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Environmental Confirming Statement - Agriculture for the proposed development of the Leeudoringstad 132kV powerline near Leeudoringstad in the North West Province

This assessment is done in terms of the *Standard for the Development and Expansion of Power Lines and Substations within Identified Geographical Areas*. The requirements of a Confirming Statement for agriculture are stipulated in Appendix B of the Standard. Each requirement for agriculture (B.5) is given below in italics and addressed directly below it.

The confirming statement must be prepared by a soil scientist or agricultural specialist registered with the SACNASP,

See SACNASP registration certificate in appendix below.

and must contain, as a minimum, the following information:
36. The duration, date and season of the site verification inspection and walk through as well as the relevance of the season to the outcome of the confirming statement;

A site verification inspection and walk through was considered to be unnecessary for this assessment because the proposed development has insignificant agricultural impact, regardless of the agricultural sensitivity of the corridor. Furthermore, the only agricultural information that has any relevance for agricultural impact – whether land is cropland or not - can be done more effectively from satellite imagery than from a site inspection. A site inspection is not therefore justified. These reasons are elaborated below.

The proposed overhead power line has negligible agricultural impact, regardless of its route and the agricultural potential and sensitivity of the land it traverses. All agricultural activities can continue completely unhindered underneath the power line. This is because its direct, permanent, physical footprint that has any potential to interfere with agriculture (pylon bases and servitude track, where it is needed), is insignificantly small. In croplands, the pylons can easily be located outside of or on the edges of cropland where they do not interfere with crop production. Servitude tracks are not required in cropland. There will therefore be no reduction in future agricultural production potential underneath the power lines and therefore no agricultural impact because agricultural impact is a change to the future agricultural production potential of land.

The only potential source of impact of the power line is minimal disturbance to the land (erosion

and topsoil loss) during construction (and decommissioning). This impact can, however, be completely mitigated with standard, generic mitigation measures that are included in the Generic EMPr.

The power line will have negligible agricultural impact, including on croplands, which are by definition, classified as high agricultural sensitivity. It is therefore not necessary for the power line to avoid any areas of high agricultural sensitivity. It is therefore not critical to verify agricultural sensitivity because the agricultural sensitivity will have no influence on the significance of the agricultural impact.

The only thing that is of relevance is that croplands are identified and mapped so that the pylons can be located at the edges of or outside of croplands, where they do not interfere with crop production. Even if certain pylon placements cannot avoid croplands, the agricultural impact of a pylon base is very small because only a very small area of land is impacted. The confirmation of whether land is cropland or not can be done more effectively from satellite imagery than from a site inspection and a site inspection is therefore not justified. Cropland that is within the corridor, verified through satellite imagery, is shown in Figures 2 and 3.

37. Confirmation that the affected environment within the preliminary corridor, as it pertains to agricultural resources is low to medium, based on desktop information, site verification and walk through information;

Although, as has been discussed in the point above, the agricultural sensitivity of the corridor will have no influence on the significance of the agricultural impact, the sensitivity is still identified and addressed here.

The preliminary corridor overlaid on agricultural sensitivity, as given by the screening tool, is shown in Figure 1. The corridor is predominantly on land of medium agricultural sensitivity, but it does include patches of high agricultural sensitivity. The classification of these patches as high agricultural sensitivity (red in Figure 1) is because these are classified as cropland in the data set used by the screening tool. However that data set is outdated. All of the areas identified by the screening tool as cropland are no longer cropped and have not been cropped for at least eight years, according to the historical imagery available on Google Earth. They should not therefore still be classified as viable cropland and allocated high sensitivity because of it.

The fact that previously cropped lands are no longer viable for cropping is because the suitability for cropping changes with a changing agricultural economy. Poorer soils or marginal climates that may have been cropped with economic viability in the past, are abandoned as cropland because they become too marginal for viable crop production in a more challenging agricultural economy with higher input costs. Climate change and changes in rainfall patterns have also lead to poorer soils becoming more marginal.

