

**Site sensitivity verification
and Agricultural Compliance Statement
for proposed upgrade of the bulk water infrastructure
Kurland, Bitou Local Municipality**

Table of Contents

1. Introduction	1
2. Project description	2
3. Site sensitivity verification	2
4. Assessment of agricultural impact	5
5. Environmental management program inputs	5
6. Agricultural Compliance Statement	5

1. Introduction

Environmental authorisation is being sought for the above project (see locality 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, due to the activity being linear, the level of agricultural assessment required is an Agricultural Compliance Statement.

Johann Lanz was appointed as an independent agricultural specialist to conduct the agricultural assessment. The objective and focus of an agricultural assessment is to assess whether or not the proposed development will have an unacceptable agricultural impact, and based on this, to make a recommendation on whether or not it should be approved.

The purpose of including an agricultural component in Environmental Authorisation is to ensure that South Africa balances the need for development against the need to ensure the conservation of the natural agricultural resources, including land, required for agricultural production and national food security. The aim of the agricultural protocol of NEMA is primarily to preserve the agricultural production potential of scarce arable land by ensuring that development does not exclude agricultural production from such land or impact it to the extent that the crop production potential is reduced. However, this project poses very little threat to agricultural production potential.

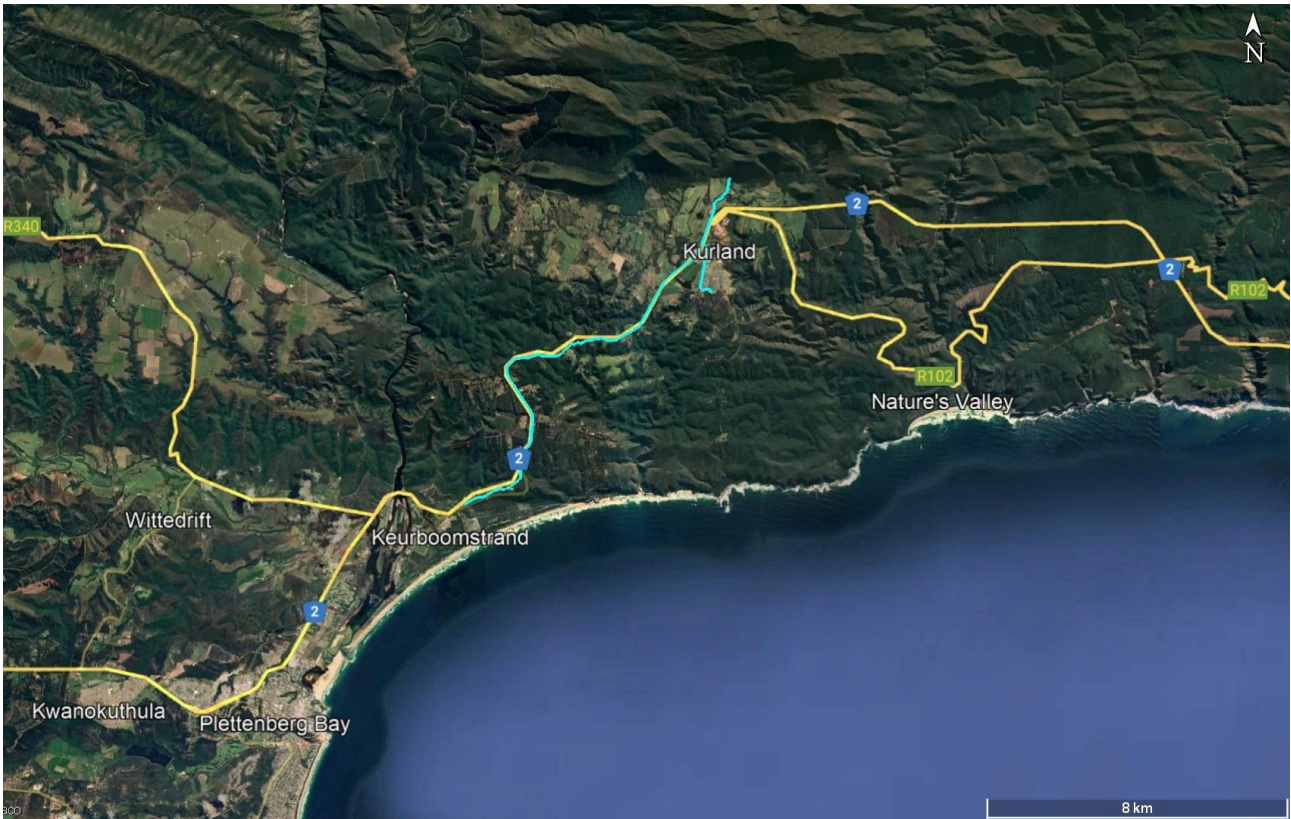


Figure 1. The locality of the project along the N2 between Keurboomstrand and Kurland.

