
Proposed Residential Development on Portion 1 of Farm 331 and Portion 4 of Farm Rheeboksfontein 142, Mid-Brak, Western Cape.

Aquatic Compliance Statement



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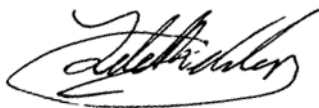
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DECLARATION OF SPECIALIST INDEPENDANCE

- I consider myself bound to the rules and ethics of the South African Council for Natural Scientific Professions (SACNASP);
- At the time of conducting the study and compiling this report I did not have any interest, hidden or otherwise, in the proposed development that this study has reference to, except for financial compensation for work done in a professional capacity;
- Work performed for this study was done in an objective manner. Even if this study results in views and findings that are not favourable to the client/applicant, I will not be affected in any manner by the outcome of any environmental process of which this report may form a part, other than being members of the general public;
- I declare that there are no circumstances that may compromise my objectivity in performing this specialist investigation. I do not necessarily object to or endorse any proposed developments, but aim to present facts, findings and recommendations based on relevant professional experience and scientific data;
- I do not have any influence over decisions made by the governing authorities;
- I undertake to disclose all material information in my possession that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by a competent authority to such a relevant authority and the applicant;
- I have the necessary qualifications and guidance from professional experts in conducting specialist reports relevant to this application, including knowledge of the relevant Act, regulations and any guidelines that have relevance to the proposed activity;
- This document and all information contained herein is and will remain the intellectual property of Confluent Environmental. This document, in its entirety or any portion thereof, may not be altered in any manner or form, for any purpose without the specific and written consent of the specialist investigators.
- All the particulars furnished by me in this document are true and correct.



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Date: November 2025

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1. INTRODUCTION

Confluent Environmental was appointed by Sharples Environmental Services cc (SES) to undertake a freshwater assessment for a proposed residential development on Portion 1 of Farm 331 and Portion 4 of Farm Rheebofsfontein 142 (the property), Mid-Brak, Mossel Bay Local Municipality. The property is located approximately 2.3 km east of Klein Brak's mapped town centre and approximately 1.5 km northwest of Tergniet between the N2 to the north and R102 to the south. The closest perennial water resource is the Moordkuil River, approximately 3.8 km north of the property (Figure 1). The scope of work for this report is guided by the legislative requirements of the National Environmental Management Act (NEMA).