There is one area of land that has been used as cropland more recently and should therefore be

classified as high agricultural sensitivity. This area of land is shown in Figures 2 and 3.

This assessment confirms that the corridor is almost entirely of medium agricultural sensitivity, except for the area of cropland shown in Figures 2 and 3.

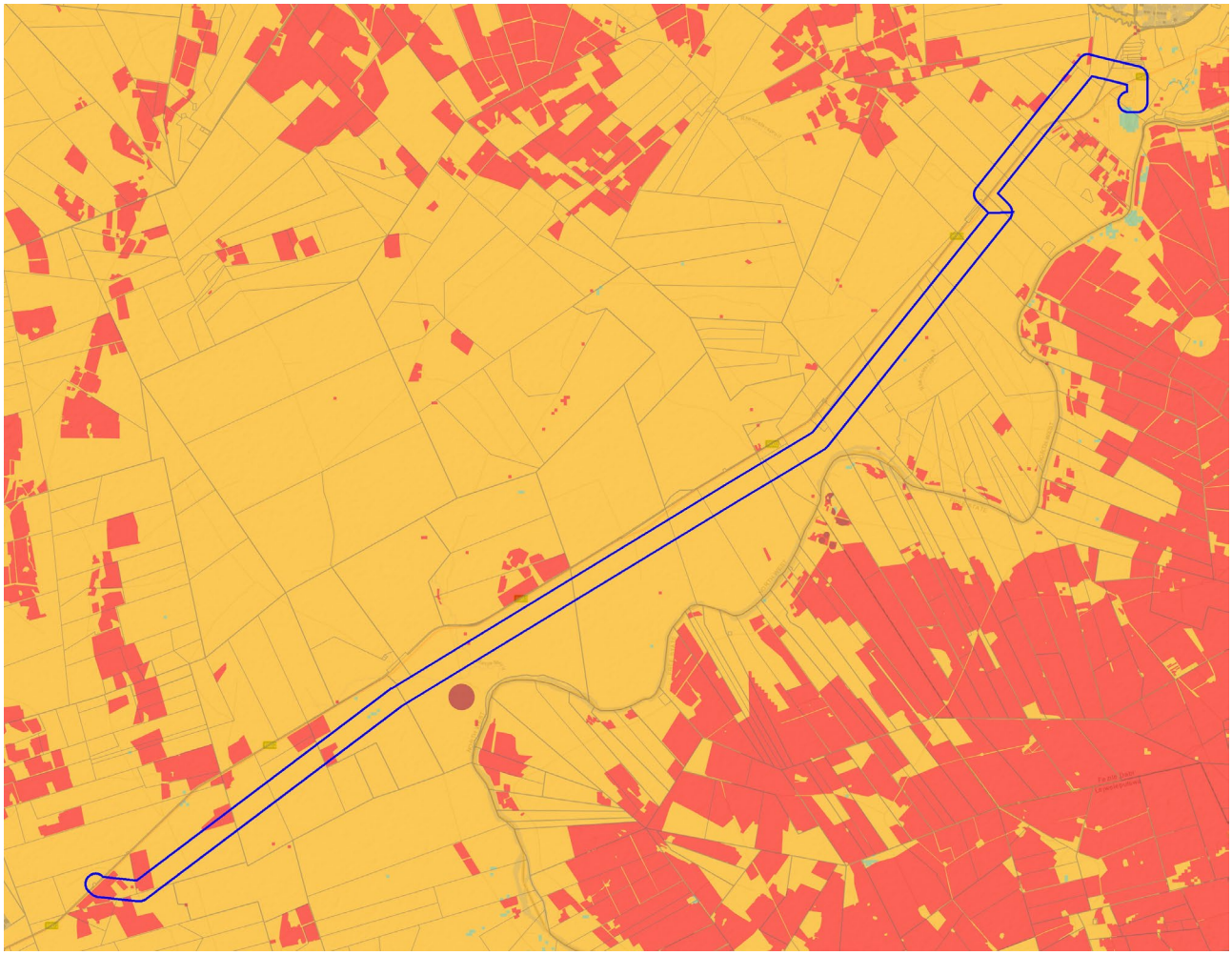

Figure 1. *The proposed corridor overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium; red = high; dark red = very high)*

