

Appendix A: Agriculture Screening Assessment



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**SITE SENSITIVITY INPUT ON THE AGRICULTURAL THEME
FOR THE ST HELENA BAY PROPOSED DEVELOPMENT SITE
IN ST HELENA BAY, WESTERN CAPE PROVINCE**

**Report by
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1 PURPOSE OF THIS REPORT

The purpose of this report is to provide the agricultural sensitivity of the site so as to inform the layout of the development on the site.

2 METHODOLOGY OF STUDY

The assessment was based on an on-site investigation by Johann Lanz of the soils and agricultural conditions conducted on 14 February 2025. It was also informed by existing climate, soil, and agricultural potential data for the site. The aim of the on-site assessment was to assess and determine the cropping potential across the site. Soils were assessed based on the investigation of existing soil exposures in combination with indications of the surface conditions and topography, and strategically positioned auger samples where necessary. Soils were classified according to the South African soil classification system (Soil Classification Working Group, 2018).

3 VERIFICATION OF THE SITE SENSITIVITY

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 1.

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. 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.

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		Suitable
7			
8 - 10	High		
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.

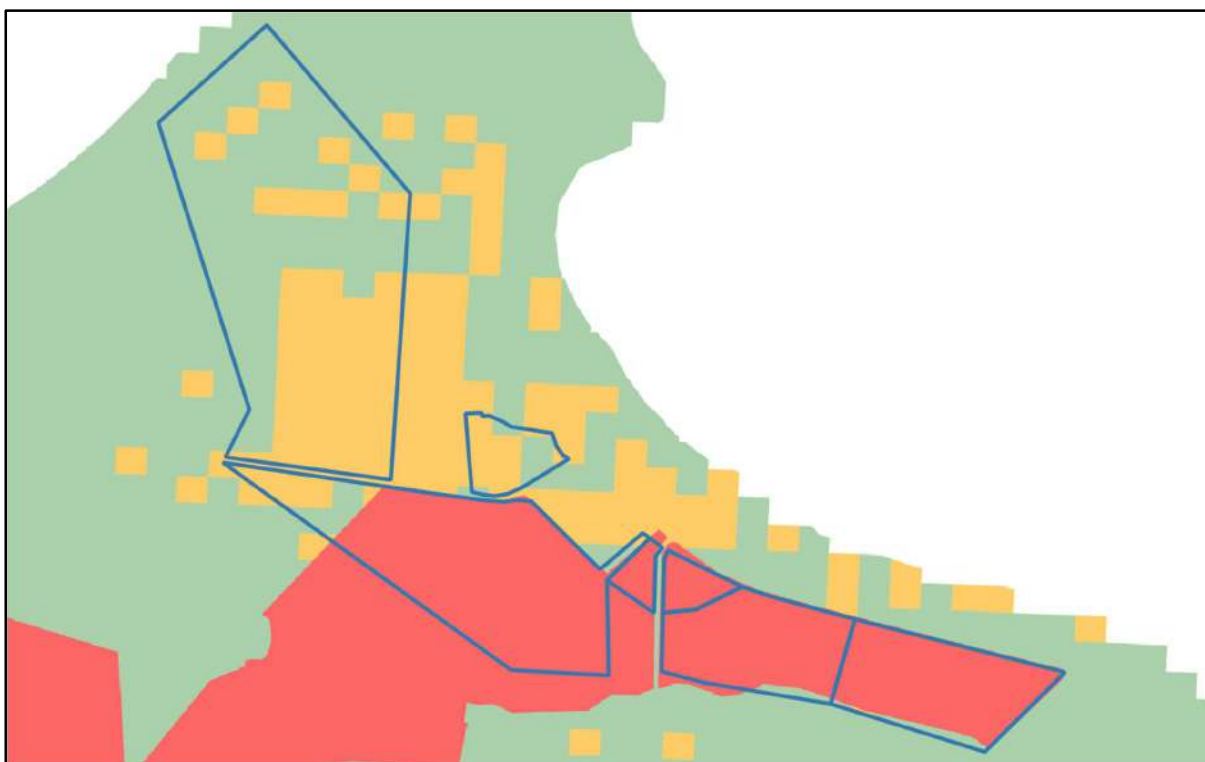


Figure 1. The assessed area overlaid on agricultural sensitivity, as classified by the screening tool (green = low; yellow = medium; red = high; dark red = very high). The screening tool's high sensitivity is disputed by this assessment, which rates the entire assessed area as being of low/medium agricultural sensitivity.

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.

The screening tool classifies the assessed site as ranging from low to high agricultural sensitivity and therefore classifies the overall site sensitivity, which is the highest sensitivity encountered across the site, as high. The high sensitivity classification by the screening tool is due to some land being classified as cropland (high sensitivity). However, the cropping potential of the site was evaluated. All the land has insufficient capability for viable crop production, predominantly because of the soil's very low water and nutrient holding capacity. The site is too marginal for viable crop production and its true sensitivity, as assessed on the ground, is therefore low/medium. This assessment therefore disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low/medium agricultural sensitivity because of its assessed cropping potential. Note that there is no real difference between low and medium agricultural sensitivity and whether land is low

or medium, has no implications for agricultural impact or for the development layout. There are no parts of the site in which development is not permitted due to agricultural sensitivity.