2. Project description

The Bulk Water Infrastructure will include:

- 200mm bulk water pipeline, adjacent to the N2. The required coverage will be 6m outside of the Road Reserve, (both sides of the N2) with a 10m working corridor, or alternatively within the road reserve.
- 315mm bulk water pipeline, within a water servitude, adjacent to the road.
- Boreholes adjacent to the existing water treatment works
- A new reservoir and upgrades within the water treatment works.
- A new pump station at an existing reservoir site.
- A new pump station and reservoir at a new site.

A satellite image map of the project is shown in Figure 2.

3. Site sensitivity verification

Agricultural sensitivity, in terms of environmental impact, and as used in the national web-based environmental screening tool, is a direct function of the capability of the land for agricultural production. The screening tool classifies agricultural sensitivity according to only two independent criteria – the land capability rating and whether the land is used for cropland or not. All cropland is

classified as at least high sensitivity, based on the logic that if it is under crop production, it is indeed suitable for it, irrespective of its land capability rating.

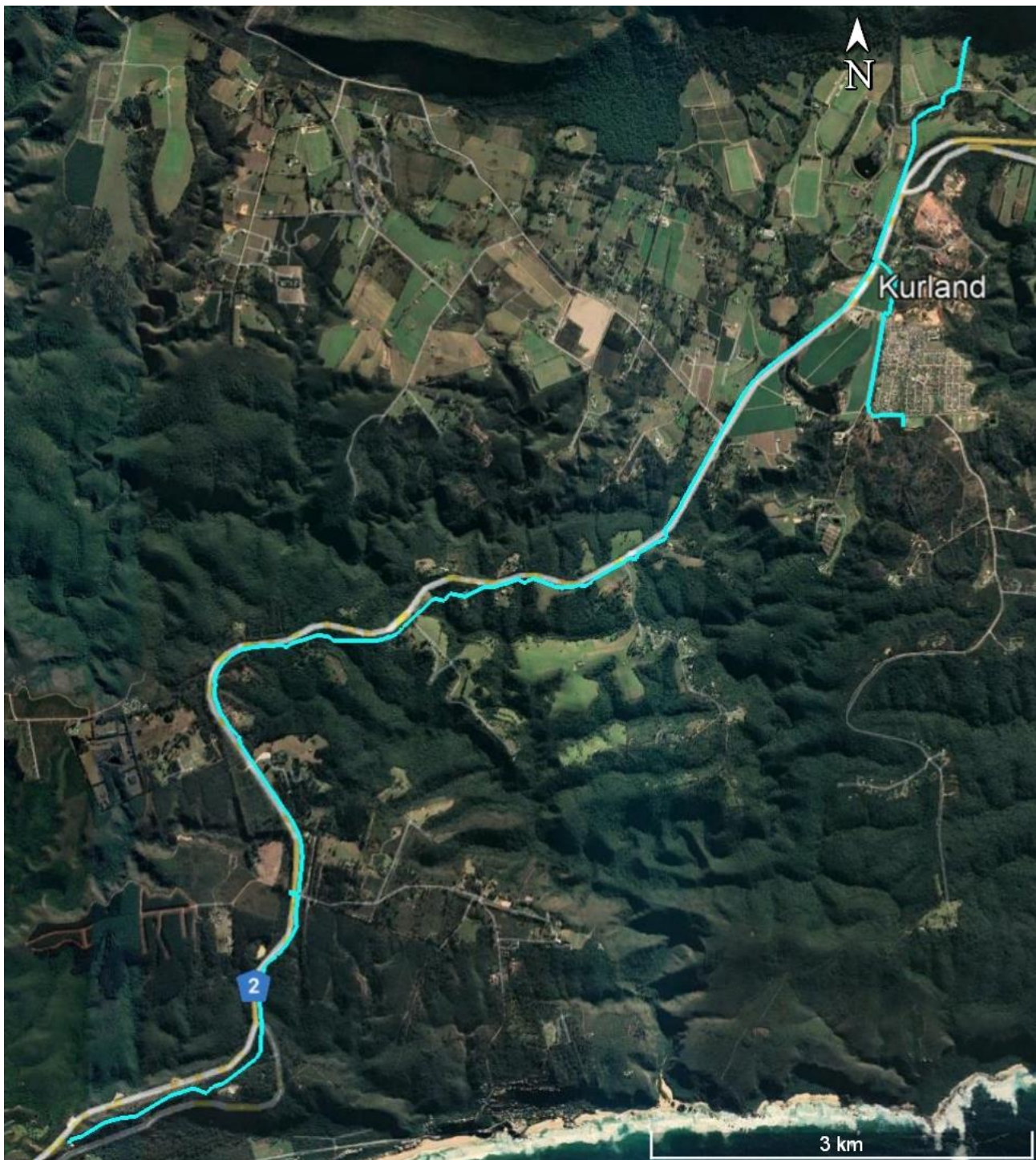


Figure 2. Detailed satellite image map of the project.

It is important to note that agricultural sensitivity only takes biophysical factors (soil, climate, terrain) into account. The existence of any infrastructure on the land as well as land use zoning, road reserves, servitudes, surrounding land use, and limitations imposed by social factors are completely ignored in the mapping of agricultural sensitivity.

The screening tool sensitivity categories in terms of land capability are based upon the Department of Agriculture's updated and refined, country-wide land capability mapping, released in 2016. The data is generated by GIS modelling. Land capability is defined as the combination of soil, climate and terrain suitability factors for supporting rain fed agricultural production. It is an indication of what level and type of agricultural production can sustainably be achieved on any land, based on its soil, climate and terrain.

A map of the proposed development area overlaid on the screening tool sensitivity is given in Figure 3. The land capability of the site on the screening tool varies from 4 to 10, largely as a result of variation in terrain. Values of 4 to 5 translate to a low agricultural sensitivity, values of 6 to 8 translate to a medium agricultural sensitivity, and Values of 9 and 10 translate to a high agricultural sensitivity. Parts of the general area (but almost none of the actual pipe line route) are classified high sensitivity because they are cropland.

