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**SITE SENSITIVITY VERIFICATION
AND
AGRICULTURAL COMPLIANCE STATEMENT
FOR PROPOSED HARDENED WATER RESERVOIR AND ASSOCIATED INFRASTRUCTURE
AT THE KOEBERG NUCLEAR POWER STATION
CITY OF CAPE TOWN**

**Report by
Johann Lanz**

4 December 2023

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1 INTRODUCTION

Environmental authorisation is being sought for a proposed hardened water reservoir and associated infrastructure within the Koeberg Nuclear Power Station, City of Cape Town. In terms of the National Environmental Management Act (Act No 107 of 1998 - NEMA), an application for environmental authorisation requires an agricultural assessment. However, in this case, the site is on non-agricultural land, which cannot practically have any agricultural production potential, and a detailed agricultural assessment therefore has no value and is consequently not required.

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?

This assessed development will cause zero reduction in agricultural production potential. Logically, an agricultural assessment should not be required on non-agricultural land, such as the assessed site, but the screening tool identifies that an agricultural assessment is required. It only does so however, because it fails to distinguish agricultural land from non-agricultural land. It classifies agricultural sensitivity purely in terms of the general climate and the undisturbed terrain and soil conditions of the area in which the site is located. It can therefore mistakenly attribute high agricultural sensitivity to land that has zero potential for agricultural production, for example the land buried under buildings in a city.

2 PROJECT DESCRIPTION

The proposed infrastructure comprises a reservoir, tanks, and a supply and discharge pipeline.

3 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.

4 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to verify the agricultural sensitivity of the development site as per the sensitivity categories used by the DFFE's web-based environmental screening tool. Agricultural sensitivity is a direct function of the capability of the land for agricultural production, based only on its climate, terrain and soil capabilities. The agricultural sensitivity of the site, as given by the screening tool, is shown in Figure 2. However, the agricultural sensitivity and its verification is entirely irrelevant in this case because the site's capability to practically deliver an

agricultural product is not determined by its climate, terrain and soil capabilities. The site is in an area that is not and would never be utilised for agricultural production and it therefore has zero agricultural production potential, regardless of what its climate, terrain, and soil capabilities might be.



Figure 2. The infrastructural footprint 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 however irrelevant to agricultural impact.

5 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

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. In this case the site has zero agricultural production potential because of its location within a nuclear power plant and its zoning as risk industry.



Figure 3. Satellite image map of the infrastructural footprint (light blue lines) of the development.

6 ASSESSMENT OF THE AGRICULTURAL IMPACT

6.1 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.

An agricultural impact is a change to the future agricultural production potential of land. Because the site has zero potential for agricultural production, the development cannot cause a change in production potential. Therefore, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed as being of zero significance and therefore as acceptable.

6.2 Cumulative impact assessment

Specialist assessments for environmental authorisation are required to assess 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. Due to its lack of agricultural impact, the assessed development will not contribute anything to the cumulative impact.

6.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to assess the impacts of alternatives including the no-go alternative. 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, and there are no agricultural 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.

7 MITIGATION MEASURES

No mitigation measures are required for the protection of agricultural production potential on the site because the site will never be utilised as agricultural production land.

8 CONCLUSION: AGRICULTURAL COMPLIANCE STATEMENT

The agricultural impact of the proposed development is assessed as being acceptable because it results in zero loss of future agricultural production potential. From an agricultural impact point of view, it is recommended that the 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.

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*.

APPENDIX 2: DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, **Johann Lanz**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed/to be performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
 - ~~◦ am not independent, but another specialist that meets the general requirements set out in Regulation 13 have been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~
- in terms of the remainder of the general requirements for a specialist, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- have disclosed/will disclose, to the applicant, the Department and interested and affected parties, all material information that have or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of regulation 48 of the 2014 NEMA EIA Regulations.

Signature of the specialist:



Date: **4 December 2023**

Name of company: **Johann Lanz – soil scientist (sole proprietor)**



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 2024**



A handwritten signature in black ink, appearing to read 'A. N. ...'.

Chairperson

A handwritten signature in black ink, appearing to read 'N. ...'.

Chief Executive Officer

