

St Helena Bay Mixed Use Development Consolidated Screening Report

Report Prepared for

SOM Group (Pty) Ltd



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St Helena Bay Mixed Use Development Consolidated Screening Report

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Table of Contents

1	Introduction	1
1.1	Background and Introduction	1
1.2	Assumptions and Limitations	1
2	Site Sensitivity	3
2.1	Agricultural Sensitivity	3
2.2	Aquatic Biodiversity Sensitivity	4
2.2.1	Recommendations	4
2.3	Terrestrial Biodiversity and Avifaunal Sensitivity	5
2.3.1	Recommendations	6
2.4	Heritage Sensitivity	8
2.4.1	Archaeological and Palaeontological Sensitivity	8
2.4.2	Historical sites	11
2.4.3	Graves and burials	11
2.4.4	Cultural landscape	12
3	Consolidated Project Site Sensitivity	12
3.1	Conclusion and High-Level Recommendations	14
5	References	15
	Appendices	16

List of Tables

Table 2-1:	Specialist disciplines and site visit date	3
Table 2-2:	Desktop sensitivity mapping criteria	3
Table 3-1:	Summary of specialist findings	12

List of Figures

Figure 1-1:	Preliminary Phase 1 project development layout	2
Figure 2-1:	Aquatic sensitivity map indicating the two watercourses with 15-meter buffer	5
Figure 2-2:	Animal theme (avifaunal) sensitivity	6
Figure 2-3:	Botany theme sensitivity	7
Figure 2-4:	Terrestrial biodiversity sensitivity	7
Figure 2-5:	Northern half of the proposed development area showing archaeological resources from 2021 and 2025 surveys	9
Figure 2-6:	Southeastern half of the proposed development area showing archaeological resources from 2021 and 2025 surveys	10
Figure 2-7:	Location of the cemetery (blue polygon) identified during the archaeological survey.	11
Figure 3-1:	Consolidated Sensitivity Map	13

Appendices

Appendix A	Agriculture Screening Assessment
Appendix B	Aquatic Biodiversity Screening Assessment
Appendix C	Terrestrial Biodiversity Screening Assessment
Appendix D	Heritage Screening Assessment

Acronyms and Abbreviations

CBA	Critical Biodiversity Area
DFFE	Department of Forestry, Fisheries, and the Environment
EIA	Environmental Impact Assessment
ESA	Ecological Support Area
NEMA	National Environmental Management Act 107 of 1998
NFEPA	National Freshwater Ecosystem Priority Area
NHRA	National Heritage Resources Act 25 of 1999
NWA	National Water Act 36 of 1998
NWM5	National Wetland Map Version 5
Oceana	Oceana Group Ltd
ONA	Other Natural Areas
SCC	Species of Conservation Concern
S&EIR	Scoping and Environmental Impact Reporting
SOM	SOM Group (Pty) Ltd
SOW	Scope of Works
SRK	SRK Consulting (South Africa) (Pty) Ltd
WCBSP	Western Cape Biodiversity Spatial Plan
WULA	Water Use Licence Application

Glossary

Avifauna	The collective birds of a given region.
Ecological Support Area	Areas which play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development.
Environmental Impact Assessment	A process of evaluating the environmental and socio-economic consequences of a proposed course of action or project.
Fauna	The collective animals of a particular region, habitat or geological period.
Flora	The collective plants of a particular region, habitat or geological period.

Heritage Resources	Refers to something tangible or intangible, e.g. a building, an area, a ritual, etc. that forms part of a community's cultural legacy or tradition and is passed down from preceding generations and has cultural significance.
Watercourse	A natural freshwater feature, including pans.

1 Introduction

1.1 Background and Introduction

Oceana Group Limited (Oceana) intends to develop a mixed-use project comprising a retirement estate, an eco-estate, a commercial area, commercial retail areas, lifestyle retail outlets, a petrol station and a medical facility in St Helena Bay, Western Cape (the project). The project will occupy approximately 156.71 ha on land owned by Oceana and is located within the larger 614.88 ha Portion 4 of Farm 6 Duyker Eiland in the West Coast District Municipality. Oceana may in future phases develop all or part of the remainder of the property. The current project is in effect Phase 1.

Oceana has appointed the SOM Group (Pty) Ltd (SOM) to facilitate delivery of the project on Oceana's behalf.

An initial layout with proposed development components was prepared, and Oceana subsequently appointed SRK Consulting (South Africa) (Pty) Ltd (SRK) to undertake a screening assessment for the project site. The purpose of this assessment is to identify areas suitable (and unsuitable) for development and to inform project layout prior to commencing the Environmental Impact Assessment (EIA) process required under the National Environmental Management Act 107 of 1998 (NEMA) and EIA Regulations, 2014. This Consolidated Screening Report is intended to guide Oceana's site planning and layout by identifying a developable area which avoids most adverse impacts and is not intended for public disclosure.

The preliminary layout issued by Oceana is provided in Figure 1-1.

The report presents the site sensitivity for agriculture, aquatic biodiversity, terrestrial biodiversity and fauna, and heritage themes.

1.2 Assumptions and Limitations

As is standard practice, this report is based on a number of assumptions and is subject to certain limitations. These are as follows:

1. The botanical, faunal and terrestrial biodiversity assessments were conducted during late summer/early autumn. Consequently, these assessments do not account for complete seasonal variation in conditions in the study area which may have limited the detection of e.g. spring-emerging flowering plants or breeding activity of species like the Black Harrier. The sensitivity screening relied on broad habitat features, intact vegetation types, and known habitat and distributional records for Species of Conservation Concern (SCC);
2. The precautionary principle, i.e. a conservative approach which likely overstates sensitivity has been adopted; and
3. It is assumed that information provided by specialists is accurate.

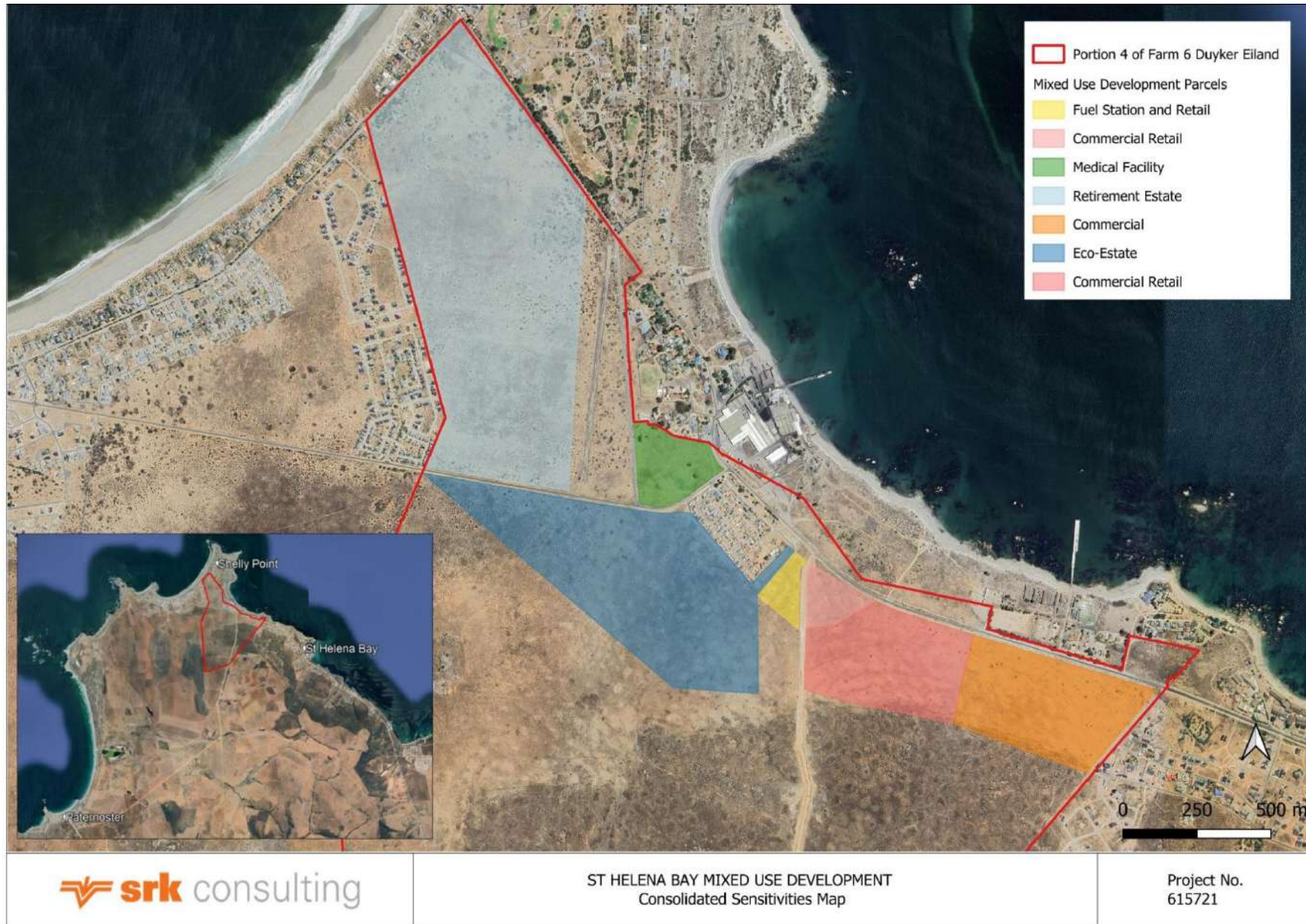


Figure 1-1: Preliminary Phase 1 project development layout

2 Site Sensitivity

The specialist inputs that informed this report are listed in Table 2-1, which also indicates the dates of specialists' respective site visits.

Table 2-1: Specialist disciplines and site visit date

Specialist discipline	Specialist	Site visit date
Agriculture	SoilZA	14 February 2025
Aquatic biodiversity	Delta Ecology	6-7 March 2025
Terrestrial biodiversity, flora and fauna	Delta Ecology	14 March 2025
Heritage	Terra Marre Archaeology	4 February 2025

The Scope of Work (SoW) for specialists was to:

- Undertake a site visit to gather information necessary for the sensitivity screening;
- Identify and delineate areas of Very High (No-Go), High, Medium, and Low sensitivity based on the Sensitivity Mapping Criteria presented in Table 2-2 below;
- Map sensitivities in a prescribed format (KML, KMZ, or Shapefile) with sensitivities indicated in attribute table and clearly labelled; and
- Present findings in a concise screening report including maps, to support the electronic files.

The key findings of the specialist screening reports are presented in subsequent sections.

Table 2-2: Desktop sensitivity mapping criteria

No Go	Areas or features that are considered of such sensitivity or importance that any adverse effects upon them may be regarded as a fatal flaw.
High	Areas or features that are considered to have high sensitivity. Development in these areas must be limited and must remain within any acceptable limits of change as determined by the specialist. Development should also comply with any other restrictions or mitigation measures identified by the specialist.
Medium	Medium sensitivity areas are considered to be developable; however, the nature of the effects should remain within any acceptable limits of change as determined by the specialist. Development should also comply with any other restrictions or mitigation measures identified by the specialist.
Low	Low sensitivity areas that are considered to be developable however specialists may still wish to define acceptable limits of change should they deem this necessary.

2.1 Agricultural Sensitivity

The *National Web Based Environmental Screening Tool* (the Screening Tool) initially classified the site as ranging from *Low* to *High* agricultural sensitivity, with the overall site sensitivity being *High* due to some areas being classified as cropland. However, the specialist disputes this classification and verified the entire site as being of *Low/Medium* agricultural sensitivity based on the following factors confirmed during a site assessment by the specialist:

- Soils have very low water and nutrient holding capacity, which limits their suitability for viable crop production;
- The terrain and soil conditions further constrain the site's agricultural potential; and
- The site cannot sustainably support viable crop production.

Given the site's *Low/Medium* agricultural sensitivity the entire site is considered suitable for development, with no restrictions based on agricultural sensitivity. Due to this uniform sensitivity across the site, no agricultural sensitivity map is presented in this section. The detailed Agriculture Screening Assessment is attached as Appendix A.

2.2 Aquatic Biodiversity Sensitivity

The Screening Tool classified the site as *Very High* sensitivity for the combined aquatic biodiversity theme.

During the desktop assessment, the specialist confirmed that:

- There are no mapped rivers or natural wetlands in the study area according to the National Wetland Map Version 5 (NWM5), the National Freshwater Ecosystem Priority Area (NFEPA) spatial data, and other relevant datasets;
- The study area overlaps with regulated areas¹ for two non-perennial drainage lines and one artificial wetland; and
- According to the latest Western Cape Biodiversity Spatial Plan (WCBSP, 2023), the study area does not coincide with aquatic Ecological Support Areas (ESAs).

Two watercourses were identified in the study area during the specialist site assessment:

- A small ~100 m long ephemeral drainage line originating in and discharging from the proposed commercial retail area (see Figure 2-1); and
- Another ephemeral drainage line in an artificial stone channel, originating south of and discharging north of the proposed commercial retail area (see Figure 2-1).

Both watercourses have been significantly transformed by historical agricultural activities and currently function as surface drains. They have limited to no riparian vegetation, and their ecological functionality is highly degraded. The degraded condition of these watercourses reduces their ecological importance, but they still serve as conduits for surface water flow through the landscape.

2.2.1 Recommendations

The key recommendations are as follows:

- Delineate a (minimum) 15-metre buffer zone around these watercourses, designated as No Go areas. Assuming this recommendation is implemented, the aquatic biodiversity sensitivity of the remainder of the study area is classified as *Low* based on the degraded nature of the watercourses and the absence of significant aquatic biodiversity constraints.

The detailed Aquatic Biodiversity Screening Assessment is attached as Appendix B.