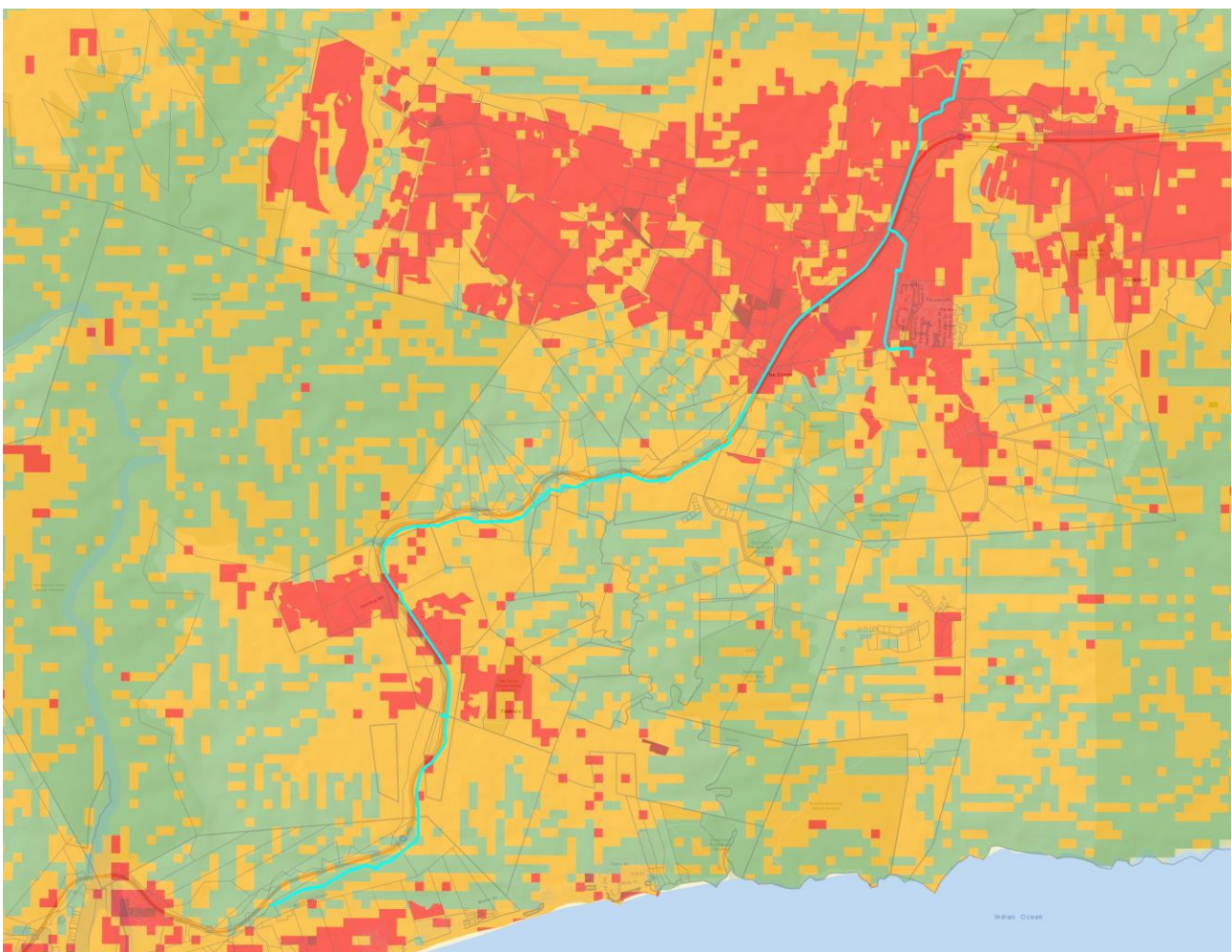


Figure 3. The pipe line route (blue line) overlaid on agricultural sensitivity as identified by the screening tool (green = low; yellow = medium; red = high; dark red = very high).

The agricultural sensitivity of the general area, as identified by the screening tool, is confirmed by this assessment because the climate, terrain and soils correspond to the classified categories of

land capability. However, the agricultural capability of the actual route at a large scale is limited (see following section), and as a result the screening tool sensitivity is largely irrelevant to the agricultural impact of this project.

4. Assessment of agricultural impact

An agricultural impact is a change to the future agricultural production potential of land. In this case most of the impacted land has no real potential for agricultural production because of its location, large parts of which are within a road reserve or water servitude, where a land use of agricultural production is highly unlikely or impossible. Where the pipeline does traverse agricultural production land it does so on the edges of fields. An additional factor in terms of agricultural impact is that the linear activity will have only a temporary impact during construction, and once rehabilitated, the agricultural production potential of the land will be the same as prior to the activity. Therefore, the agricultural impact of the proposed development is insignificant.

5. Environmental management program inputs

The following steps must be implemented for mitigation of impact:

1. When excavating for the pipeline, the upper 40cm 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.

6. Agricultural Compliance Statement

An Agricultural Compliance Statement is required to indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site. It must provide a substantiated statement on the acceptability, or not, of the proposed development and a recommendation on the approval, or not of the proposed development.

