2. its land capability rating on the land capability data set (DAFF, 2017)

All classified cropland is, by definition, either high or very high sensitivity. Land capability is defined as the combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. It is rated by the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). The higher land capability values (≥ 8 to 15) are likely to indicate suitability as arable land for crop production, while lower values (< 8) are likely to only be suitable as non-arable grazing land, although application to the winter rainfall areas differs. The direct relationship between land capability rating, agricultural sensitivity, and rain-fed cropping suitability is shown in Table 1, including differences between the summer and winter rainfall areas.

Table 1: 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			
8	High	Suitable	Suitable
9 - 10			
11 - 15	Very High		

Note: There is an error in the screening tool whereby a land capability of 8 is classified as medium sensitivity, but according to NEMA's agricultural protocol, should in fact be classified as high sensitivity. This assessment follows the agricultural protocol definition and classifies a value of 8 as high sensitivity.

The agricultural sensitivity of the site, as classified by the screening tool, is shown in Figure 2. The screening tool sensitivity requires specialist verification because of the limitations of the data sets on which it is based.

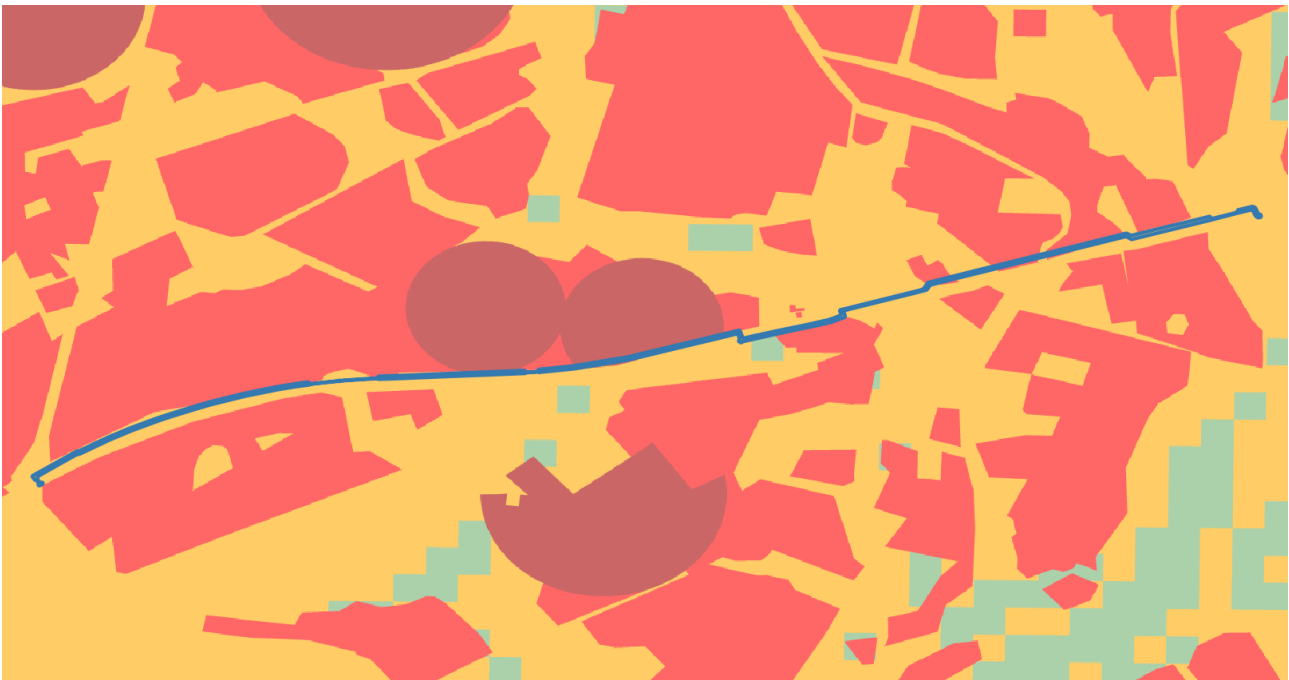


Figure 2. The pipeline route overlaid on agricultural sensitivity, as classified by the screening tool (green = low; yellow = medium; red = high; dark red = very high). The screening tool's sensitivity is confirmed by this assessment.

This verification of sensitivity addresses both components that determine it, namely cropping status (that is whether the land is currently or has recently been used for crop production) and land capability. The screening tool classifies the assessed area as ranging from low to very high agricultural sensitivity. The high sensitivity classification is due to a combination of some land being classified as cropland and some being classified as high sensitivity because of its land capability rating. Although crop boundaries have changed since the data set that informs the screening tool, the pipeline route still intersects the edges of croplands, including irrigated crops. This assessment therefore confirms the very high sensitivity rating by the screening tool that is based on the cropping status component of sensitivity.

The classified land capability of the site ranges from 5 to 8. The high sensitivity classification resulting from the land capability component of sensitivity is due to some land being classified with a land capability of 8. Note that a value of 8 is defined as high agricultural sensitivity in NEMA's agricultural protocol but does not show as high on the screening tool's output due to an error in the tool. In this assessment all areas of value 8 are treated as being classified by the screening tool as high sensitivity. This assessment verifies the classified land capability, based on the assessment that there is cropping potential on the site, and therefore verifies it as being of high agricultural sensitivity in terms of the

land capability component of sensitivity.

In conclusion, this assessment confirms the very high sensitivity rating of the site by the screening tool because of the site's cropping potential and current agricultural land use, which includes irrigated croplands.