¹ The regulated area of a watercourse in terms of Section 21(c) and (i) of the National Water Act 36 of 1998 can be defined as: The outer edge of the 1:100-year flood line or the delineated riparian habitat of the watercourse, whichever is greatest distance; in the absence of a 1-100 year flood line, the area within 100m from the edge of the watercourse; and in respect of a wetland a 500m radius around the delineated boundary of any wetland.



Figure 2-1: Aquatic sensitivity map indicating the two watercourses with 15-meter buffer.

Source: Delta Ecology (2025).

2.3 Terrestrial Biodiversity and Avifaunal Sensitivity

The Screening Tool flagged the project area as having *High* sensitivity for the animal theme, *Medium* sensitivity for the plant theme, and *Very High* sensitivity for terrestrial biodiversity. These ratings were based on the presence of bird SCC, plant species of conservation concern, Critical Biodiversity Areas (CBAs), and threatened vegetation types.

Based on a site visit, the specialist concluded that the sensitivity for the animal theme, particularly birds, is likely to be *Low* across all sites despite the Screening Tool's *High* sensitivity rating (see Figure 2-2).



Figure 2-2: Animal theme (avifaunal) sensitivity

Source: Delta Ecology (2025).

For the plant and terrestrial biodiversity theme, a large portion of the site was also classified as *Low* sensitivity, i.e. suitable for development. However, the northern site near Shelley Point (northern half of the proposed retirement estate site) was identified as the main area of concern due to the presence of *Critically Endangered* Saldanha Granite Strandveld and *Endangered* Langebaan Dune Strandveld vegetation types. A small band along the southern border of the commercial retail component was also classified as *Medium/High* sensitivity.

The retirement estate site comprises three CBA categories—CBA1, ESA1, and Other Natural Area (ONA)—with the largest portion classified as ESA1. The WCBSP land-use guidelines indicate that development should be avoided in CBA1 and ESA1 areas, while only restricted development is permissible in ONAs. This area has been classified as a *Medium to High* sensitivity.

It is not possible to confirm the sensitivity of the preliminary *Medium/High* sensitivity classification of without a spring survey.

Other sites were deemed to have lower sensitivity for plants. Refer to Figure 2-3 and Figure 2-4 below for the botanical and terrestrial sensitivities.

2.3.1 Recommendations

- Conduct a spring survey to confirm the *Medium/High* sensitivity of two sites, and to confirm the presence of sensitive plant species and assess the ecological integrity of CBAs.

The detailed Terrestrial Biodiversity, Flora and Fauna Screening Assessment is attached as Appendix C.

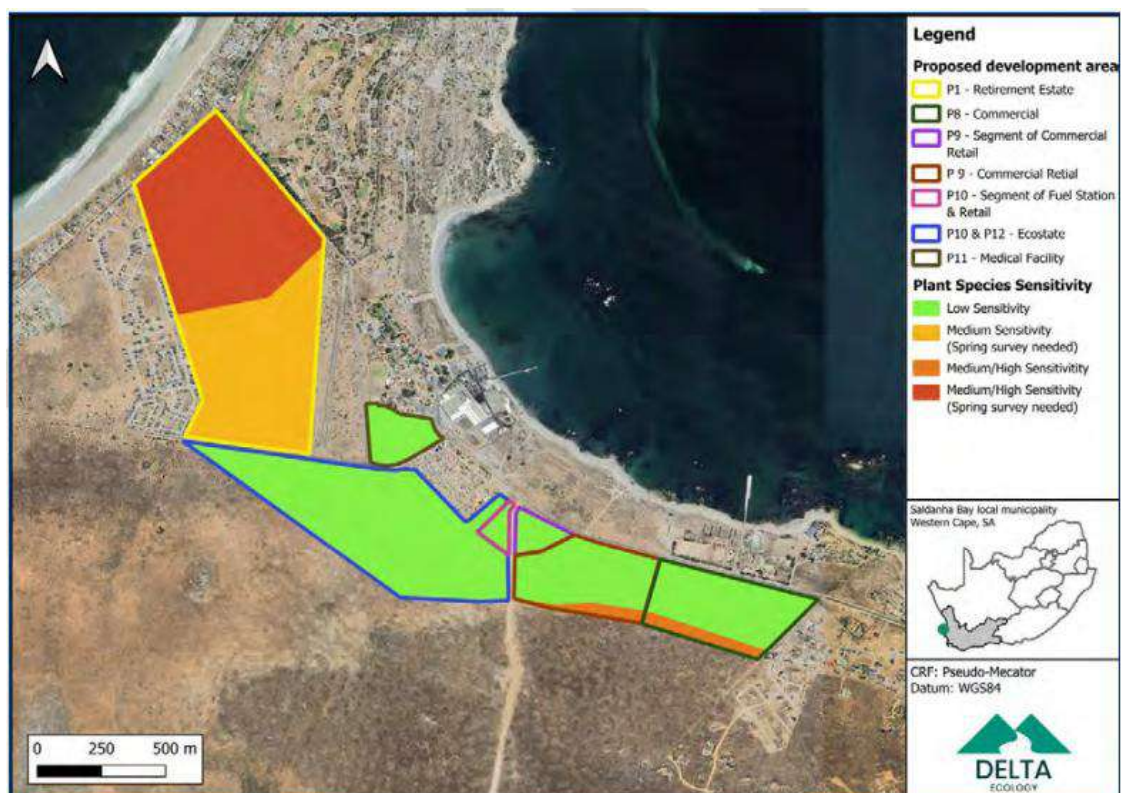


Figure 2-3: Botany theme sensitivity

Source: Delta Ecology (2025).

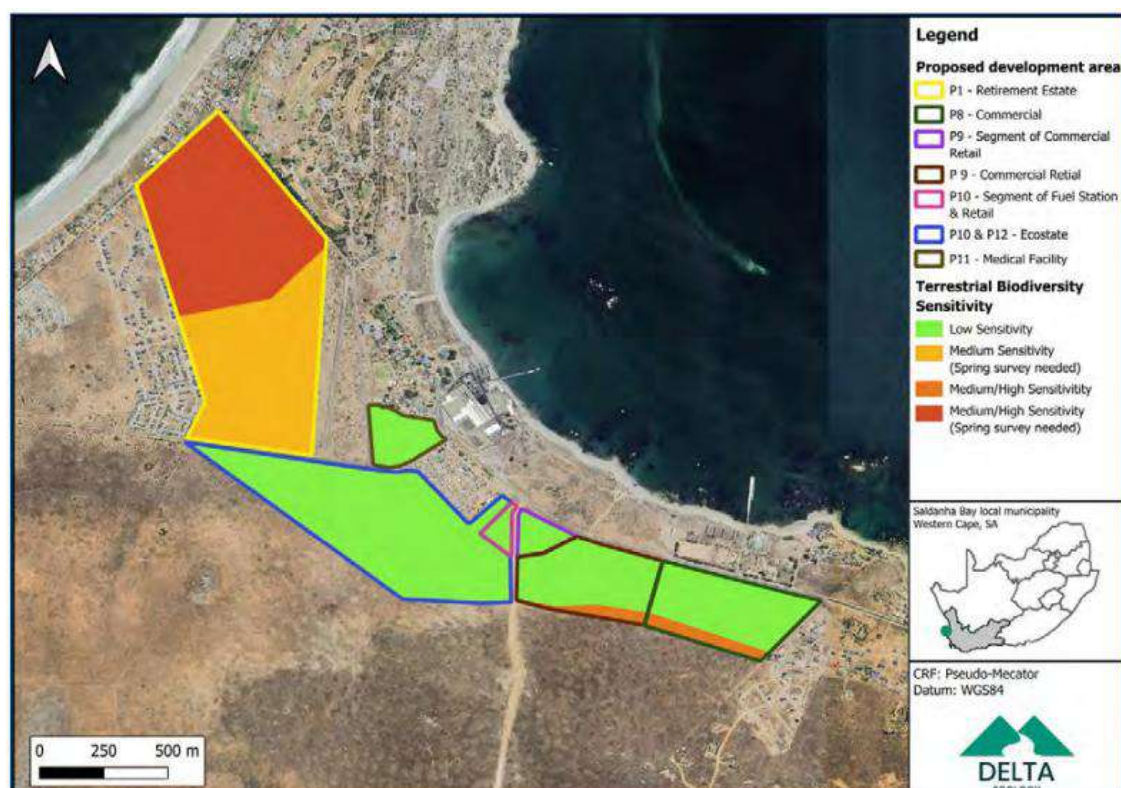


Figure 2-4: Terrestrial biodiversity sensitivity

Source: Delta Ecology (2025).

2.4 Heritage Sensitivity

The heritage screening report for the proposed mixed-use development in St Helena Bay examines several key aspects, including palaeontology, archaeology, historical sites and built environment, graves and burials, and the cultural landscape. Sensitivity assessments were conducted based on desktop studies, site visits, and expert input, with grading systems applied to determine the significance of heritage resources and their implications for the development.

2.4.1 Archaeological and Palaeontological Sensitivity

The heritage screening assessment concludes that the archaeological and palaeontological sensitivity of the site is generally *Low*. The archaeological and palaeontological resources identified during the survey that are considered worth preserving are depicted in Figure 2-5 and Figure 2-6 (yellow labelled points indicate Grade 3C material; white labelled points are ungradable)². Grade 3C resources are of *Low* local sensitivity.

2.4.1.1 Recommendations

- Sample and record Grade 3C sites for documentation purposes.

² See Appendix C of the Heritage Screening Assessment for a description of the Grade 3C sites.



Figure 2-5: Northern half of the proposed development area showing archaeological resources from 2021 and 2025 surveys.

Source: Terra Marre Archaeology (2025).



Figure 2-6: Southeastern half of the proposed development area showing archaeological resources from 2021 and 2025 surveys.

Source: Terra Marre Archaeology (2025).

2.4.2 Historical sites

Historical sites and built environment features are of *Low* sensitivity. The only notable structure, a disused aircraft landing strip, is less than 60 years old and not subject to protection under heritage legislation. The findings indicate that historical built heritage will not pose significant constraints to the development.

2.4.3 Graves and burials

A historical cemetery was identified within the project area, containing graves dating from the late 19th century to 1987 (see Figure 2-7 for the location of the cemetery). While no other graves were found during the surveys, the possibility of unmarked pre-colonial burials cannot be ruled out.

2.4.3.1 Recommendations

- Exclude the cemetery from the development footprint, and include procedures for handling chance finds of human remains in the Environmental Management Programme to mitigate potential impacts.

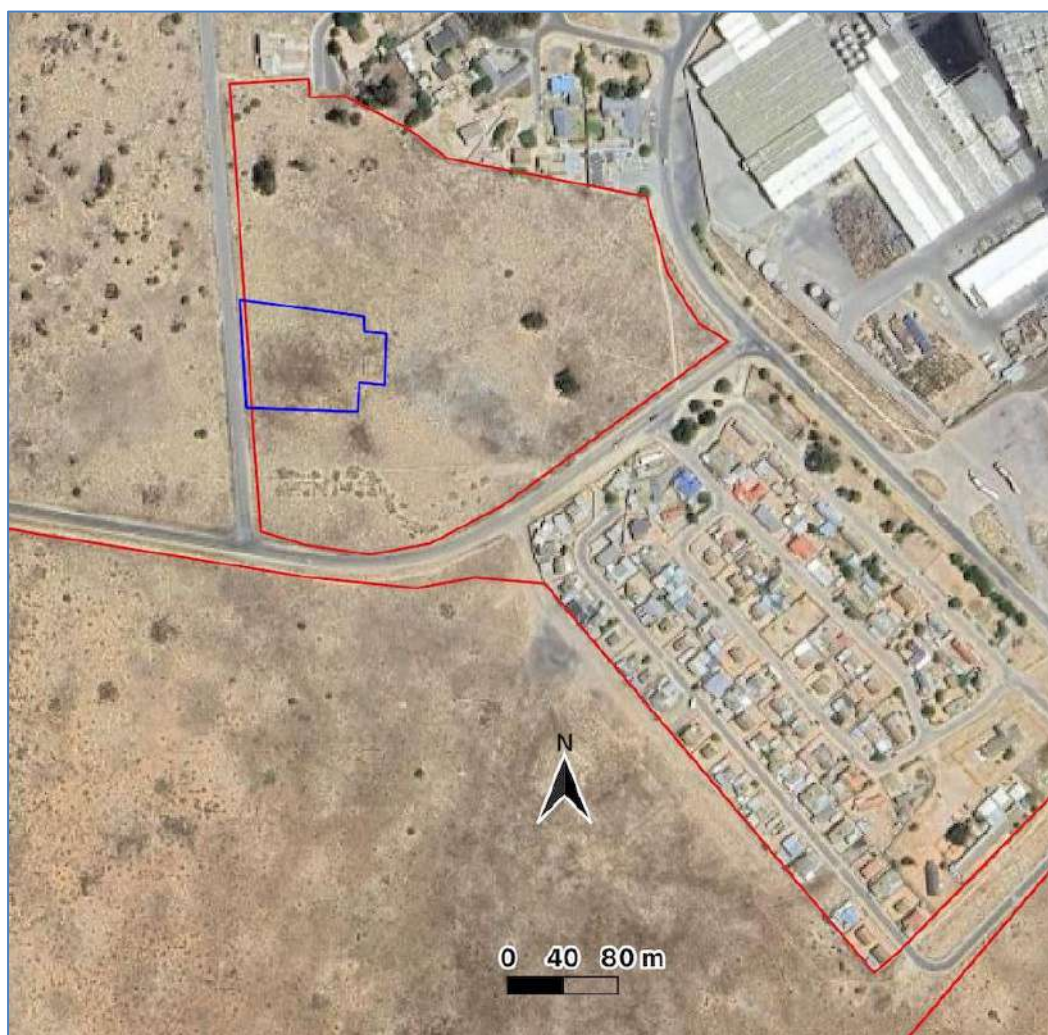


Figure 2-7: Location of the cemetery (blue polygon) identified during the archaeological survey.