38. Identification of agricultural resource areas to be avoided within the preliminary corridor, including buffers;

In terms of agricultural impact, there are no areas within the corridor that need to be avoided by the power line route and by the substations at each end of it. However, pylon placements should avoid all cropland, where possible. Pylons should be located outside of or on the edges of cropland where they do not interfere with crop production. Where avoidance of croplands is not possible, the Standard states that:

1. Any cropland disturbed by construction (excluding the land occupied by the pylon base itself), must be returned to the pre-disturbance land capability within two years of the construction.

2. Pylon placements must minimize fragmentation of and disturbance to agricultural activities.
3. Self-supporting lattice or monopole structures are to be used in crop fields.

39. An agricultural resources sensitivity map generated by the screening tool and enhanced by any relevant additional information, overlaid with the (i.e. pylon placement and power line route, as well as supporting infrastructure);

The only agricultural resource sensitivity that differs from the background, medium sensitivity, as shown for almost all of the corridor in Figure 1, is the more recently established cropland. This is shown in Figures 2 and 3.

Figure 2. *Satellite image map of the corridor showing the only area of cropland (green outlines) that occurs within it, approximately a third of the way down from the northern end.*

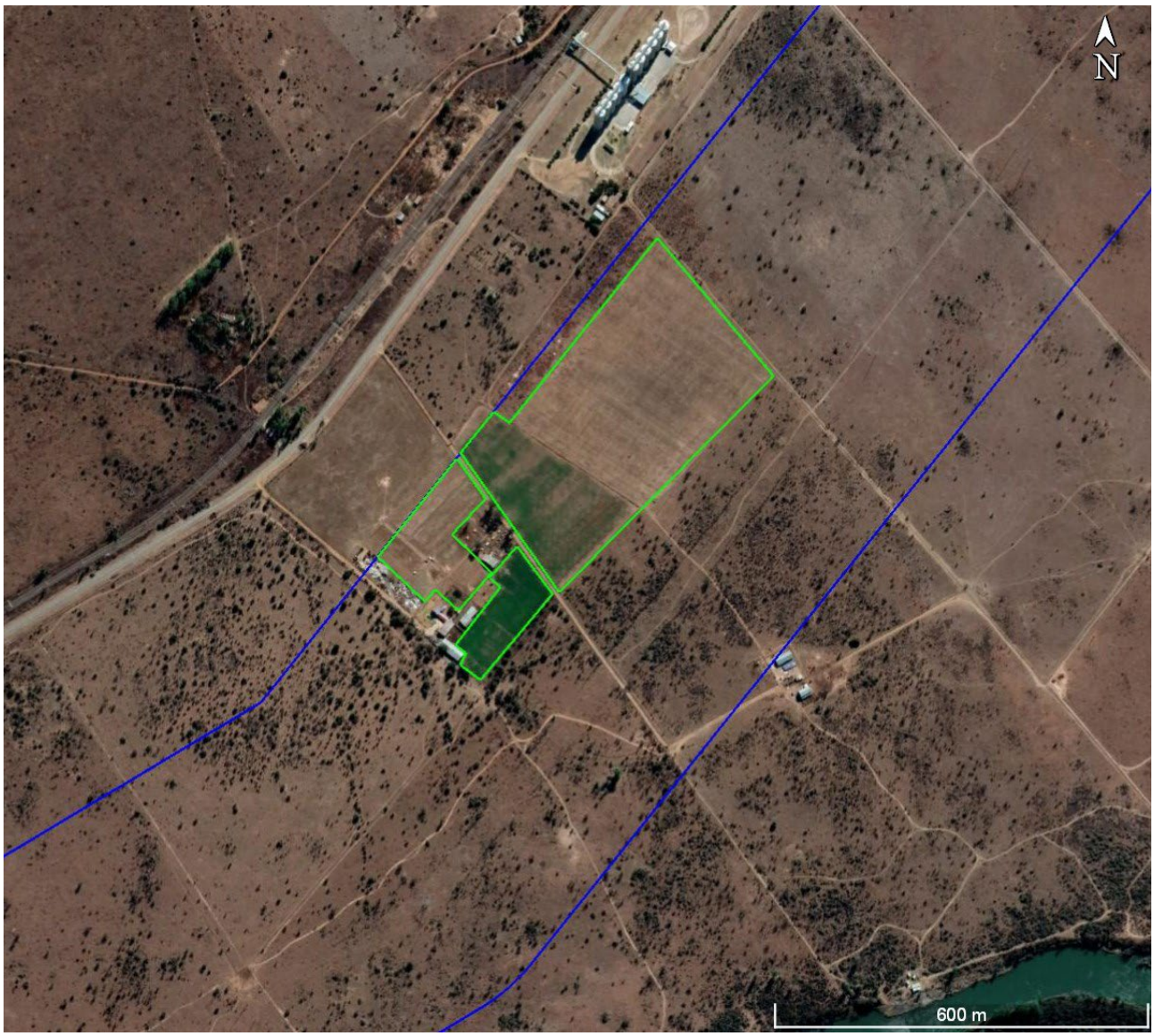

Figure 3. *More detailed satellite image map of all the cropland (green outlines) that occurs within the corridor. Although this cropland does not need to be avoided by the power line route, pylons, where possible, should be located outside of or on the edges of the cropland, where they do not interfere with crop production.*

40. A description on how the identified environmental sensitivity, as it pertains to agricultural resources, have been considered in determining the proposed route;

Agricultural sensitivity has no influence on the proposed route because the negligible agricultural impact of the development means that there are no areas within the corridor that need to be avoided by the power line route and by the substations at each end of it. However, as already discussed above, pylon placements should avoid all cropland, where possible.

41. A description on how the identified engineering constraints, as it pertains to agricultural resources, have been considered in determining the proposed route;

Engineering constraints do not pertain to agricultural resources.