The impact of the proposed development on the agricultural production capability of the site is assessed as being acceptable. This is because the actual pipe line route has little agricultural production potential due to its location mostly along a road, and because of the temporary nature of the linear impact. The agricultural impact of the proposed development is therefore insignificant and, from an agricultural impact point of view, it is recommended that the development be approved.

The protocol requirement of confirmation that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities, is not

relevant in this case.

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 recommended mitigation. In completing this statement, no assumptions have been made and there are no uncertainties or gaps in knowledge or data that are relevant to it. No further agricultural assessment of any kind is required for this application.

The required relevant experience, proving the specialist's fitness for completing this assessment, is given in the curriculum vitae overleaf.

A handwritten signature in black ink, appearing to read 'J. Lanz', with a stylized flourish above the name.

J. Lanz (Pr. Sci.Nat.)

6 May 2022

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

In the past 5 years of running my soil and agricultural consulting business, I have completed more than 120 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, urban, and agricultural developments. My regular clients include: Zutari; CSIR; SiVEST; Arcus; SRK; Environamics; Royal Haskoning DHV; Jeffares & Green; JG Afrika; Juwi; 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*.

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:

A handwritten signature in black ink, appearing to read 'J Lanz', with a long horizontal stroke extending to the left.

Date: **6 May 2022**

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