Source: Terra Marre Archaeology (2025).

2.4.4 Cultural landscape

The cultural landscape of the site is of relatively *Low* sensitivity, as it has been heavily altered by ongoing residential and industrial development. While the proposed development will further change the landscape, this transformation is consistent with existing trends in the area. Intangible heritage claims, such as those related to historical events or sacred sites, may arise during the EIA process and will need to be assessed on a case-by-case basis.

Overall, the report concludes that the heritage sensitivities of the site are unlikely to pose significant constraints to the development, provided appropriate mitigation measures are implemented. Refer to Appendix D for the Heritage impact assessment.

3 Consolidated Project Site Sensitivity

The specialist assessments conducted for the St Helena Bay Mixed Use Development identified various environmental and heritage sensitivities across the site, consolidated and depicted in Figure 3-1. Table 3-1 presents a concise summary of the key sensitivities and associated mitigation measures.

Table 3-1: Summary of specialist findings

Theme	Finding	Recommended Mitigation
Agricultural sensitivity	The site was classified as <i>Low/Medium</i> sensitivity due to poor soil conditions and limited cropping potential. No agricultural sensitivity constraints were identified.	No mitigation measures recommended.
Freshwater Ecosystem sensitivity	Two degraded ephemeral drainage lines were identified. The site is classified as <i>Low</i> aquatic biodiversity sensitivity assuming mitigation measures are implemented.	Establish a 15-meter buffer zone around the two drainage lines to designate them as no-go areas.
Terrestrial Biodiversity and Faunal and Avifaunal sensitivity	The animal theme sensitivity is <i>Low</i> across all sites. Most of the site is of <i>Low</i> sensitivity. However, the northern half of the proposed retirement estate site is an area of concern due to critically endangered vegetation types and CBAs.	Undertake spring surveys for areas identified as <i>Medium/High</i> sensitivity.
Heritage sensitivity	Palaeontology: <i>Low</i> sensitivity overall, with occasional <i>Medium</i> sensitivity fossil deposits. Archaeology: <i>Low</i> sensitivity, with scattered lithic artefacts graded as 3C. Historical Sites: <i>Low</i> sensitivity, with no significant constraints identified. Graves and Burials: <i>Very High</i> sensitivity for identified cemetery and potential unmarked graves. Cultural Landscape: <i>Low</i> sensitivity due to existing residential and industrial development.	Sample and record Grade 3C sites for documentation purposes.

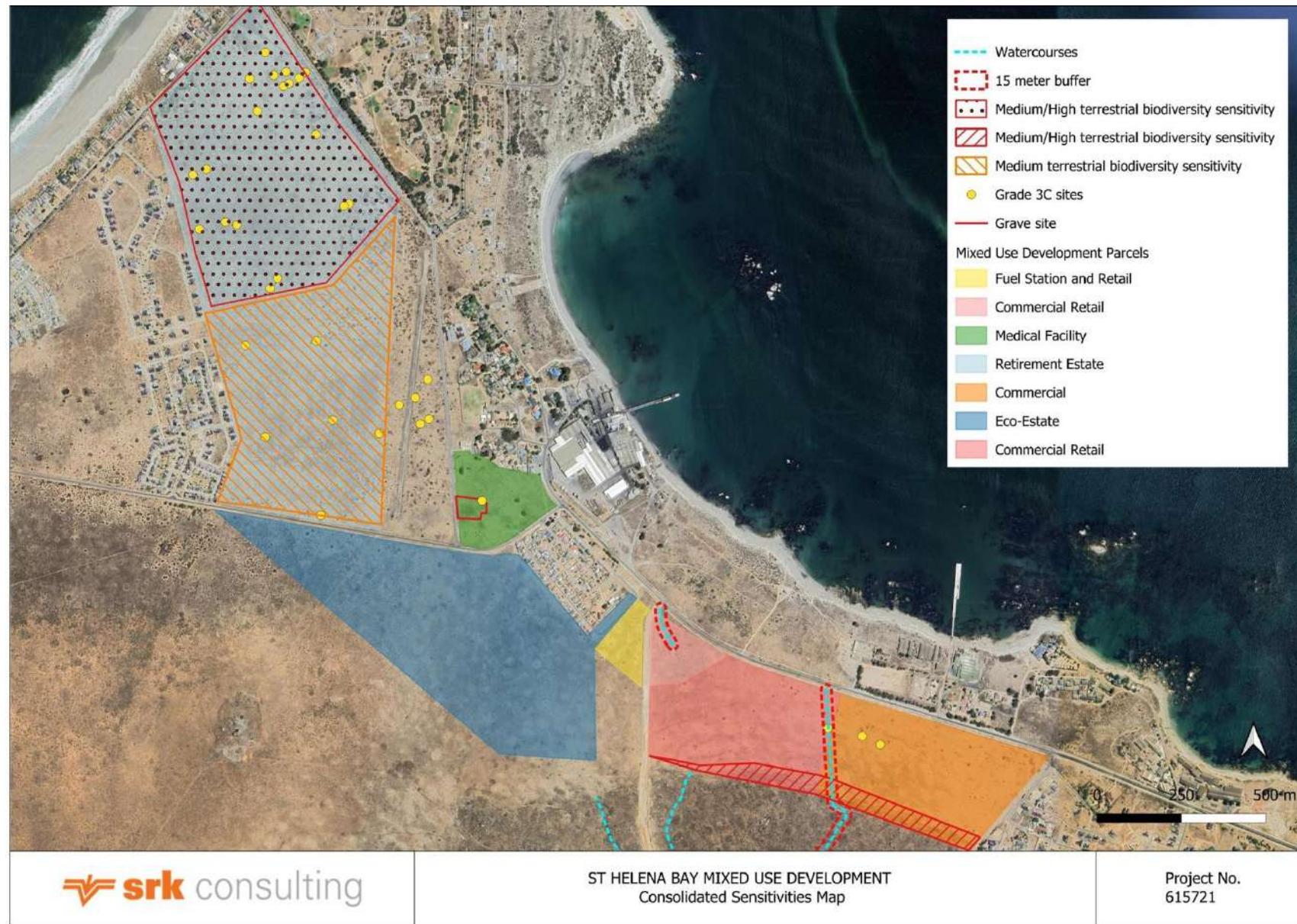


Figure 3-1: Consolidated Sensitivity Map

3.1 Conclusion and High-Level Recommendations

The majority of the commercial retail component is suitable for development apart from the two drainage lines identified.

Key findings of the Consolidated Screening Report are as follows:

- Low sensitivity areas are generally suitable for development with appropriate mitigation measures;
- If drainage lines and buffer areas are designated as No-Go zones, the impact on watercourses will be negligible. Regulatory processes will be required in terms of the National Water Act 36 of 1998 for development within the commercial retail component;
- A spring survey is required in areas identified as having *Medium to High* sensitivity to more accurately determine development constraints;
- Archaeological and palaeontological resources are of low local significance (Grade 3C) and do not pose significant constraints to development; and
- Areas of *Very High* sensitivity (e.g., graves) should be avoided.

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Appendices

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
Johann Lanz**

26 March 2025

Table of Contents

1 Purpose of this Report..... 1

2 Methodology of study 1

3 Verification of the site sensitivity 1

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	Suitable
7				
8 - 10	High	Suitable		
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.

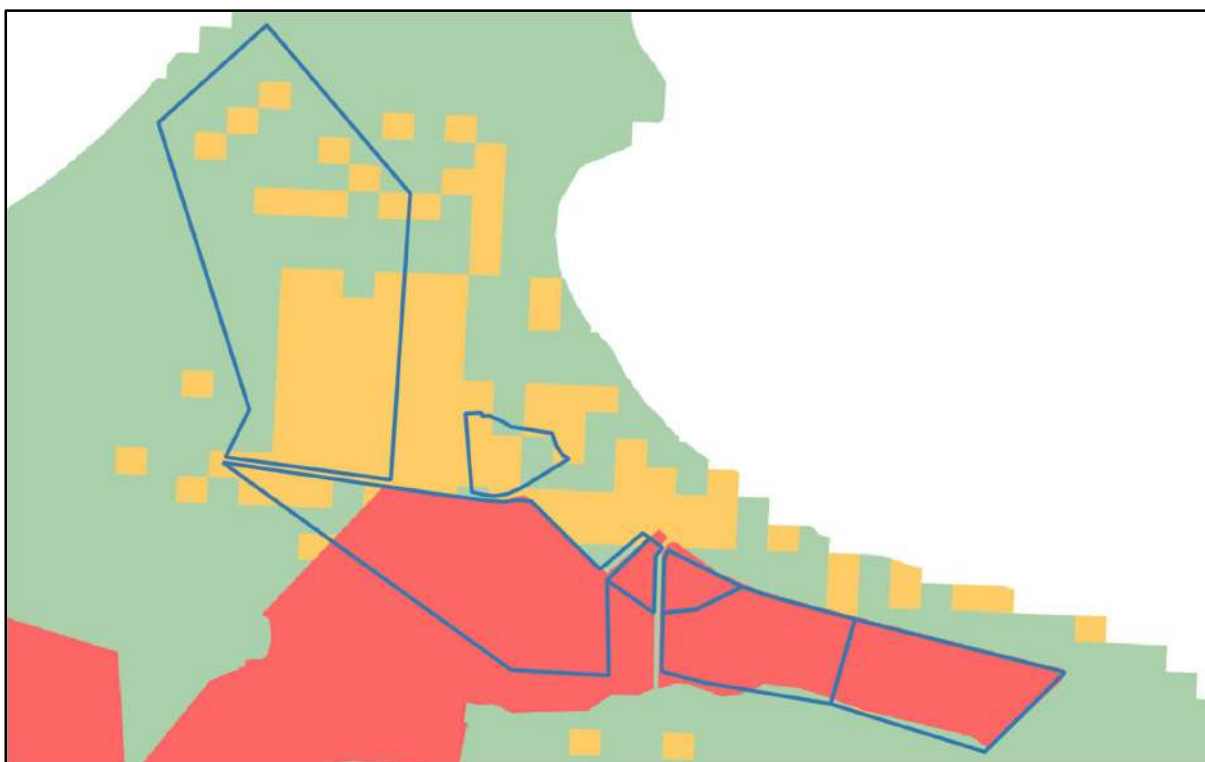


Figure 1. The assessed area overlaid on agricultural sensitivity, as classified by the screening tool (green = low; yellow = medium; red = high; dark red = very high). The screening tool's high sensitivity is disputed by this assessment, which rates the entire assessed area as being of low/medium agricultural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

Appendix B:

Aquatic Biodiversity Screening Assessment

Aquatic Biodiversity Screening Report

Proposed St Helena Bay Mixed-use Development Portion 4 of Farm 6, Western Cape

For: SRK Consulting

April 2025



Report Information

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Citation

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Executive Summary

The feasibility of developing a mixed-use development on Farm Duyker Eiland No. 4/6, St Helena Bay, is being investigated. The proposed mixed-use development includes a retirement estate, eco estate, medical facility, fuel station and commercial retail areas, along with associated infrastructure. The proposed development has a footprint of 163.5 ha and will be located in the northern portion of the site (referred to as the study area in this report). The study area is located southwest of Stompneus Bay, within the West Coast District Municipality, and is surrounded by natural vegetation to the south, fallow agricultural fields to the west, with residential housing along its eastern to northwestern border.

According to the Department of Forestry, Fisheries, and the Environment (DFFE) national web-based environmental screening tool report generated for the study area, the Combined Aquatic Biodiversity Theme Sensitivity is classified as “Very High” (DFFE, 2025). The classification trigger is the location of mapped Western Cape Biodiversity Spatial Plan (WCBSP, 2017) aquatic Ecological Support Areas 1 (ESAs) within the study area.

This report sets out the results from a desktop analysis, as well as a field assessment, to clarify aquatic biodiversity constraints associated with the proposed study area.

During the desktop assessment, it was determined that there were no mapped rivers, or natural wetlands within the study area according to the National Wetland Map Version 5 (NWM5) (SANBI, 2018), the National Freshwater Ecosystem Priority Area (NFEPA) spatial data (CSIR, 2011), and the watercourse information from the Department of Rural Development and Land Reform (DRDLR). Additionally, according to the updated WCBSP (2023), the study area no longer coincides with aquatic ESAs. However, desktop resources (DRDLR and NFEPA) do indicate that the proposed study area overlaps with the 100 m and 500 m regulated area of two non-perennial drainage lines and one artificial wetland respectively.

During a field assessment on the 6th and 7th of March 2025, two watercourses were delineated within the proposed study area including a small ephemeral drainage line flowing through the proposed Commercial Retail area P9, and an ephemeral drainage line (now a stone channel) which flows through the proposed commercial retail area P8 and P9 (**Figure i**). As the two drainage lines occur within the proposed development’s footprint area, they are considered to be “At-Risk” of the proposed activities. The two drainage lines within the study area have been transformed by historical agricultural activities and currently have limited to no riparian vegetation present. These features are currently functioning as surface drains.

The proposed study area occurs within the regulated area of two additional non-perennial drainage lines (**Figure i**). These two drainage lines are located more than 20 m upstream and were both therefore deemed not to be “At Risk” of activities associated with the proposed development. Additionally, the mapped artificial NFEPA wetland was confirmed to be a disused dam associated with the Oceana fishing company and was therefore excluded from the sensitivity analysis.