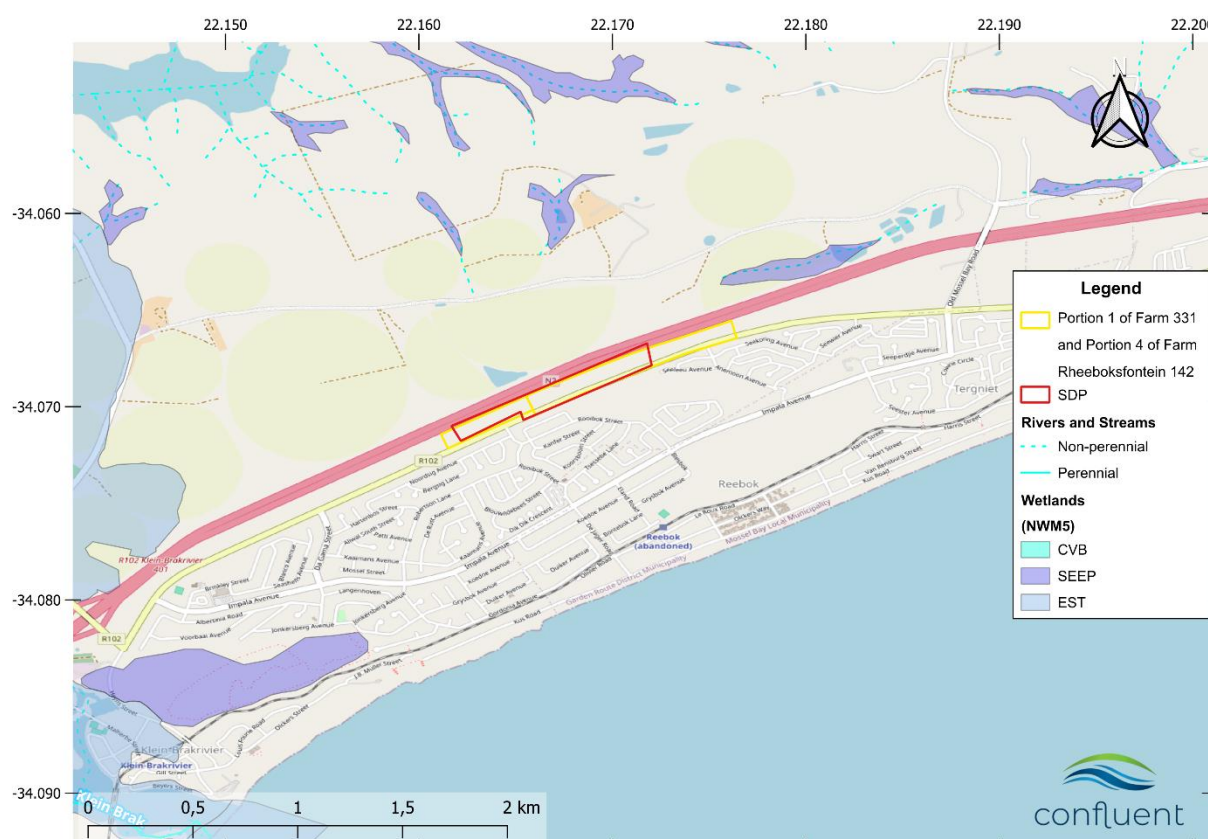


Figure 1: Location of Portion 1 of Farm 331 and Portion 4 of Farm Rheebofsfontein 142, Mossel Bay, Western Cape.

1.1 National Environmental Management Act (NEMA)

According to the protocols specified in GN 1540 (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when Applying for Environmental Authorisation), assessment and reporting requirements for aquatic biodiversity are associated with a level of environmental sensitivity identified by the national web-based environmental screening tool (screening tool). An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of:

- **Very High** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment; or

- **Low** sensitivity for aquatic biodiversity, must submit an Aquatic Biodiversity Compliance Statement.

The screening tool classified the site as being of **Low** aquatic biodiversity (Figure 2). According to the protocol, a site sensitivity verification must be undertaken to confirm the sensitivity of the site as indicated by the screening tool.



Figure 2: Results of the DFFE Screening Tool, which indicate Low Sensitivity for the Aquatic Biodiversity theme for Portion 1 of Farm 331 and Portion 4 of Farm Rheebofsfontein 142.

1.2 National Water Act (NWA)

The Department of Water & Sanitation (DWS) is the custodian of South Africa's water resources and therefore assumes public trusteeship of water resources, which includes watercourses, surface water, estuaries, or aquifers.

A watercourse means:

- A river or spring;
- A natural channel in which water flows regularly or intermittently;
- A wetland, lake or dam into which, or from which, water flows; and
- Any collection of water which the Minister may, by notice in the Gazette, declare to be watercourse, and
- A reference to a watercourse includes, where relevant, its bed and banks.

For the purposes of this assessment, a wetland area is defined according to the NWA (Act No. 36 of 1998):

“Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil”.

Wetlands must therefore have one or more of the following attributes to meet the NWA wetland definition (DWAF, 2005):

- A high water table that results in the saturation at or near the surface, leading to anaerobic conditions developing in the top 50 cm of the soil;
- Wetland or hydromorphic soils that display characteristics resulting from prolonged saturation, i.e. mottling or grey soils; and
- The presence of, at least occasionally, hydrophilic plants, i.e. hydrophytes (water loving plants).

