

Hilland Environmental

Environmental Assessment Practitioners

166 Mount View, Victoria Heights
P.O. Box 590, GEORGE, 6530
Western Cape, South Africa

Tel: +27(0)44 889 0229
Fax: +27 (0) 86 542 5248
Mobile: + 27 (0) 82 5586 589
E-mail: info@hilland.co.za
www.hilland.co.za

METHOD STATEMENT

For the works already undertaken as part of the erosion repairs, works to be completed and rehabilitation at the stormwater outlet at the Outeniqua Waste Water Treatment Works (WWTW),
George



Compiled by	Hilland Environmental
Hilland reference	GEO23/1251/08
Date	17 January 2024
Client	George Municipality

INTRODUCTION

HillLand Environmental have been appointed as the Environmental Assessment Practitioners (EAPs) by the applicant, **George Municipality** represented by the Engineers, **Zutari**, to ensure compliance with the regulations contained in the National Environmental management Act (NEMA Act No. 107 of 1998, as amended) and the Environmental Impact Assessment Regulations (2014, as amended) for the works undertaken and proposed works at the stormwater infrastructure at the Outeniqua Waste Water Treatment Works (WWTW), Municipal erf, Remainder of Erf 325, George.

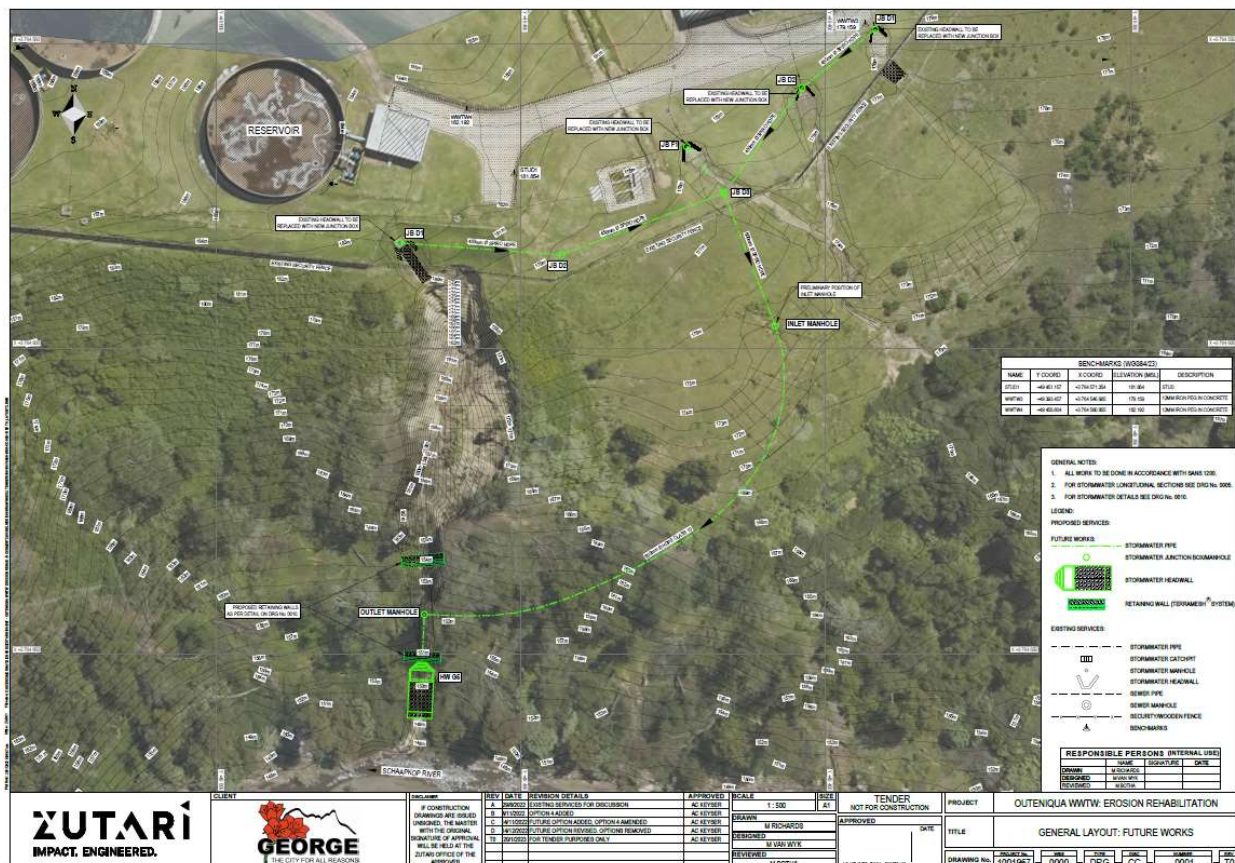
This Method Statement is in response to the pre-compliance notice issued on 30 November 2023, and email received from DEADP Ms Diana Mouton, 17th January 2024.

COMPLETION OF THE INSTALLATION OF THE STORMWATER OUTLET STRUCTURE

Complete the construction of the stormwater infrastructure and associated pipeline in accordance with the engineering plan.