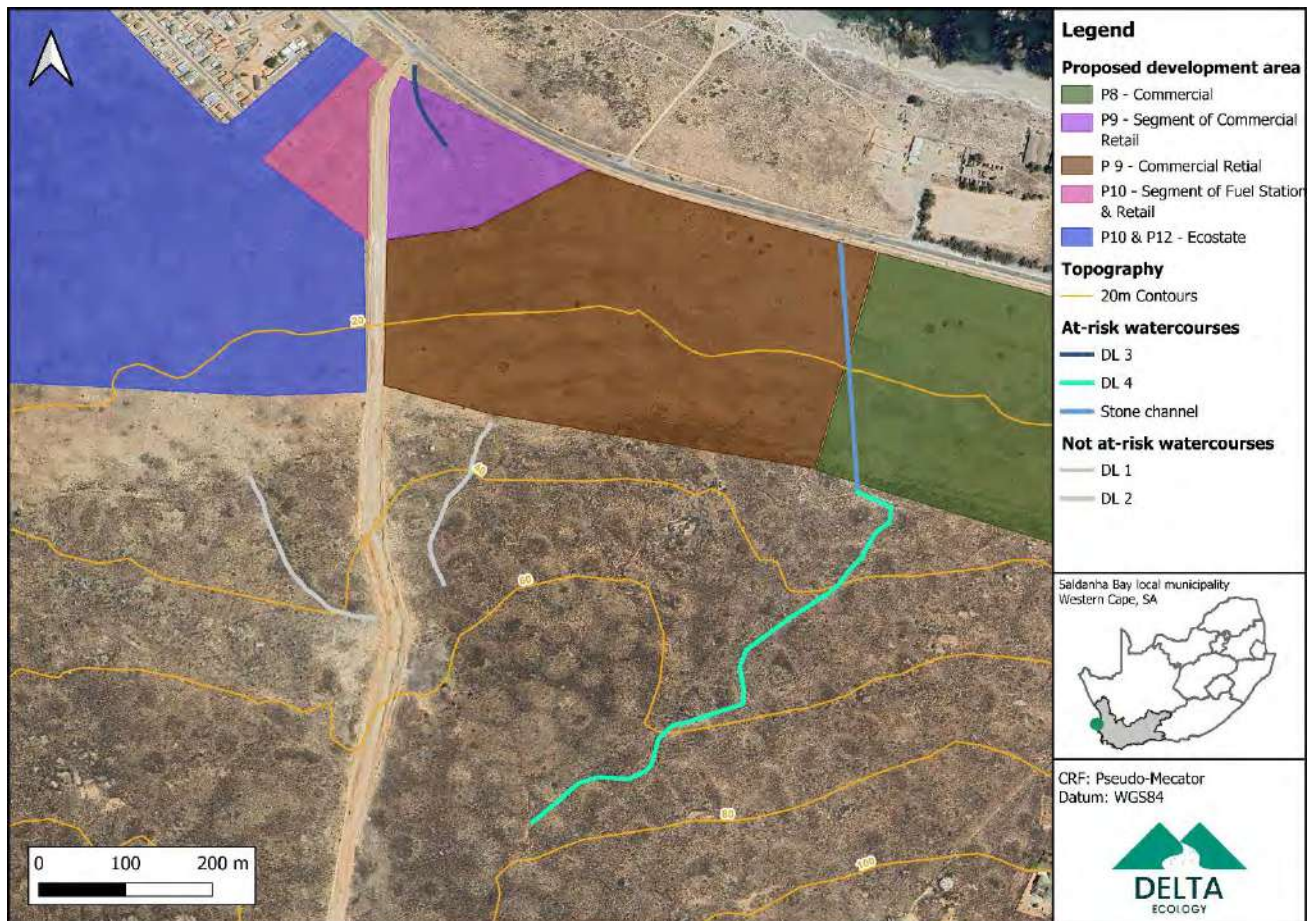


Figure i: Watercourses deemed to be “At-Risk” of the proposed development.

The potential aquatic impacts resulting from the construction and operational phase of the proposed development can be minimized by demarcating both onsite watercourses, as well as an adequate buffer area surrounding onsite watercourses, as no-go areas (**Figure ii**).

In terms of the National Environmental Management Act (NEMA), Act No. 107 of 1998, a Basic Assessment (BA) will be required if there is construction of 100 m² or more of infrastructure within a watercourse (i.e. wetland, river, or drainage line) or within 32 m thereof, or removal, deposition, or movement of 10 m³ or more of sediment or any other substance within a watercourse (i.e. wetland, river, or drainage line). Considering the current layout plan it is considered likely that these two Listed Activities will be triggered by the proposed development.

Should the avoidance of the drainage lines and their associated buffer areas be possible, then it is the opinion of the specialist that an Aquatic Biodiversity Compliance Statement will be required during the Environmental Authorisation (EA) process. However, should this not be possible then a full Aquatic Biodiversity Impact Assessment will be required.

Furthermore, a Water Use Authorisation (WUA), either in the form of a General Authorisation (GA) in terms of GN 4167 of 2023 promulgated in terms of the National Water Act ([NWA] 36 of 1998) or in the form of a Water Use Licence (WULA) will also be required for the proposed development. Should the drainage lines as well as an adequate buffer area surrounding the drainage lines be designated as no-go areas, the risk to the watercourses is likely to be negligible and the proposed development may fall under the ambit of a GA. However, should development within the drainage lines be unavoidable, a full WULA will likely be required. This will have to be confirmed with the application of the Risk Assessment Matrix (RAM) prescribed by GN 4167 of 2023.

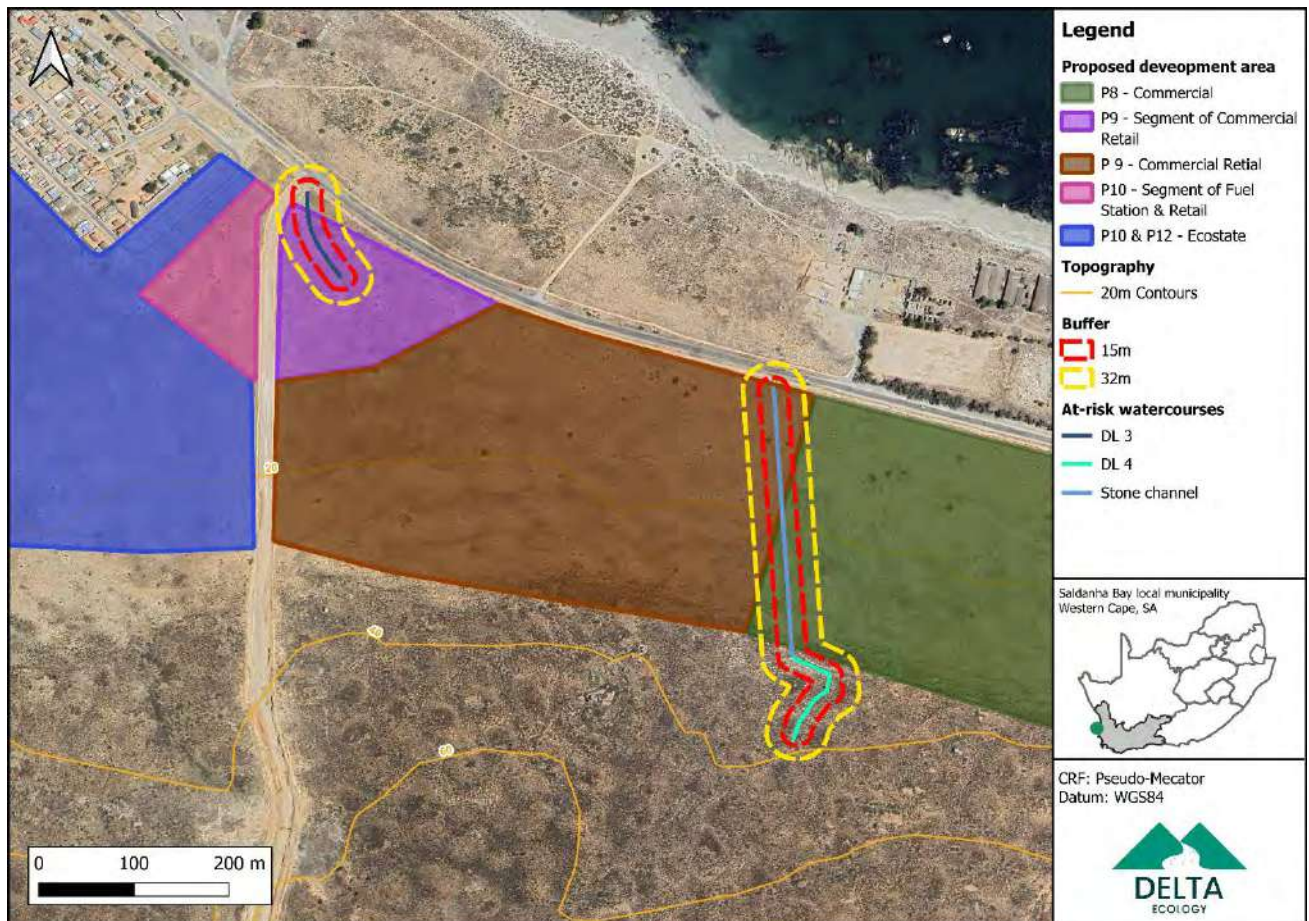


Figure ii: Opportunities and constraints map indicating the 32 m regulated area according to NEMA, and the 15 m buffer area stipulated by the buffer tool.

Table of Contents

Executive Summary.....	3
Table of Contents	6
List of Figures.....	7
List of Tables	7
Specialist Details	8
1. Introduction.....	9
1.1. Terms of Reference.....	10
1.2. Limitations and Assumptions.....	11
1.3. Use of this report	11
2. Site Sensitivity Verification	11
3. Methodology	12
3.1. Desktop Assessment	12
3.2. Wetland Identification & Delineation.....	13
3.3. Riparian Area Delineation.....	14
3.4. Watercourse Classification	14
4. Desktop Assessment.....	16
4.1. Biophysical Context	16
4.2. Biodiversity Planning Context	18
5. Site Description.....	20
6. Opportunities and Constraints Mapping.....	28
7. References	30



List of Figures

Figure 1-1: Regional location of the proposed site.....	9
Figure 1-2: Location of proposed development area, hereafter referred to as the study area, within the site.....	10
Figure 3-1: Wetland Hydrogeomorphic Types as defined in the Classification System for Wetlands and Other Aquatic Ecosystems in South Africa (Ollis <i>et al.</i> , 2013).	15
Figure 4-1: Natural wetland vegetation would have consisted of the Western Strandveld.....	18
Figure 4-2: No mapped NFEPA (2011) or NWM5 (2018), NGI (2019) or drainage line watercourses indicated within the study area.....	19
Figure 4-3: CBAs and ESAs (WCBSP, 2017) indicated within study area and 500 m thereof.....	19
Figure 5-1: Delineation Map.....	21
Figure 5-2: Overview of the study area (P8 & P9) consisting of a sloping landscape & sparse terrestrial vegetation..	22
Figure 5-3: Overview of the study area (P8 & P9) consisting of terrestrial vegetation.	22
Figure 5-4: Overview of the study area (P8 & P9) with disturbance evident.....	23
Figure 5-5: Overview of the study area (P10 & P12) consisting of a flat landscape & terrestrial vegetation.....	23
Figure 5-6: Overview of the study area (P11) consisting of a flat landscape & terrestrial vegetation.	24
Figure 5-7: Overview of the study area (P1) consisting of a flat landscape & terrestrial vegetation.....	24
Figure 5-8: Drainage line 4 now consisting of a stone channel.....	25
Figure 5-9: Drainage line 3 within P9.	25
Figure 5-10: Overview of the portion of Drainage line 4 upstream of the study area, after which the flow is directed to the stone channel.....	26
Figure 5-11: Drainage line 1.....	26
Figure 5-12: Drainage line 1.	27
Figure 5-13: Terrestrial soil sample.....	27
Figure 6-1: Opportunities and constraints map indicating the 32 m regulated area according to NEMA, the 100 m regulated area according to the NWA and the 15 m buffer area stipulated by the buffer tool.	29

List of Tables

Table 4-1: General biophysical characteristics of the proposed study area.....	17
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A signed statement of independence will be provided as a separate document.

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A signed statement of independence will be provided as a separate document.



1. Introduction

The feasibility of developing a mixed-use development on Farm Duyker Eiland No. 4/6, St Helena Bay, Western Cape (**Figure 1-1**), is being investigated. The proposed mixed-use development includes a retirement estate, eco estate, medical facility, fuel station and commercial retail areas, along with associated infrastructure. The proposed development has a footprint of 163.5 ha and will be located in the northern portion of the site (referred to as the study area in this report).

The study area is located southwest of Stompneus Bay, within the West Coast District Municipality, and is surrounded by natural vegetation to the south, fallow agricultural fields to the west, with residential housing along its eastern to northwestern border (**Figure 1-2**).

According to the Department of Forestry, Fisheries, and the Environment (DFFE) national web-based environmental screening tool report generated for the study area, the Combined Aquatic Biodiversity Theme Sensitivity is classified as “Very High” (DFFE, 2025). The classification trigger is the location of mapped Western Cape Biodiversity Spatial Plan (WCBSP, 2017) aquatic Ecological Support Areas 1 (ESAs) within the study area (**Figure 1-4**).

Given that the study area may have potential aquatic biodiversity constraints, Delta Ecology was appointed by SRK Consulting to undertake an aquatic biodiversity assessment with the aim of (1) verifying the site sensitivity with regards to aquatic biodiversity; and (2) clarifying aquatic biodiversity constraints within the study area.



Figure 1-1: Regional location of the proposed site.

