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B-BBEE LEVEL TWO CONTRIBUTOR

Your ref.:

Our ref.: W2097/3.7-01

10/04/2023

Attention: Mandri Crafford

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Mandri,

PROPOSED EXTENSION OF CEMETERY ON ERF 5662, MOORREESBURG : STORMWATER MANAGEMENT PLAN

The project comprises the development of a new cemetery. The proposed site for the cemetery is situated on the northern outskirts of Moorreesburg, on erf 5662. The site is located on the corner of Agstein Avenue and Omega Street. The site is bordered by farmland. The proposed cemetery has an approximate area of 5.0 Ha (50 041.6m²).

1. INTRODUCTION

This Stormwater Management Plan discusses the stormwater runoff parameters, as well as planning and routing of the stormwater system for the site.

2. STORMWATER RUNOFF PARAMETERS

2.1 Sub-catchment demarcation and topography

The maximum slope of the site is approximately 4°. The site slopes to the west with an existing stormwater channel along the western boundary the channel drains surface water from the farmland to the non-perennial stream running through the area approximately 1300m west of the proposed site boundary

Surface water originating upland of the proposed cemetery will be cut off by diverting the existing drainage channel around the site. The proposed new drainage channels on the perimeter of the site is indicated on the site layout.

Little erosion was noticed on site. Due to the relatively flat gradient of the site, erosion is unlikely to occur. The proposed drainage channels will further curb possible erosion around the site.

Surface water that penetrates the top sand/gravel soil layers is expected to flow the same directions as the surface slope, draining into the non-perennial stream west of the proposed cemetery.

2.2 Soil and geohydrological conditions

The general geology of the area consists primarily of Quaternary Aged consolidated and unconsolidated sands at surface. Greywacke phyllite soils and rock as well as quartzitic sandstone and schist of the Moorreesburg and Klipplaat Formations, respectively, (Malmesbury Group) underlie the surface soils. Pedogenic soils of both dorbank and ferricrete are also commonly encountered close to surface.

The sites is situated above the 1:100 year flood line.

2.3 Existing and future land use

The existing and surrounding farmland used for agriculture will stay the same

2.4 Storm rainfall

The mean annual rainfall for this region is 355 mm.

3. STORMWATER PLANNING

3.1 Design criteria and management requirements

Stormwater runoff must be controlled to prevent ponding on site, ingress of water into open or recently closed graves and to prevent surface erosion of recently closed graves.

Ponding and ingress of water into open or recently closed graves will saturate the soil, increasing the risk of ground water pollution.

The water table at the proposed site is known to be deep (11.56m below ground level according to Cape Farm Mapper 2.7) and the permeability of the in-situ soils is within the prescribed range for cemeteries.

Surface water originating upland of the proposed cemetery will be diverted with the construction of cut off drainage channels, as indicated on the site layout. Little to no erosion was noticed on site. Due to the relatively flat gradient of the site, erosion is unlikely to occur.

Internal cut-off drains along the internal roads will be designed to channel storm water to suitable discharge points outside the site.

4. CONCLUSION

The proposed cemetery site is surrounded by farmland. Surface water will be diverted around the perimeter of the site into an existing drainage channel. The site has a gentle slope and no ponding should occur.