The installation of silt fencing south of the working footprint before the river will be required to ensure that no construction silt enters the watercourse.

The silt fencing must be maintained and can only be removed once the installation of the stormwater outlet structure is completed and there is no risk of silt entering the river.



Engineering site plan (Zutari, 2023)

REHABILITATION

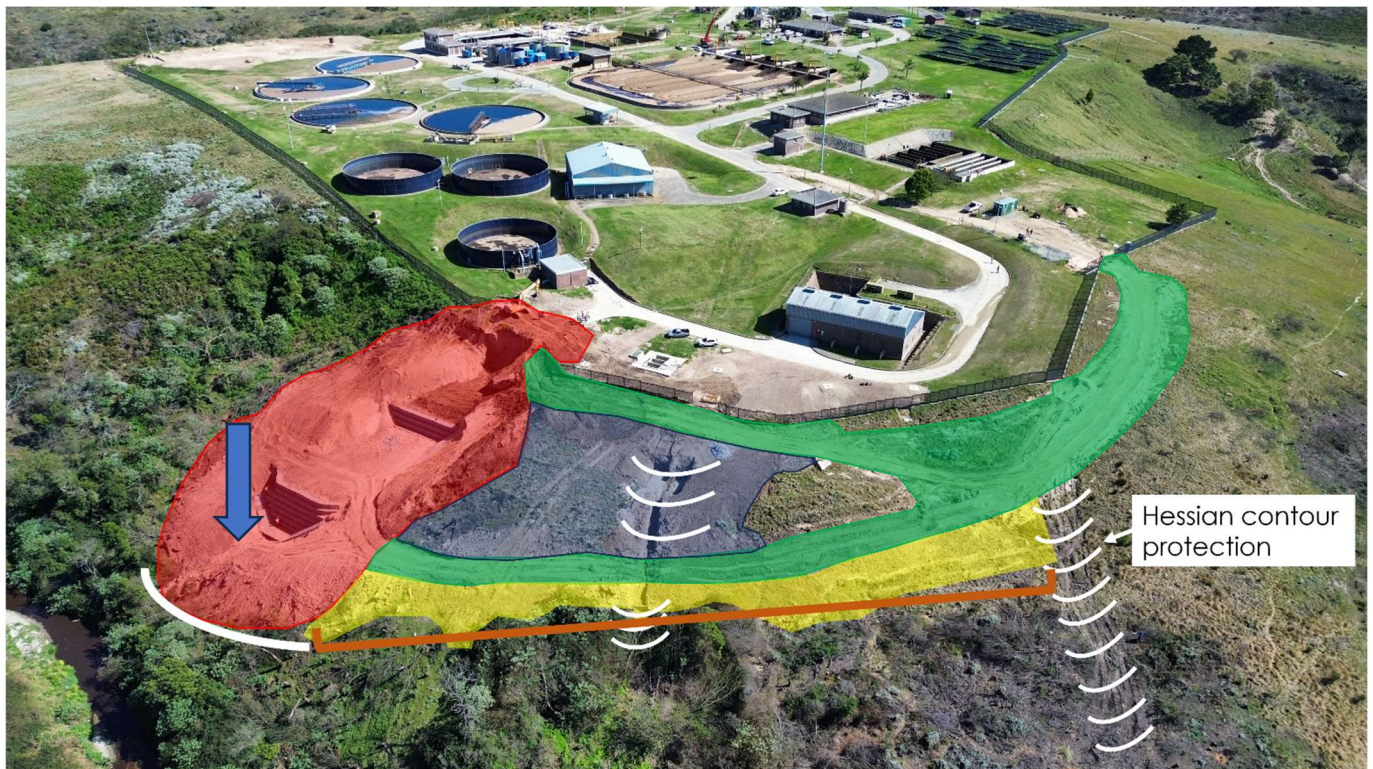
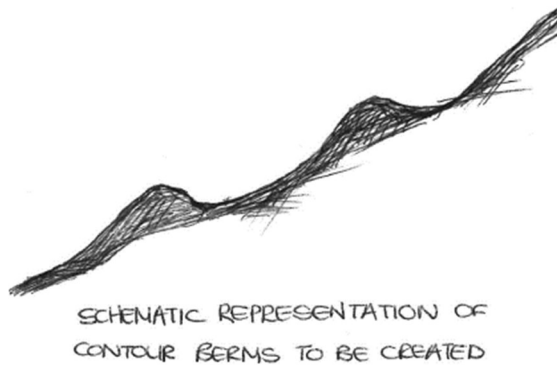


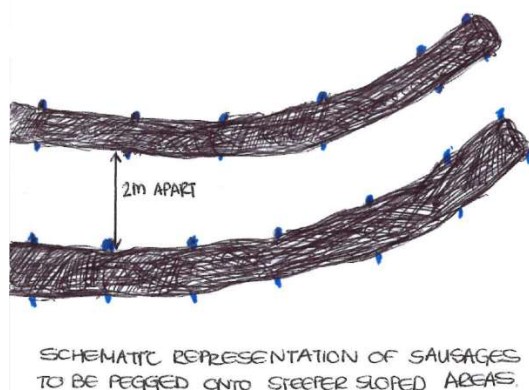
Figure highlighting the various areas where work is required on site