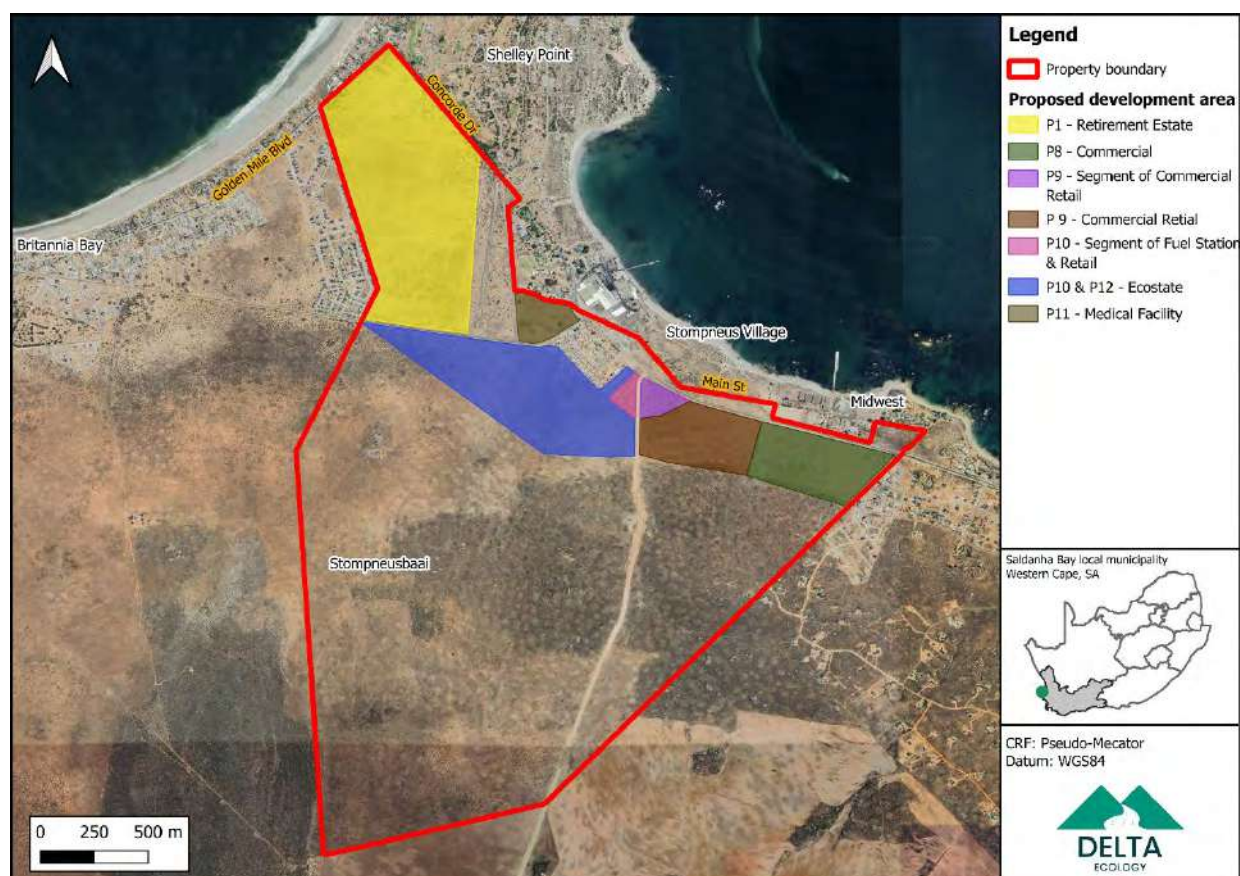


Figure 1-2: Location of proposed development area, hereafter referred to as the study area, within the site.

1.1. Terms of Reference

The Terms of Reference (ToR) agreed upon for this aquatic biodiversity screening report include:

- A desktop background assessment to identify potential aquatic biodiversity constraints within the proposed study area and within the 500 m regulated proximity thereof.
- A field assessment to confirm aquatic biodiversity constraints.
- Delineation of any watercourse (s) using a combination of site-based and desktop methodologies as appropriate.
- Drafting of an aquatic biodiversity screening report including the following:
 - o General site description;
 - o Site sensitivity verification;
 - o Description of the drivers and key components of any watercourse (s) (as applicable) that are likely to be impacted by the proposed development as applicable;
 - o Clarification of the legislative implications and authorisation processes required for various development scenarios as applicable; and
 - o Recommendations for minimisation of aquatic biodiversity impact as applicable.

1.2. Limitations and Assumptions

The following limitations and assumptions apply to this assessment:

- The site assessment was undertaken on the 6th and 7th of March 2025, during the summer season. Therefore, this assessment does not cover complete seasonal variation in conditions at the study area. An additional survey may be conducted during the wet season to confirm findings, however, for the purposes of this screening assessment, watercourse indicators observed during the March 2025 surveys appear to be sufficient.
- The watercourses were delineated using a Garmin handheld GPSMAP 66i with an expected accuracy of 3 m or less at the 95% confidence interval. In the opinion of the specialist, this limitation is of no material significance to the assessment and all aquatic biodiversity constraints have been adequately identified.
- It is important to note that during the course of converting spatial data to final drawings, several steps in the process may affect the accuracy of areas delineated in the current report. It is therefore suggested that the no-go areas identified in the current report as well as during the Impact Assessment phase be pegged in the field in collaboration with the surveyor for precise boundaries. The scale at which maps and drawings are presented in the current report may become distorted should they be reproduced by, for example, photocopying and printing.
- The information provided by the client forms the basis of the planning and layouts discussed.
- Formal vegetation sampling was not done by the specialist, however general observations pertaining to vegetation were recorded based on onsite visual observations. Furthermore, only dominant, and noteworthy plant species were recorded. Thus, the vegetation information provided has limitations for true botanical applications.
- Deriving a 100% factual report based on field collecting and observations can only be done over several years and seasons to account for fluctuating environmental conditions, species' seasonality, and migrations. Since environmental impact studies deal with dynamic natural systems, additional information may come to light at a later stage.

Notwithstanding the above limitations, the specialist is of the opinion that the aquatic biodiversity constraints for the study area have been adequately identified for the purposes of this aquatic biodiversity screening.

1.3. Use of this report

This report reflects the professional judgement of its author and, as such, the full and unedited contents of this should be presented in any application to relevant authorities. Any summary of the findings should only be produced with the approval of the author.

2. Site Sensitivity Verification

According to the DFFE national web-based environmental screening tool report generated for the proposed study area, the Combined Aquatic Biodiversity Theme Sensitivity is classified as "Very High" (DFFE, 2025). The classification trigger is the location of aquatic Ecological Support Areas 1 (ESAs) within the study area. The Initial Site Sensitivity Verification was undertaken by a desktop assessment of the study area, and two field assessments conducted on the 6th and 7th of March 2025.



During the desktop assessment, it was determined that there were no mapped rivers, or natural wetlands within the study area according to the National Wetland Map Version 5 (NWM5) (SANBI, 2018), the National Freshwater Ecosystem Priority Area (NFEPA) spatial data (CSIR, 2011), and the watercourse information from the Department of Rural Development and Land Reform (DRDLR). Additionally, according to the updated WCBSP (2023), the study area no longer coincides with aquatic ESAs.

However, desktop resources (DRDLR and NFEPA) do indicate that the proposed study area overlaps with the 100 m and 500 m regulated area for two non-perennial drainage lines and one artificial wetland respectively. During the field assessments, two watercourses were delineated within the proposed study area, including two small ephemeral drainage lines, one of which is now a stone channel. The proposed study area occurs within the regulated area of two additional non-perennial drainage lines. These two drainage lines are located more than 20 m upstream and were both therefore deemed not to be “At Risk” of activities associated with the proposed development. Additionally, the mapped artificial NFEPA wetland was confirmed to be a disused dam associated with the Oceana fishing company and was therefore excluded from the sensitivity analysis.

If the watercourses and associated buffers (Macfarlane *et al.*, 2016) can be avoided by development activities, then the study area is considered to be of a “Low” aquatic biodiversity sensitivity and a compliance statement will be required. However, if the watercourses and associated buffer areas cannot be avoided, then a full aquatic biodiversity impact assessment will be recommended. See **Section 5** and **Section 6** for more information.

3. Methodology

The methodology used in this aquatic biodiversity screening report, including a desktop background assessment and one site visit is outlined in the subsections below.

3.1. Desktop Assessment

A review of desktop resources was undertaken to determine the nature of the proposed study area, the presence of watercourses in the vicinity, and the significance of the area in terms of biodiversity planning. The following desktop resources were consulted:

- Topographical and watercourse information from the DRDLR;
- The South African Atlas of Climatology and Agrohydrology (1997, 2007, and 2009);
- Geological information from the Council for Geoscience;
- The South African National Biodiversity Institute (SANBI) (2018) National Vegetation Map (NVM);
- The NWM5 (SANBI, 2018);
- The NFEPA (CSIR, 2011) wetland, wetland vegetation group classification, river, & Freshwater Ecological Priority Areas (FEPA) datasets;
- The Chief Directorate: National Geo-spatial Information (NGI) (DRDLR) Rivers and Topography dataset;
- The WCBSP (2017).



3.2. Wetland Identification & Delineation

Watercourses, if present, were identified and delineated using the method described in the Manual for the Identification and Delineation of Wetlands and Riparian Areas for field-based delineation (DWAF, 2008). This method is the accepted best practice method for delineating watercourses in South Africa and its use is required by GN 509.

For wetlands, the method makes use of four key field indicators to guide the delineation process (refer to **Box 1**):

Box 1. Four indicators of wetland presence as described in DWAF (2008):

1. The **position in the landscape** – Identifies parts of the landscape where wetlands are more likely to occur;
2. The presence of **aquatic vegetation communities**;
3. The presence of **hydromorphic soil features**, which are morphological signatures that appear in soils with prolonged periods of saturation (associated with anaerobic conditions). Key hydromorphic features include:
 - a. Mottling – Formation of clumps of iron oxide within the soil matrix in the form of orange, yellow, black, or reddish-brown speckling. Mottling occurs in most soils and reaches maximum density in the centre of the seasonal zone with sparse mottling in the temporary zone and no mottling in the permanent zone.
 - b. Gleying – Shift in soil colour from the terrestrial baseline towards a blue, green, or grey colour and an overall reduction in soil chroma. This phenomenon is normally difficult to identify in the temporary zone, noticeable in the seasonal zone and most significant in the permanent zone.
 - c. Organic Surface Layers – surface layers with very high organic content that typically occur in the wetland seasonal and permanent zones.
 - d. Organic Streaking – Streaks of organic matter within the soil column which may be present in all zones, but particularly the temporary and seasonal zones.

Soil samples were taken for inspection by hand augering to determine soil form and presence of redoximorphic and other hydromorphic soil features. Aquatic vegetation communities were identified using the (DWAF, 2008) classification of wetland plant species, along with auxiliary information (Van Ginkel *et al.*, 2011). Wetland plant species classification categories are as follows:

- Obligate species (occurring in wetlands >99% of the time – usually in the permanent or seasonal zone);
- Facultative Positive species (67 to 99% of the population occurs within wetlands – typically in the seasonal and temporary zones with the remaining 1 to 33% in the adjacent area on the wetland periphery);
- Facultative Species (33 – 67% of the population occurs within wetlands – usually in seasonal or temporary zones with the remaining 67 – 33% in the adjacent area on the wetland periphery);
- Facultative Negative Species (1 – 33% of the population occurs within wetlands – usually in the temporary zone with the remaining 99 to 67% in the adjacent area on the wetland periphery); and
- Wetland Cosmopolitan Species (No specific affinity for wetlands; colonise wetland and terrestrial areas).



3.3. Riparian Area Delineation

Riparian areas were identified using the method described in the DWAF, (2008) Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas. This method is the accepted best practice method for identifying and delineating riparian areas in South Africa and its use is required by GN 509. The method makes use of four key field indicators (refer to **Box 2**):

Box 2. Four indicators of riparian areas as described in DWAF (2008)

1. The **position in the landscape** – riparian areas are only likely to develop on valley bottom landscape units.
2. The **soil form** – Riparian areas are often (but not always) associated with alluvial soils and recently deposited material.
3. **Topography** associated with riparian areas – riparian areas may have clearly identifiable banks associated with alluvial deposited material adjacent to the active channel.
4. The presence of **aquatic vegetation communities**.

The identification of riparian areas relies heavily on vegetative indicators. Using vegetation, the outer boundary of a riparian area can be defined as the point where a distinctive change occurs in the:

- species composition relative to the adjacent terrestrial area; and
- physical structure, such as vigour or robustness of growth forms of species similar to that of adjacent terrestrial areas. Growth form refers to the health, compactness, crowding, size, structure and/or numbers of individual plants.

In addition to indicators of structural differences in vegetation, indicator species themselves can be used to denote riparian areas. Riparian plant species classification categories are as follows:

- Obligate riparian species occur almost exclusively in the riparian zone (> 90% probability)
- Preferential riparian species are preferentially, but not exclusively, found in the riparian zone (>75% probability). Preferential riparian species may harden to drought conditions but will always indicate sites with increased moisture availability.

3.4. Watercourse Classification

The Ollis *et al* (2013) Classification System for Wetlands and Other Aquatic Ecosystems in South Africa, as used in this assessment, is a tiered structured classification system that provides a uniform description of wetland types based on their hydrogeomorphic characteristics. This classification system categorises wetlands into 7 distinct hydrogeomorphic units described in **Figure 3-1**.