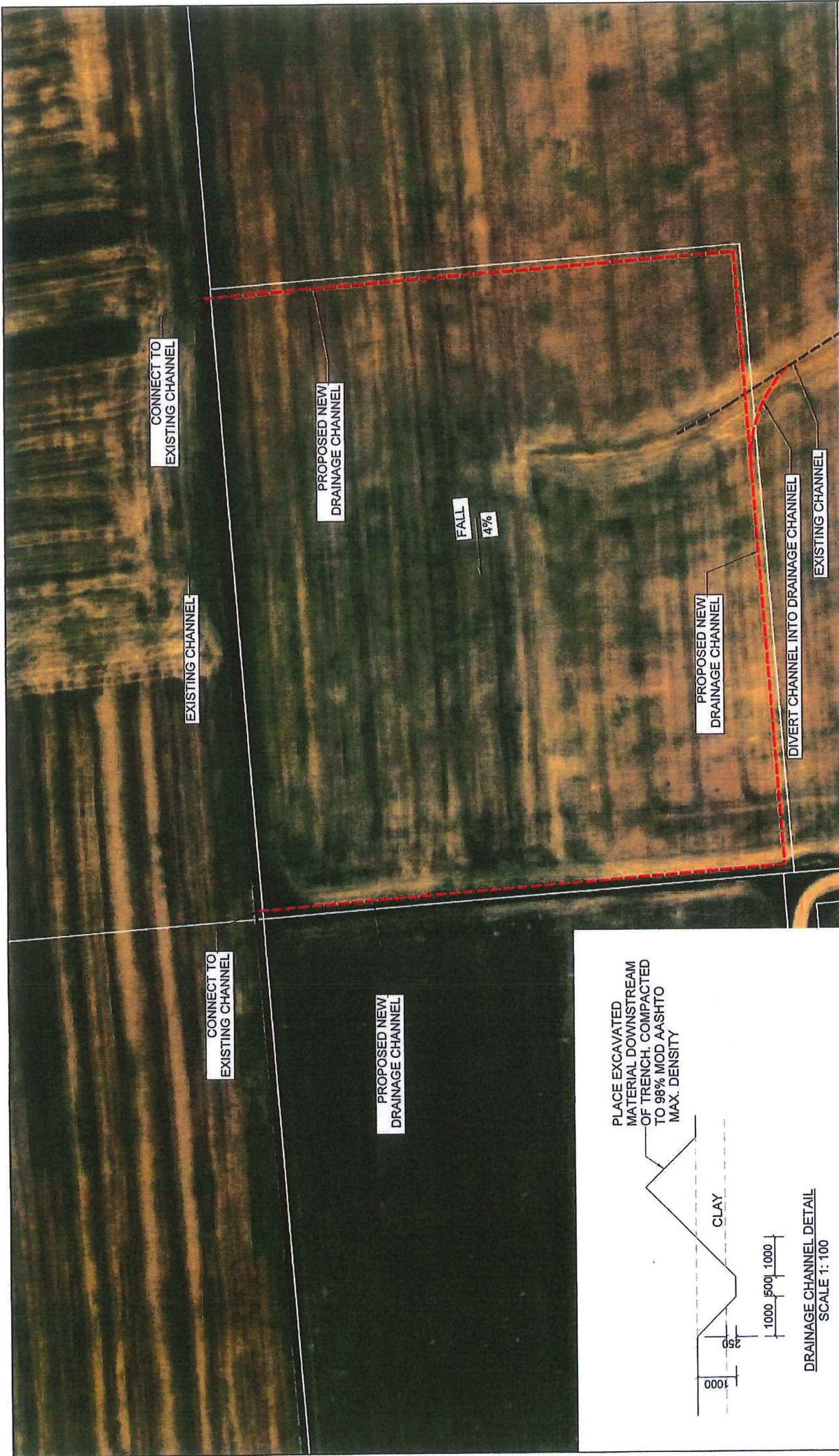
We trust that you will find the above in order.

Kind regards

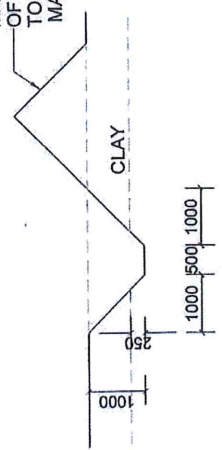


**JV Loubser (BEng)
For SKCM Engineers**

ANNEXURE A: Drawing



PLACE EXCAVATED MATERIAL DOWNSTREAM OF TRENCH. COMPACTED TO 98% MOD AASHTO MAX. DENSITY



DRAINAGE CHANNEL DETAIL
SCALE 1: 100

FIGURE 5:
DRAINAGE LAYOUT

**SWARTLAND
MUNICIPALITY**



PROPOSED CEMETERY
MOORREESBURG

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DESIGNED	BY	DATE	CH
DRAWN	GA	01/03/2023	JV
TRACED			
SCALE: N.T.S			
DRAWING NO.: W2097-04-DL			REVISION:
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