No activity may take place within a watercourse unless it is authorised by the Department of Water and Sanitation (DWS). According to Section 21 (c) and (i) of the National Water Act, an authorization (Water Use License or General Authorisation) is required for any activities that impede or divert the flow of water in a watercourse or alter the bed, banks, course or characteristics of a watercourse. The regulated area of a watercourse for section 21(c) or (i) of the Act water uses means:

- a) The outer edge of the 1 in 100-year flood line and/or delineated riparian habitat, whichever is the greatest distance, measured from the middle of the watercourse of a river, spring, natural channel, lake or dam;
- b) In the absence of a determined 1 in 100-year flood line or riparian area the area within 100m from the edge of a watercourse where the edge of the watercourse is the first identifiable annual bank fill flood bench (subject to compliance to section 144 of the Act); or
- c) A 500 m radius from the delineated boundary (extent) of any wetland or pan.

According to Section 21 (c) and (i) of the NWA, any water use activities that do occur within the regulated area of a watercourse must be assessed using the DWS Risk Assessment Matrix (GN 4167 of 2023) to determine the impact of construction and operational activities on the flow, water quality, habitat and biotic characteristics of the watercourse. Low Risk activities require a General Authorisation (GA), while Medium or High Risk activities require a Water Use License (WUL).

1.3 Scope of Work

The objectives of this assessment included the following:

- To undertake a desktop analysis and site inspection to verify the sensitivity of aquatic biodiversity as **Very High** or **Low**; and
- Compile an Aquatic Biodiversity Compliance Statement or Aquatic Biodiversity Specialist Assessment based on the site verification of the sensitivity of the site.

- Determine whether any activities fall within the regulated area of a watercourse as defined by the NWA.

2. APPROACH

The following rationale was adopted to determine the sensitivity of aquatic biodiversity within the footprint of the site:

- In the event that watercourses are confirmed to fall within the development footprint and that these watercourses will be impacted by the development, then the site sensitivity is confirmed as **Very High** and a full specialist freshwater assessment is required; and
- In the event that no watercourses are identified within the development footprint the site sensitivity is confirmed as **Low** and an Aquatic Compliance statement is required.

The determination of the site sensitivity relied upon the following approaches:

- Interrogation of available desktop resources including:
 - DWS spatial layers;
 - National Freshwater Ecosystem Priority Areas (NFEPA) spatial layers (Nel et al., 2011);
 - National Wetland Map 5 and Confidence Map (CSIR, 2018) – the latest national wetland inventory map for South Africa;
 - Western Cape Biodiversity and Spatial Plan (WCBSP) (CapeNature, 2024).
- A site visit was undertaken, during which time the following activities were undertaken:
 - Identification and classification of watercourses within the footprint of the site according to methods detailed in Ollis et al. (2013);
 - Soil augering to confirm the presence of soil indicators (DWAF, 2005) that may indicate the presence of a wetland (if applicable); and
 - Identification of hydrophilic plant species that may indicate the presence of wetland plant species (if applicable).

3. ASSUMPTIONS & LIMITATIONS

- The assessment of the site visit represents a brief temporal snapshot of conditions on the site. Changes in season or short-term changes in climatic conditions may possibly result in the formation of aquatic habitats (e.g. temporary or seasonal wetlands) under significantly wetter conditions. Despite this limitation, the sensitivity of aquatic biodiversity on the site was determined with a very high level of confidence.

4. DESKTOP SURVEY

The property falls within Primary Catchment K (Kromme) area and in quaternary catchment K10F (Figure 3). According to geospatial data sources, no watercourses are present, adjacent to or within the property boundaries (Figure 4). No aquatic features have been included in the Western Cape Biodiversity Spatial Plan (WCBSP) covering the property. A terrestrial Critical Biodiversity Area 1 (CBA 1 - terrestrial) is mapped to extend across the entire property, with some small areas mapped as terrestrial Critical Biodiversity Area 2 (CBA 2 - terrestrial) (Figure 5).