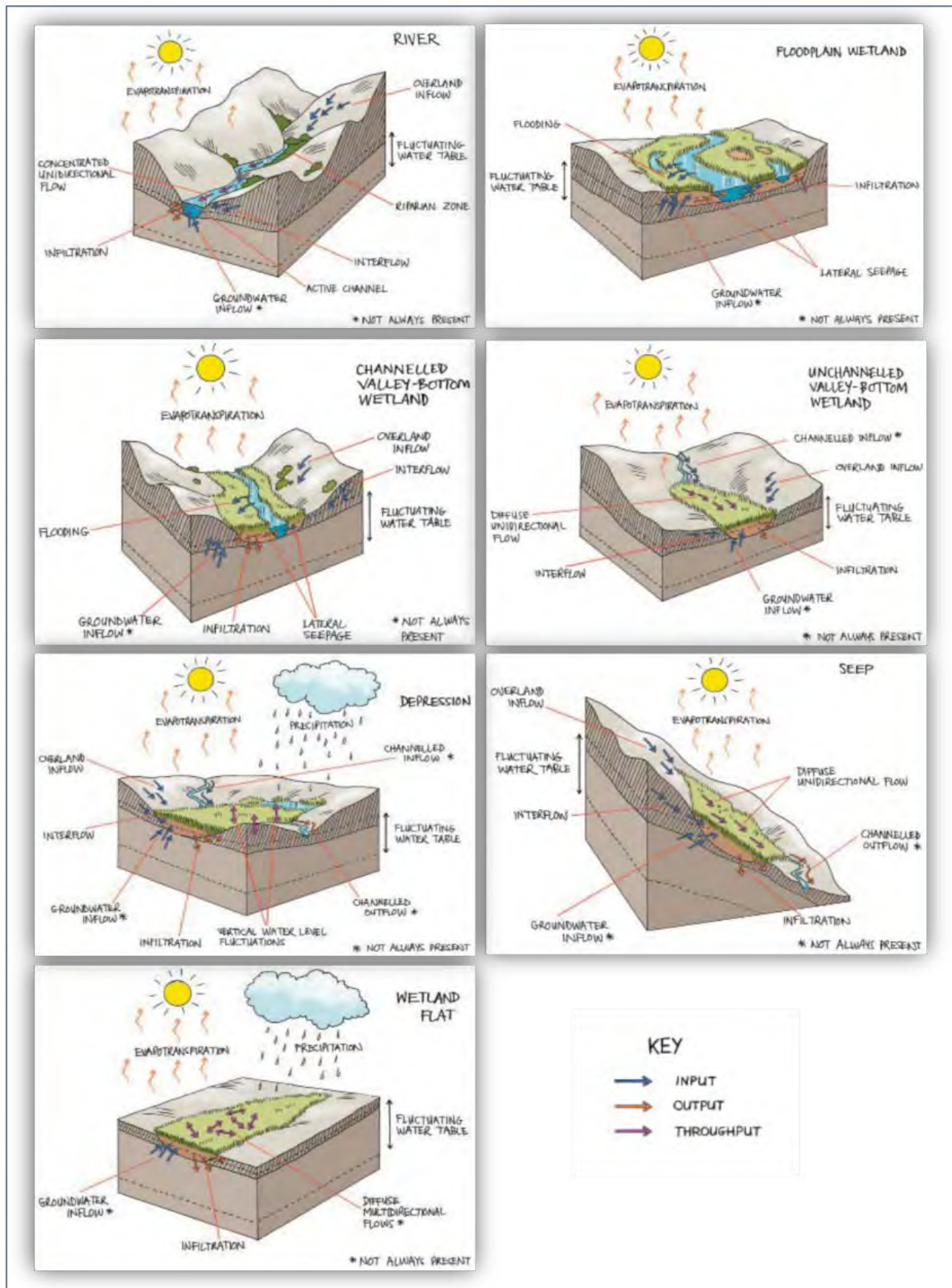


Figure 3-1: Wetland Hydrogeomorphic Types as defined in the Classification System for Wetlands and Other Aquatic Ecosystems in South Africa (Ollis *et al.*, 2013).

4. Desktop Assessment

A brief review of desktop resources was undertaken during the aquatic biodiversity screening assessment. A summary of key desktop information relevant to this assessment is provided below. The general biophysical characteristics of the study area is summarised in **Table 4-1**.

4.1. Biophysical Context

The general biophysical characteristics of the study area under evaluation are summarised in **Table 4-1**. The study area is situated in quaternary catchment G10M. The catchment is predominantly characterised by low hills that transition into flat coastal plains. The study area is situated on hill slopes to the east which transitions to relatively flat terrain in the west.

The study area falls within the BSk class of the Köppen-Geiger Climate Classification (Beck *et al.*, 2018), and therefore experiences a cold, semi-arid climate characterised by warm to hot dry summers, and cold, possibly freezing winters. The area receives a mean annual rainfall of 229 mm, which mostly occurs during the winter months of June to August (Schulze, 2009). The mean annual temperature is 16.10 °C, with a high average monthly temperature of 19 °C in January to February and a low average monthly temperature of 13 °C during July to August (Schulze, 2009).

Geology of the area consists of Granite of the Vredenburg Pluton; Cape Granite Suite (ENPAT, 2021). Soils are characterised by Glenrosa and/or Mispah forms (other soils may occur), lime rare or absent in upland soils but generally present in low-lying soils (**Table 4-1**).

The surrounding natural terrestrial vegetation, where present, consists mainly of Saldanha Granite Strandveld and a small portion of Langebaan Dune Strandveld. The Saldanha Granite Strandveld vegetation type is listed as Critically Endangered (CR) and is classified as Poorly Protected (PP), while the Langebaan Dune Strandveld vegetation type is listed as Endangered (EN) and is classified as Well Protected (WP). The natural wetland vegetation, where wetlands are present, comprises Western Strandveld (**Figure 4-2**) (CSIR, 2011) which is listed as EN and is classified as Zero Protected (ZP)- WP depending on wetland type.



Table 4-1: General biophysical characteristics of the proposed study area.

Site attribute	Description	Data source
Eco-region	South Western Coastal Belt	Department of Water Affairs Level 1 Ecoregions (Department of Water and Sanitation, 2011)
Terrestrial Vegetation Type	Saldanha Granite Strandveld (CR & PP) Langebaan Dune Strandveld (EN & WP)	National Vegetation Map of South Africa, 2018 (SANBI, 2018)
Dominant Geology and Soils	Aeolian sand with limestone and calcrete of the Langebaan Formation and also granite of the Vredenburg Pluton and greywacke, phyllite, quartz schist with thin lenses of limestone and grit; Malmesbury Group. Soils consist of glenrosa and/or Mispah forms (other soils may occur), lime generally present in the entire landscape	Cape Farm Mapper (ENPAT, 2021)
Soil Erodibility Factor (K)	0.63 (High Erodibility)	SA Atlas of Climatology and Agrohydrology (Schultz, 2009)
Soil Depth & Clay Percentage (%)	>= 450 mm and < 750 mm & < 15 %	Soil types and descriptions for the Western Cape, Department of Agriculture, Forestry and Fisheries (DAFF, 2021)
Mean Annual Precipitation (mm)	229 mm	SA Atlas of Climatology and Agrohydrology (Schultz, 2009)
Rainfall seasonality	Winter rainfall	
Mean Annual Temperature (°C)	16.10 °C	
Water Management Area (WMA)	Breede-Olifants WMA	Water Management Areas (DWS, 2023)
Quaternary Catchment	G10M	South African Quaternary Catchments Database (Schulze et al., 2007)
Wetland Ecosystem Type	Western Strandveld (EN & ZP-WP)	NFEPA Wetland Ecosystem Types (CSIR, 2011)



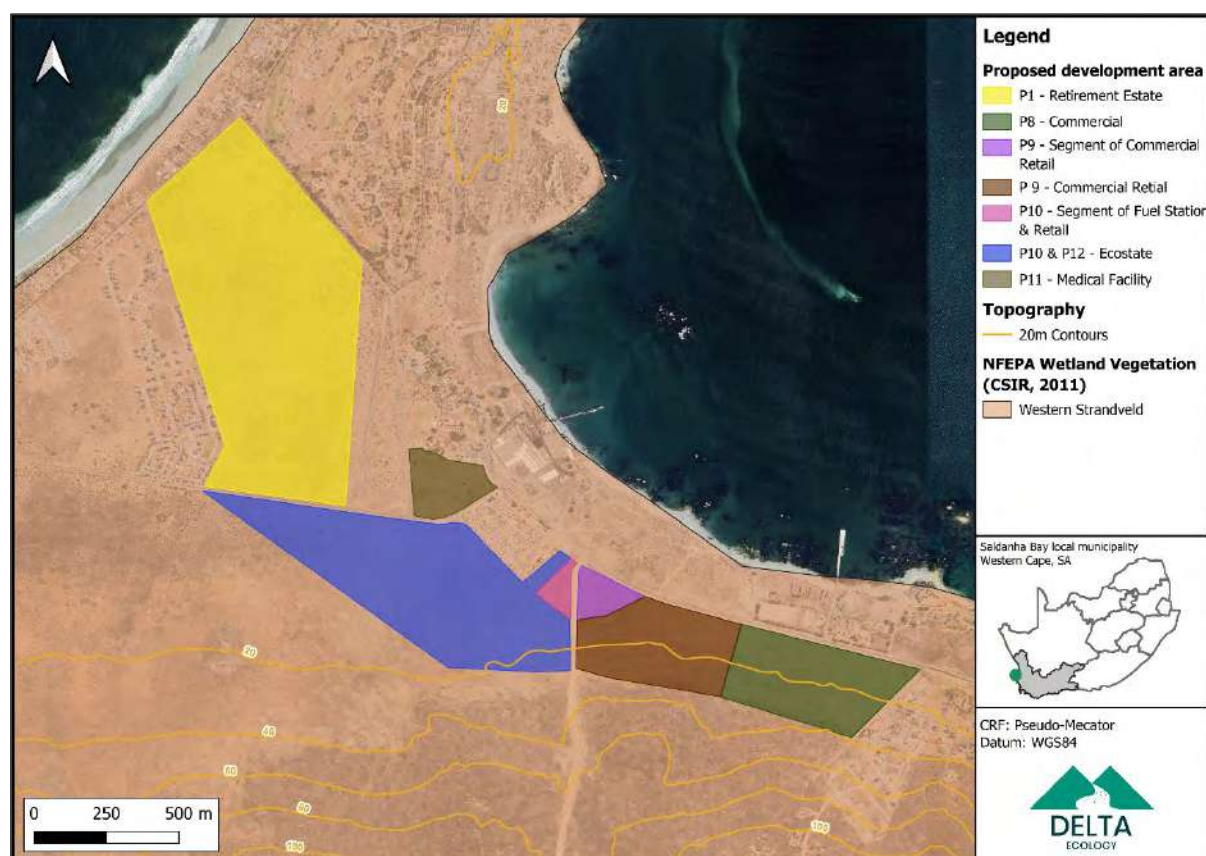


Figure 4-1: Natural wetland vegetation would have consisted of the Western Strandveld.

4.2. Biodiversity Planning Context

The study area under evaluation lies within the Breede-Olifants WMA. The area does not intersect any Strategic Water Source Area for Surface Water (SWSA-sw) or Groundwater (SWSA-gw) (Le Maitre *et al.*, 2018). The applicable sub-quaternary catchment is not demarcated as a FEPA (CSIR, 2011). In terms of delineated eco-regions for South Africa, this catchment falls within the South Western Coastal Belt eco-region (Level 1 Department of Water Affairs (DWA), now Department of Water and Sanitation (DWS)) (**Table 4-1**). According to the WCBSP (2017), the study area overlays an aquatic ESA and an aquatic ESA 2 demarcated due to “Coastal Corridor, Watercourse”, **however, according to the updated WCBSP (2023), the study area no longer coincides with aquatic ESAs (Figure 4-2).**

According to the NWM5 (SANBI, 2018), NFEPA spatial data (CSIR, 2011) and the DRDLR, there are no mapped rivers or natural wetlands within the study area (**Figure 4-3**). However, desktop resources (DRDLR and NFEPA) do indicate that the proposed study area overlaps with the 100 m and 500 m regulated area for two non-perennial drainage lines and one artificial wetland respectively (**Figure 4-3**). During the field assessments, two watercourses were delineated within the proposed study area, including two small ephemeral drainage lines, one of which is now a stone channel. The proposed study area occurs within the regulated area of two additional non-perennial drainage lines. These two drainage lines are located more than 20 m upstream and were both therefore deemed not to be “At Risk” of activities associated with the proposed development. Additionally, the mapped artificial NFEPA wetland was confirmed to be a disused dam associated with the Oceana fishing company and was not assessed further in this report. See **Section 5** for more information.