42. A description of the implementation of the mitigation hierarchy in order to determine the proposed route and/or substation location; and confirmation that all reasonable measures have been considered in the micro-siting of the development to minimise fragmentation and disturbance of agricultural activities;

Implementation of the mitigation hierarchy does not apply in the case of the routing of the power line because there is negligible impact with no need to mitigate. The placement of pylons follows the hierarchy exactly – avoid cropland where possible, if not, minimize impact on cropland and rehabilitate any construction disturbance.

43. How the inputs of I&APs were considered when determining the final pre-negotiated route and/or substation location; and

Inputs of I&APs have not been received yet.

44. A statement confirming that:
a. impact management actions as contained in the pre-approved Generic EMPr template are sufficient for the avoidance, management and mitigation of impacts and risks; or
b. where required specific impact management outcomes and actions are required and have been provided as part of the site specific EMPr.

Impact management actions as contained in the pre-approved Generic EMPr template are sufficient for the avoidance, management and mitigation of the impacts and risks of the proposed development to agricultural production potential. In addition, pylons, where possible, should be located outside of or on the edges of cropland, where they do not interfere with crop production.

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*.

Specialist Company Name:	No company name – sole proprietor		
Specialist Name:	Johann Lanz		
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)		
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DECLARATION BY THE SPECIALIST

I, **Johann Lanz**, declare that

- I act as the independent specialist in this Standard registration process;
- I have performed the work relating to the specialist assessment and/or route or substation location confirmation in an objective manner;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist input and confirming statement relevant to this request for registration, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, 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 proponent all material information in my possession that reasonably has or may have the potential of influencing compliance with the Standards registration process; and
- all the particulars furnished by me in this form are true and correct.

Signature of the specialist: 

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

Date: **27 October 2022**

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 fields(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012** Expires **31 March 2023**

Botha

Chairperson

Chief Executive Officer

To verify this certificate scan this code