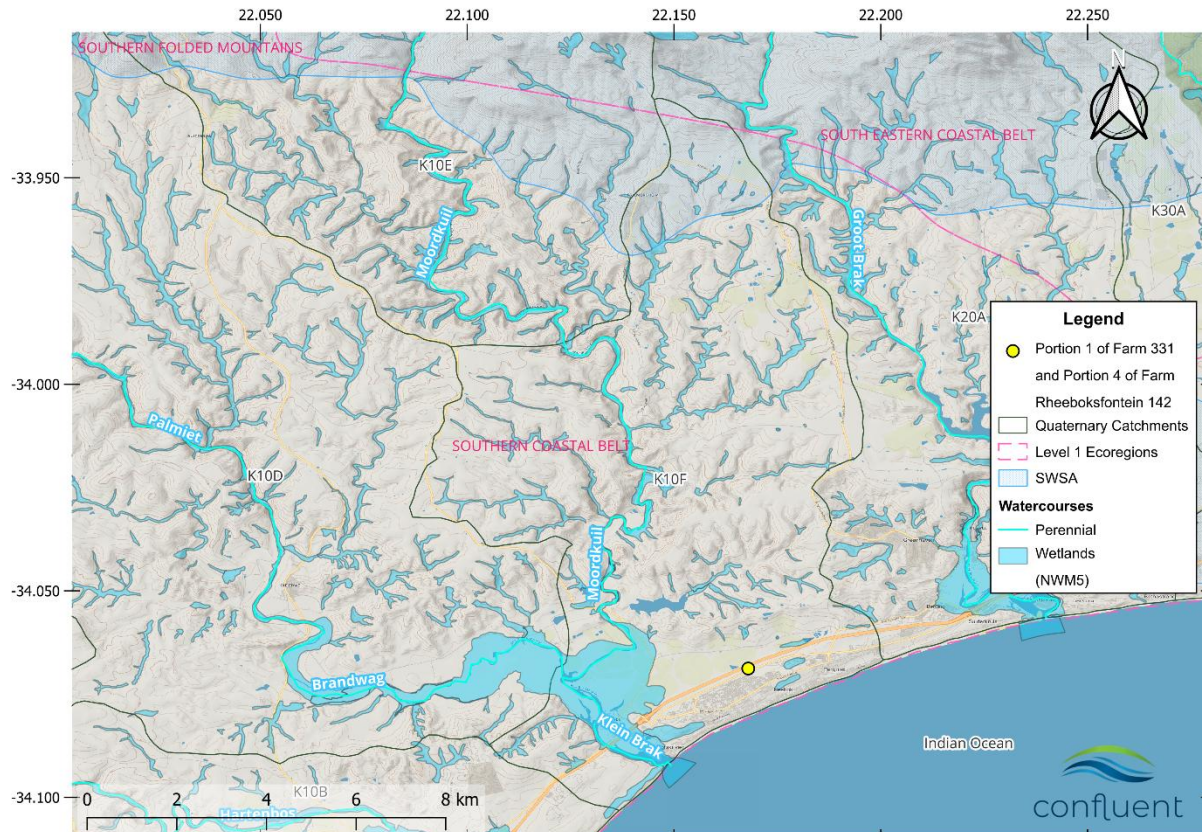


Figure 3: Map indicating the location of the property relative to the quaternary catchment area.



Figure 4: Location of the property in relation to mapped watercourses.



Figure 5: Map of the property relative to the Western Cape Biodiversity Spatial Plan (WCBSP).

5. SITE DEVELOPMENT PLAN

The proposed residential development comprises 143 General Residential erven (Zone I), with an average erf size of approximately 337 m², covering a total area of 4.6092 ha. Supporting infrastructure includes three erven (Utility Zone), namely a sewage pump station (erf 144, approximately 708 m²), an electricity substation (erf 145, approximately 65 m²), and a refuse collection area (erf 151, approximately 98 m²). The layout further incorporates five Private erven (Open Space Zone II) measuring a combined 2.0572 ha, as well as a dedicated erf (Open Space Zone III conservation) of approximately 3.7119 ha. Transport infrastructure consists of one erf (Transport Zone III; erf 152, ±1.3831 ha) and one erf (Transport Zone II; ±3.3905 ha), the latter of which will form part of the conservation area.