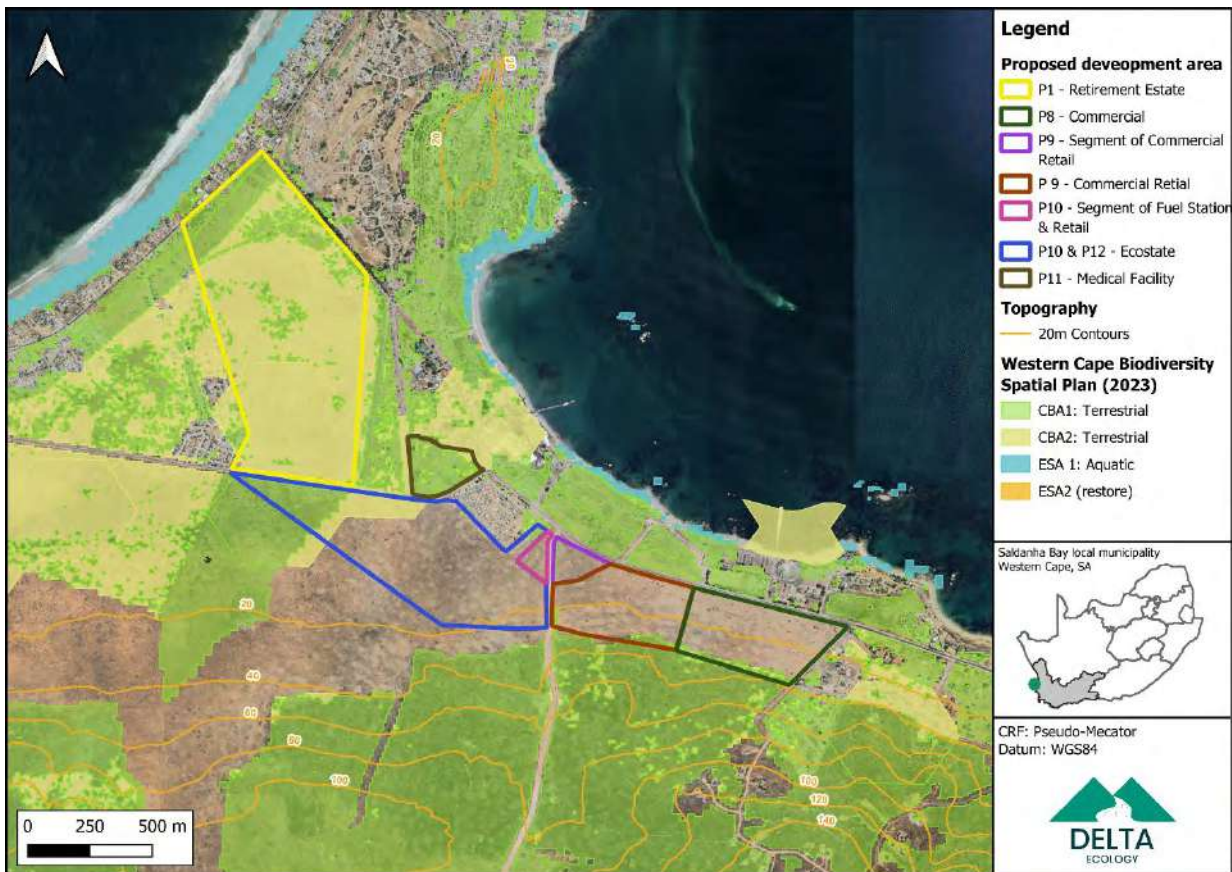


Figure 4-2: CBAs and ESAs (WCBSP, 2017) indicated within study area and 500 m thereof.

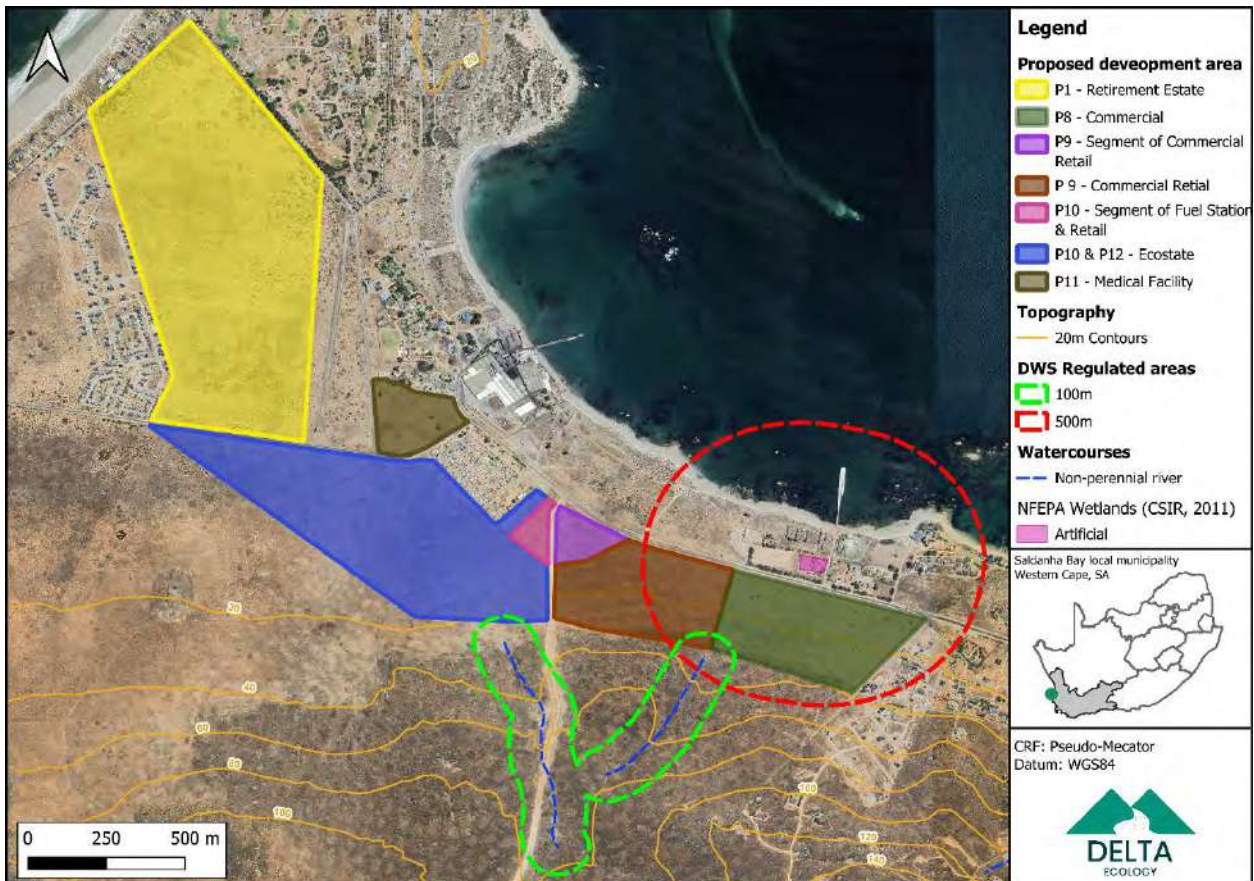


Figure 4-3: Mapped watercourses according to the NFEPA (CSIR, 2011) and NGI resources.

5. Site Description

The study area is largely comprised of fallow agricultural land. **P8 and P9** features a landscape that slopes downward to the north (**Figure 5-3–Figure 5-5**). **P10 & P12** have a gentle slope and contains no existing infrastructure (**Figure 5-6**). **P11** is relatively flat and has a historic graveyard present (**Figure 5-7**). **P1** is relatively flat and with no infrastructure present and has been impacted as a result of the encroachment of scattered alien invasive Port Jackson trees (**Figure 5-8**). No buildings occur within the proposed 163 ha footprint area.

The majority of the vegetation found within the study area was terrestrial, consisting of *Euphorbia burmannii* (Sweet Milkbush), *Searsia lucida* (Glossy Crowberry), *Osteospermum moniliferum* (Bietou) and *Muraltia spinosa* (Tortoise Berry), among others. Soil samples indicated well-drained, light brown sand (**Figure 5-14**).

Two non-perennial drainage lines were identified to the south of the study area (drainage lines 1 and 2) (**Figure 5-1** and **Figure 5-2**). These two drainage lines are located more than 20 m upstream and were both therefore deemed not to be “At Risk” of activities associated with the proposed development.

In the north east of the proposed Retirement Estate (P1), there appears to be stormwater drainage from adjacent roads and the eastern golf course, which accumulates along Golden Mile Boulevard. This area is completely artificial and contains no wetland functionality and has therefore been excluded from the sensitivity analysis. Additionally, the mapped artificial NFEPA wetland was confirmed to be a disused dam associated with the Oceana fishing company and was also excluded from the sensitivity analysis.

5.1. At Risk Watercourses

Two watercourses were delineated within the proposed study area that are considered to be “At-Risk” of being impacted, including a small ephemeral drainage line flowing through the proposed Commercial Retail area P9 (drainage line 3), and an ephemeral drainage line (now a stone-lined channel) which flows through the proposed commercial retail area P8 and P9 (drainage line 4) (**Figure 5-9 – Figure 5-13**).

The two at-risk drainage lines within the study area have been transformed by historical agricultural activities and currently have limited to no riparian vegetation present. These features are currently functioning as surface drains.



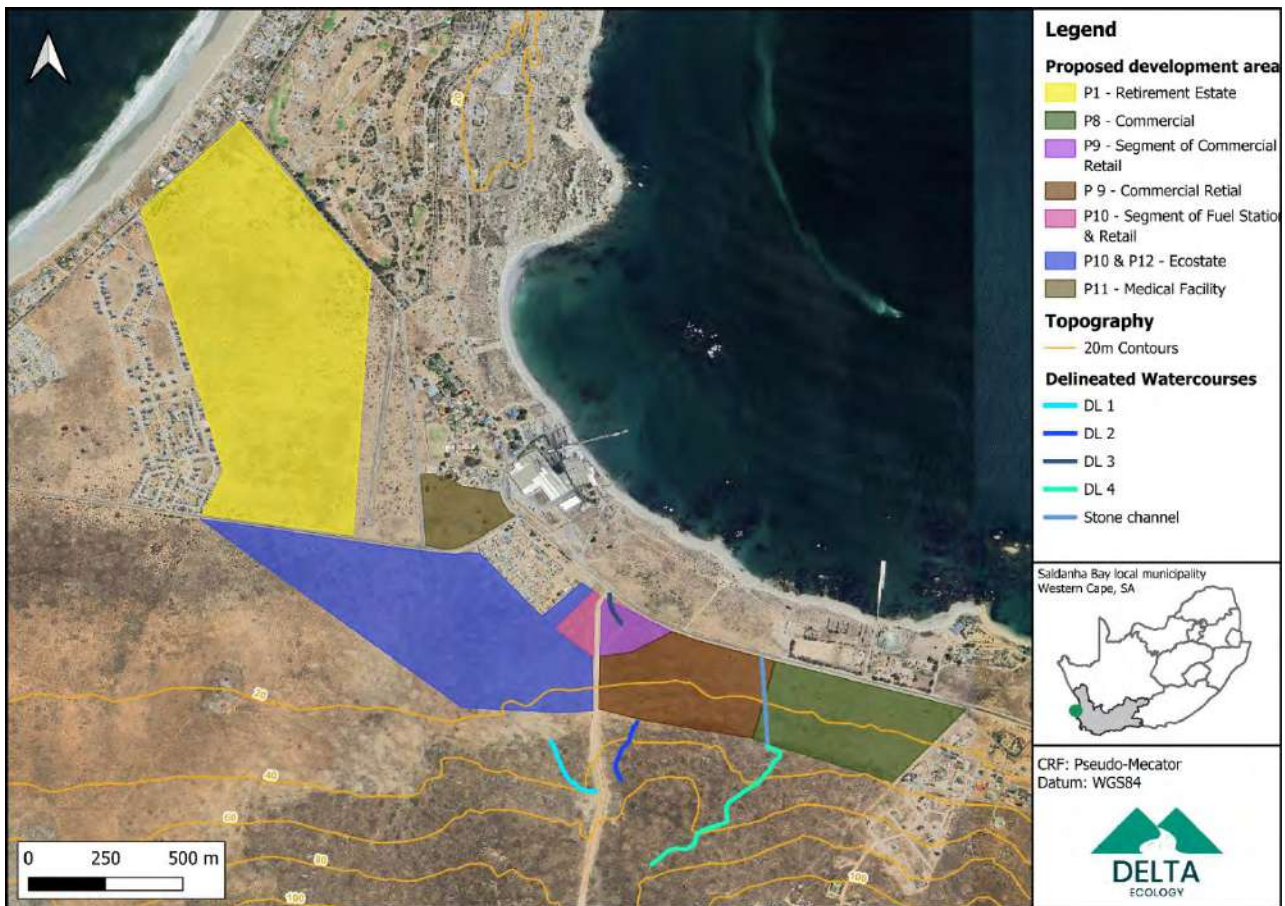


Figure 5-1: Delineation Map.

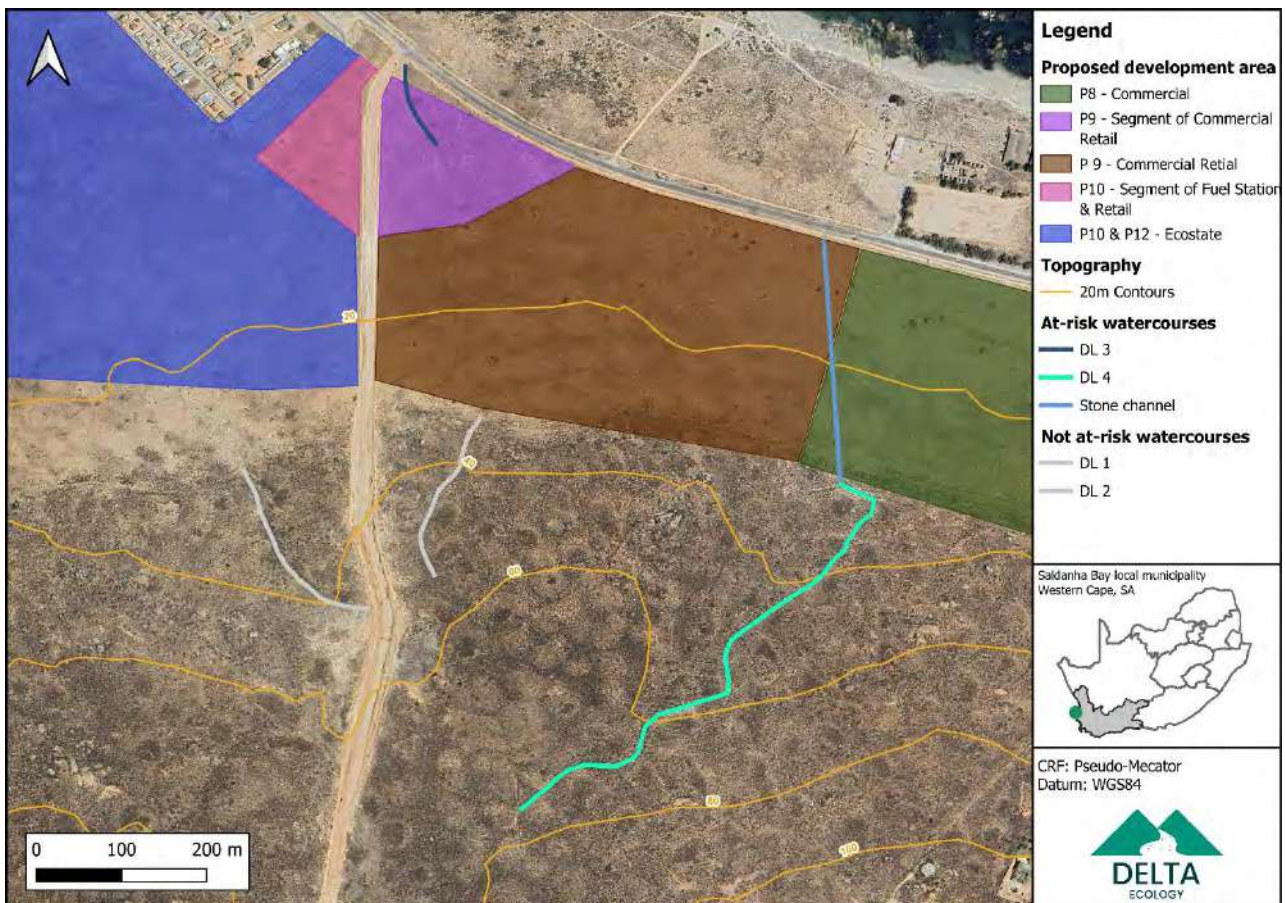


Figure 5-2: Watercourses deemed to be "At-Risk" of the proposed development.