8 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

Usually, the purpose of this section of an agricultural assessment report is to present the baseline information that controls the agricultural production potential of the site so that an assessment of that potential can be made. Agricultural production potential, and particularly cropping potential, is one of three factors that determines the significance of an agricultural impact, together with size of footprint and duration of impact (see Section 9). However, in this case, footprint size and impact duration determine the significance of the impact as very low, regardless of what the agricultural production potential is, and it is therefore only necessary to present a very general assessment of it. The climate, terrain and soils are suitable for, and much of the area is utilised for, the production of lucern, planted pastures, oats and macadamia nuts. The suitability of the area is indisputable and does not therefore need detailed assessment.



Figure 3. Satellite image map of the development.

9 ASSESSMENT OF THE AGRICULTURAL IMPACT

9.1 Impact identification and assessment

There is only ever a single agricultural impact of any development, and that is a net change to the future agricultural production potential of land. The significance of an agricultural impact is a direct function of the following three factors:

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

In the case of a buried pipeline, factor 3 and factor 1 are both so small that the total extent of the loss of future agricultural production potential is insignificantly small, regardless of how much

production potential the land has. The impact duration is confined to the construction period only. The pipeline is buried underground which means that agriculture can continue unaffected above it, once construction is completed. Therefore, no land, is permanently lost to agriculture. The footprint of land that will be excluded from agricultural production, even during construction, is extremely limited because the pipeline route is along the existing R102, on the edge of existing croplands, with very minimal impingement on agricultural production land.

The potential impacts associated with soil erosion and degradation can be completely prevented with standard, generic mitigation measures that are all inherent in the project engineering and/or are standard, best-practice for construction sites, and are included in the EMPr. Such impacts are therefore not significant.

The main concern of agricultural impact is to protect against a threat to national food security due to the loss of agricultural production potential, mainly through loss of arable land. The proposed development will cause no long-term loss of agricultural production potential, and the agricultural impact is therefore assessed as being of very low significance. There will be some minor disturbances to agricultural activities during construction.

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.

Due to its negligible agricultural impact, the assessed development will not contribute to the cumulative impact. The cumulative agricultural impact of the proposed development is therefore assessed here 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 proposed pipeline, there can be no material difference between the agricultural impacts of the non-preferred and the preferred alternatives along the proposed route.

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 impacts of the development and there is therefore no preferred alternative between the development and the no-go, if assessed purely from an agricultural impact perspective.

10 MITIGATION MEASURES

Where construction related disturbances have any potential to lead to channelling of runoff water with consequent erosion, the water runoff must be safely controlled by way of bunds and ditches to be safely disseminated downstream.

The following steps must be implemented for mitigation of impact on soil capability along the excavated trench for the pipeline:

1. When excavating for the pipeline, the upper 30cm of topsoil must be excavated first and stockpiled.
2. The subsoil must then be excavated and stockpiled **separately** from the topsoil stockpile.
3. When the trench is refilled after the pipeline is installed, the subsoil must first be backfilled into the trench.
4. Thereafter, the stockpiled topsoil must be evenly spread at the surface on top of the subsoil.
5. The soil should be backfilled to be raised approximately 5 cm above the surface because it will settle over time and potentially create a water flow path with consequent erosion if it settles to form a depression.

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. As noted above, the choice of pipeline route has been located mostly along existing roads, or on the edges of cropland, to minimise agricultural impact.

11.2 Confirmation of linear activity impact

The agricultural protocol requires confirmation, in the case of a linear activity, that the land can be returned to the current state within two years of completion of the construction phase. It is hereby confirmed that the land along the buried pipeline can be returned to the current state of agricultural production potential within two years of construction.

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 confirms the very high sensitivity rating of the site by the screening tool because of the site's cropping potential and current agricultural land use, which includes irrigated croplands. The climate, terrain and soils are suitable for, and much of the area is utilised for, the production of lucern, planted pastures, oats and macadamia nuts.

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The proposed development will cause negligible loss of agricultural production potential, and the agricultural impact is therefore assessed as being of very low significance. 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 other than that the recommended mitigation is implemented.

13 REFERENCES

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

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



forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

APPENDIX 2: DECLARATION OF THE SPECIALIST

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 GEORGE AIRPORT PIPELINE, NEAR GEORGE, WESTERN CAPE PROVINCE

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.

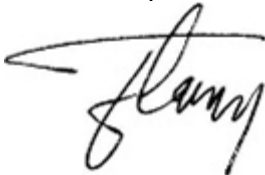
1. SPECIALIST INFORMATION

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

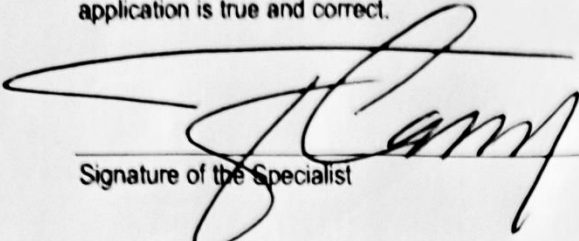
Name of Company: SoilZA (sole proprietor)

Date: **18 September 2024**

SPECIALIST DECLARATION FORM – AUGUST 2023

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.



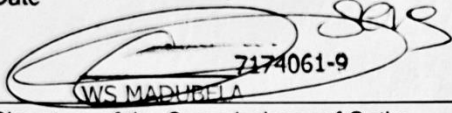
Signature of the Specialist

SoilZA – sole proprietor

Name of Company

18 September

Date



7174061-9
SWS MADIBELA

Signature of the Commissioner of Oaths

2024-09-18

Date



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 2025**



Chairperson

Chief Executive Officer