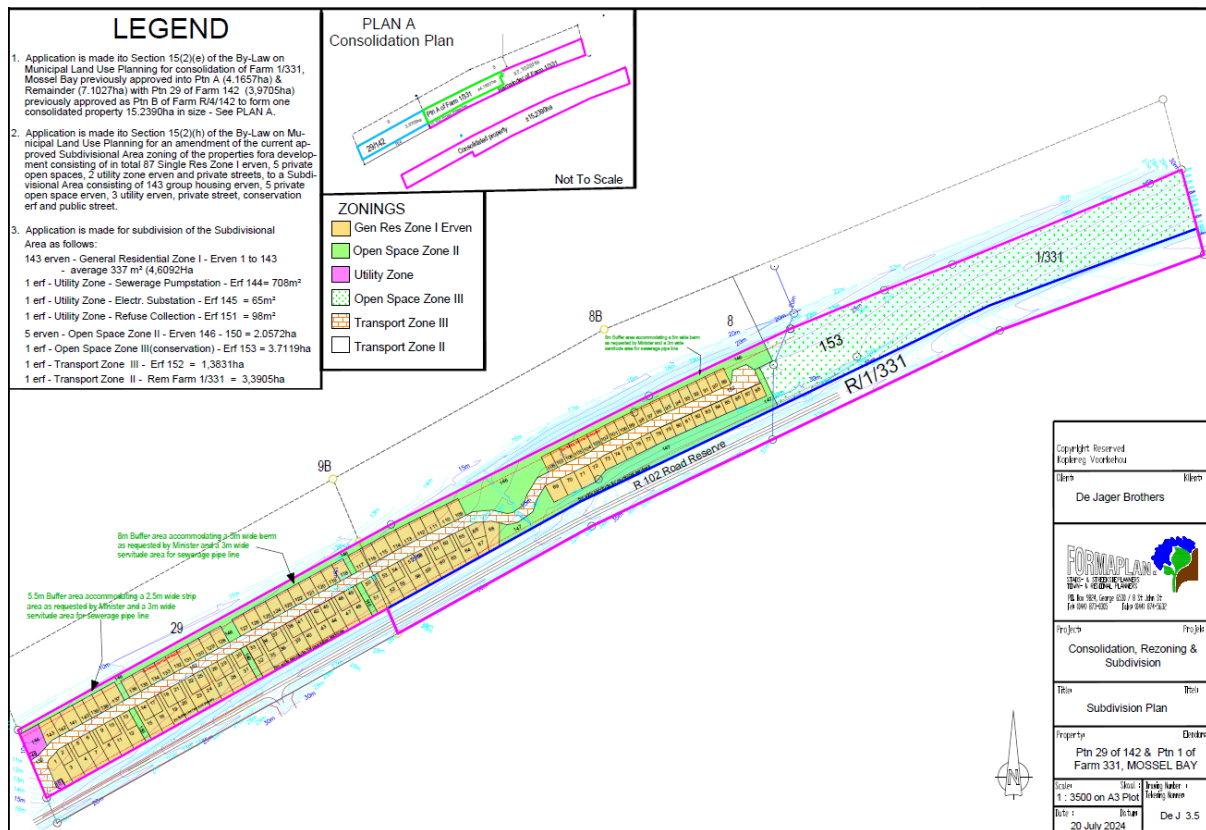


Figure 6: The site development plan (SDP) that has been proposed for Portion 1 of Farm 331 and Portion 4 of Farm Rheeboксfontein 142.

6. SITE VISIT

The site visit was conducted on the 7th of November 2025, during which time the entire extent of the proposed development footprint was traversed on foot. The terrain of the property is relatively flat, with the eastern side sloping gently towards the north. A relatively steep slope is present along the southern boundary of the property, sloping down from the R102 towards the property (northwards). The soil on the property is very sandy (Figure 7: A) and does not show any signs of water retention. The property was largely covered by indigenous vegetation with some invasives that included, but were not limited to, Rooikraans (*Acacia cyclops*; Figure 7: B) and Goosefoot (*Chenopodium* sp). The vegetation on the property is Thicket, and includes, but is not limited to; *Searsia lucida*, *Carpobrotus* sp., *Sideroxylon inerme* (milkwood tree), *Pittosporum viridiflorum* (Cape Cheesewood), *Grewia occidentalis*, *Osteospermum moniliferum*, and *Helichrysum patulum* (Figure 7: C). A noticeable vegetation change occurs in the approximate centre of the property, with this section being dominated by *Thamnochortus* sp. for approximately 436 m, before changing back to the previously described vegetation characteristic. No hydro-geomorphological landscape features (depressions, confined valleys, channels etc.) indicating the presence of a watercourse (i.e. stream, river or wetland) are present within or near the property.