- **RED: Blue arrow** - installation of the final stormwater headwall and dissipator to be completed as per the engineering design – below the current gabion wall closest to the river. This is the highest priority as rehabilitation of the surrounding area cannot be completed until this work is completed.
- **RED:** general area – areas not already backfilled, reshaped, covered with topsoil and seeded need to be shaped, topsoiled and seeded immediately as the work is completed. Geojute/sausage bags to be installed across slopes to protect the slopes while the seed germinates. Silt fence to be installed as indicated along the white line between the works (not yet complete) and the river before commencement of the construction of stormwater outlet. Work within the 32m of the watercourse
- **BLUE:** areas not already backfilled, shaped and topsoiled need to be backfilled, reshaped, covered with topsoil seeded and silt fences to be installed as indicated by the white lines
- **YELLOW:** excess material to be pulled back up the slope away from the river using an excavator (as part of the rehabilitation of the green zone) and removed to stockpile. Area to be reshaped, covered with topsoil and seeded. Silt fencing to be installed as indicated. Hessian sausages to be installed at the base of the slope which will remain for the long-term (will biodegrade over time) – as indicated in brown. This will protect the entire length of the river bank from silt movement.
- **GREEN:** storm water pipeline to be installed and temporary access road to be ripped, reshaped to the natural slope as soon as the work at the final outlet structure is complete and access no longer required. The area is then to be covered with topsoil and seeded. Additional hessian contour protection to be installed at eroded area south of the road. Area first to be reshaped, covered with topsoil, seeded and contour protection to be installed

- The entire affected site must be **reshaped** to form natural slopes. It is important to ensure that the excavator teeth marks do not lead down the slope (as this will result in erosion between the subsoil and the topsoil in future). Preferably have any ridges running in contours across the slope.
- **Topsoil** must be spread over the entire site.
- Include shallow topsoil **contour berms** **across the whole slope** to slow water down and encourage infiltration and reduce runoff.



- Seed all disturbed areas of the site with a mix of *Eragrostis tef* (teff grass), *Eragrostis capensis* (cape love grass), *Cynodon dactylon* (scutch grass), *Paspalum* sp. (paspalum grass), and winter rye. Add to the grass mix a clover or lucerne which will ensure added nitrogen for the longer-term growth. Premix and apply at a rate of 0.4g per m².
- Lightly rake the seed into the slopes or hydroseed.
- Cover with a layer of woodchip or mulch to keep the moisture in the soil while the seeds germinate.
- Peg mulch filled bags or sausages onto the steeper sections of the slope (two (2) meters apart) to prevent runoff while waiting for the seeds to germinate and cover the slopes.



- It may be necessary to install a geo-jute fabric over the slope.



Photograph showing sausages with geojute fabric (source: Aussie Environmental 2023)

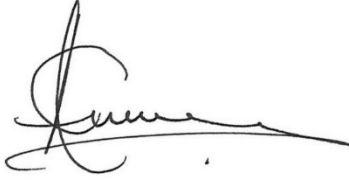
- Cover the whole area with cut brushwood to reduce the impact of wind and to keep all livestock off the slope while the grass seeds are germinating.
- **Collect seed from surrounding fynbos areas on a monthly basis and spread randomly onto the slope. *Helichrysum* sp, *Euryops*, *Chrysanthemoides moniliferum*, *Felicia* sp – are all seeding now and will assist in bringing back some natural diversity to the slopes. The ECO can guide the seed collection and spreading as this is key to the success of the rehabilitation to the same state as the site was prior to any clearing taking place (restore the vegetation to the same state as the surrounding vegetation with the exception of alien species which will need to be continually monitored and removed).**
- The rehabilitation will only be signed off when deemed sufficient by the ECO. This will be based on level of ground cover and diversity of cover achieved.
- Ongoing alien seedling removal from the entire rehabilitation area will be necessary.

An Environmental Control Officer (ECO) **must** be appointed to oversee the completion of the installation of the stormwater infrastructure and rehabilitation of the site.

- An **induction** meeting with the ECO and the contractor to ensure that they are aware of the requirements of this plan before the commencement of any activities on site. Induction registers to be kept for all contractors on site.
- The ECO is to do a site inspection **once a week** during the construction and rehabilitation phase.
- Upon **completion** of the construction of the stormwater outlet structure and associated rehabilitation of the site, a **final completion monitoring report** must be submitted by the ECO to sign-off compliance with environmental requirements. The report must be submitted to DEADP, client and the contractor within 1 month of the completion of all construction activities (irrespective of the status of the rehabilitation).

We trust that you will find this in order.

Kind regards,

A handwritten signature in black ink, appearing to read 'Cathy Avierinos', with a long horizontal flourish extending to the right.

Cathy Avierinos

For HillLand Environmental