It should be noted that stormwater management is an aspect that must be carefully considered, as there is a large eroded section present in the centre of the SDP, visible from satellite imagery and confirmed during the site visit (Figure 7: D and E). It was apparent that efforts were made to address the problem by building a sandbag wall on the south (upslope) and north (downslope) of the property and filling in the eroded area. However, prominent erosion is present, cutting underneath and existing concrete channel on either side of the downslope point of the eroded area, adjacent to the N2. This erosion is most likely caused by stormwater from the R102 that discharges onto the property. It should be noted that multiple culverts from the R102 and the developed area south of the property discharge onto the property (Figure 7: F).



Figure 7: Photographs of the property, including very sandy soil on the property (A), Rooikraans present on the property (B), vegetation on the property (C), upslope of erosion area (D), erosion still present and expanding, downslope of erosion area (E) and a culvert draining onto the property (F).

7. AQUATIC BIODIVERSITY COMPLIANCE STATEMENT

Given the information obtained from the desktop study and the observation during the site visit, the aquatic biodiversity sensitivity is considered to be **Low** as no watercourse is present on the property. In terms of legislation pertaining to the NWA, the development falls outside of the regulated area of any watercourses (Figure 8) and will therefore not require any water use authorisation in terms of **Section 21 (c) and (i)** of the NWA.



Figure 8: Map indicating the 100 m and 500 m regulated areas relative to the SDP on the property.

8. MANAGEMENT RECOMMENDATIONS

8.1 Erosion Management

The steep slopes of the property will be vulnerable to erosion during the clearance of the site and the construction phase. It is therefore important that appropriate erosion control measures are implemented, which include *inter alia*, the following:

- Ensure that construction activities do not cause any preferential flow paths and concentrated surface runoff during rainfall events.
- Clearly demarcate the construction area and ensure that heavy machinery does not compact soil or disturb vegetation outside of these demarcated areas.
- Reduce transport of sediment through use of structures such as silt fences and biodegradable coir logs placed along a contour below the development footprint (Figure 9).



Figure 9: Examples of silt fences (left) and coir logs (right) used to trap sediment mobilised from steep slopes.

- Ensure that vegetation clearing is conducted in parallel with the construction progress to minimise erosion and runoff.
- Revegetate exposed areas once construction has been completed.
- Ensure that stormwater and runoff generated by hardened surfaces is discharged in retention areas (i.e. swales or retention ponds), to avoid concentrated runoff and associated erosion.

8.2 Stormwater Management

A key impact related to the development is the generation of large volumes of stormwater associated with an increased area of impermeable surfaces created by the development. Taking the current erosion into account, the addition of harden surfaces on the property will exacerbate the current erosion area as well as create additional erosion areas on the property.

It is therefore important that stormwater generated on-site should be managed according to Sustainable Drainage System (SuDS) principles. This requires that as much stormwater as possible should be attenuated within the development footprint. For example, the City of Cape Town guideline is that developments must provide for 24-hour extended detention of the 1-year return interval 24-hour storm event. In this respect, the following measures, *inter alia*, should be considered: (City of Cape Town stormwater management plan).

- Rainwater harvesting tanks must be installed where possible;
- Use of swales and detention ponds to attenuate stormwater runoff, encourage infiltration and reduce the speed, energy and volumes at which stormwater is discharged from the;
- Use of permeable paving to encourage infiltration into the soil, if the parking in front of the filling station is to be paved; and
- Use of retention ponds and artificial wetlands to capture stormwater runoff, prevent its discharge from the site and attenuate pollutants.

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