Figure 5-3: Overview of the study area (P8 & P9) consisting of sparse terrestrial vegetation.



Figure 5-4: Overview of the study area (P8 & P9) consisting of terrestrial vegetation.



Figure 5-5: Overview of the study area (P8 &P9) with disturbance evident.



Figure 5-6: Overview of the study area (P10 & P12) consisting of a flat landscape & terrestrial vegetation.



Figure 5-7: Overview of the study area (P11) consisting of a flat landscape & terrestrial vegetation.



Figure 5-8: Overview of the study area (P1) consisting of a flat landscape & terrestrial vegetation.



Figure 5-9: Drainage line 4, now consisting of a stone-lined channel.



Figure 5-10: Drainage line 3 within P9.



Figure 5-11: Overview of the portion of Drainage line 4 upstream of the study area, after which the flow is directed to the stone channel.



Figure 5-12: Drainage line 1.



Figure 5-13: Drainage line 1.



Figure 5-14: Terrestrial soil sample.

6. Opportunities and Constraints Mapping

The majority of the study area is considered to be terrestrial under natural conditions and therefore has no Aquatic Sensitivity (**Figure 6-1**). However, two watercourses (deemed to be at-risk) were delineated within the proposed study area, including a small ephemeral drainage line flowing through the proposed Commercial Retail area P9, and an ephemeral drainage line (now a stone channel) which flows through the proposed commercial retail area P8 and P9 within section 1.

The drainage lines have been transformed by historic agricultural activities and currently have limited to no riparian vegetation present. Although these watercourses are degraded from their natural state, they do still function as natural conduits of surface water through the landscape and impacts to these features should therefore be avoided.

The buffer guideline (Macfarlane *et al.*, 2016) does not apply to channels which lack active channel characteristics i.e. channels which are not in contact with the zone of saturation and which do not have base flow; and can therefore not be applied to the ephemeral drainage lines. However, the minimum buffer zone requirements for watercourses associated with proposed mixed-use developments is 15 m. If possible, this buffer zone must be avoided during both the construction and operational phases of the development.

In terms of the National Environmental Management Act (NEMA), Act No. 107 of 1998, a Basic Assessment (BA) will be required if there is construction of 100 m² or more of infrastructure within a watercourse (i.e. wetland, river, or drainage line) or within 32 m thereof, or removal, deposition, or movement of 10 m³ or more of sediment or any other substance within a watercourse (i.e. wetland, river, or drainage line). Considering the current layout plan it is considered likely that these two Listed Activities will be triggered by the proposed development.

Should the avoidance of the drainage lines and their associated buffer areas be possible, then it is the opinion of the specialist that an Aquatic Biodiversity Compliance Statement will be required during the Environmental Authorisation (EA) process. However, should this not be possible then a full Aquatic Biodiversity Impact Assessment will be required.

Furthermore, a water use authorisation, either in the form of a General Authorisation (GA) in terms of GN 4167 of 2023 promulgated in terms of the National Water Act ([NWA] 36 of 1998) or in the form of a Water Use Licence (WULA) will also be required for the proposed development. Should the drainage lines as well as an adequate buffer area surrounding the drainage lines be designated as no-go areas, the risk to the watercourses is likely to be negligible and the proposed development may fall under the ambit of a GA. However, should development within the drainage lines be unavoidable, a full WULA will likely be required. This will have to be confirmed with the application of the Risk Assessment Matrix (RAM) prescribed by GN 4167 of 2023.



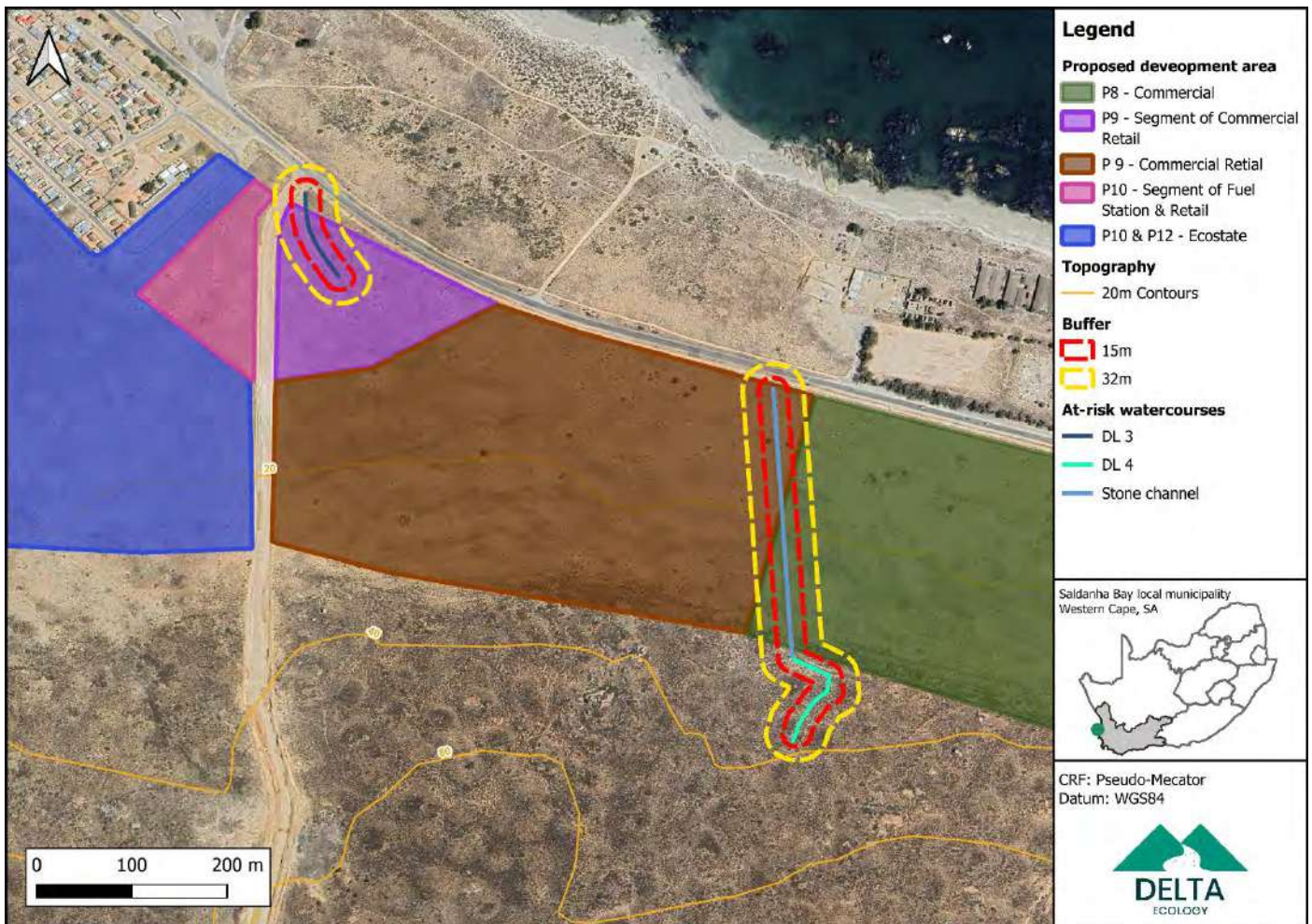


Figure 6-1: Opportunities and constraints map indicating the 32 m regulated area according to NEMA, and the 15 m buffer area stipulated by the buffer tool.

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Appendix C: Terrestrial Biodiversity and Faunal Screening Assessment

Sensitivity Screening Report: Terrestrial Biodiversity, Plant and Animal Themes

Mixed-use Development in St Helena Bay, Western Cape

Compiled for: SRK Consulting (South Africa) (Pty) Ltd (SRK)

April 2025



Jonathan Colville
Terrestrial Ecologist
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**Birding
Africa**

Report Information

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Table of Contents

Report Information.....	2
Table of Contents	3
List of Figures.....	4
Specialist Details	5
Conditions Pertaining to this Report.....	6
Introduction.....	7
Terms of Reference	9
Assumptions and Limitations	9
Methodology	9
Desktop Study.....	9
Site Visit	10
Results	10
Desktop Study.....	10
Site Sensitivity Verification.....	13
Acknowledgments.....	16
References	17
Appendix-1 – CV Jonathan Colville.....	18
Appendix-2 – CV Callan Cohen	23

List of Figures

Figure 1: Animal sensitivity theme as given by the screening tool.....	8
Figure 2: Plant sensitivity theme as given by the screening tool.....	8
Figure 3: Terrestrial biodiversity sensitivity theme as given by the screening tool.....	8
Figure 4. The main vegetation types found at, and bordering, the groundwater seeps.....	11
Figure 5. Land cover derived terrestrial habitat change layer showing that the most of the project areas have lost their natural vegetation (Skowno, 2020).....	11
Figure 6. Modelled Red List of Ecosystems Status (RLE) for the terrestrial realm of South Africa and the current remaining natural extents (South African National Biodiversity Institute and Department of Forestry Fisheries and the Environment, 2022).....	12
Figure 7. Critical Biodiversity Areas (CBA) of the WCBSP.....	12
Figure 8. During late summer/early autumn the project area is in its driest phase and devoid of most of its representative plant community.....	13
Figure 9. Animal (bird) theme sensitivity.....	14
Figure 10. Plant theme sensitivity.....	15
Figure 11. Terrestrial Biodiversity sensitivity.....	15

Specialist Details

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Areas of Specialisation	Terrestrial faunal ecology and conservation

Jonathan Colville of Terrestrial Ecologist & Faunal Surveys has over fourteen years post-PhD experience in the fields of terrestrial ecology, including investigating the spatial patterns of South Africa's animal and plant diversity. Between 2009 and 2019, Jonathan was involved with the South African National Biodiversity Institute's (SANBI) Biodiversity, Research, Assessment and Monitoring Division (BRAM) undertaking ecological research on South Africa's animal and plant diversity. Since 2020 Jonathan has been operating as a specialist faunal consultant for EIAs and conservation projects. An abridged CV is provided below in Appendix 1.

Specialist Details Callan Cohen -- Birding Africa	
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Highest Qualification	PhD Ornithology University of Cape Town 2011
Areas of Specialisation	Ornithology, Ecology, Odonata, Lepidoptera

Callan Cohen (Director of Birding Africa) has extensive knowledge of Cape birds and is a recognised international expert on African birds. He has a PhD in Ornithology from the University of Cape Town where he is a Research Associate of the Fitzpatrick Institute of African Ornithology. He has co-authored two books on South African birds and contributed to five others, including the Red Data Book of Birds of South Africa, Lesotho, and Swaziland (Barnes, 2000). He has also published several books, articles, and reports on Odonata, Lepidoptera, Herpetology, and Botany. He has over 30 years of experience of bird field surveys. An abridged CV is provided below in Appendix 2.

Signed Statement of Independence:

A signed statement of independence will be provided as a separate document

Conditions Pertaining to this Report

The content of this report is based on my best scientific and professional knowledge, and available information. Jonathan Colville and Callan Cohen reserve the right to modify the report in any way deemed fit should new, relevant, or previously unavailable or undisclosed information becomes known to them from on-going research or further work in this field, or pertaining to this investigation, and they will inform Delta Ecology accordingly. This report must not be altered or added to without the prior written consent of Jonathan Colville/Callan Cohen. This also refers to electronic copies of the report, which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must refer to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

Introduction

SRK Consulting (South Africa) (Pty) Ltd (SRK) has been appointed by Oceana Group Limited (Oceana) to undertake the EIA process required in terms of the National Environmental Management Act 107 of 1998 (NEMA), and the Environmental Impact Assessment (EIA) Regulations, 2014 (GN R982, as amended by GN R326).

Delta Ecology, in association with Dr Jonathan Colville and Dr Callan Cohen, was appointed to undertake a Sensitivity Screening, Terrestrial Biodiversity Impact Assessment and an Aquatic Ecology Compliance Statement.

Based on the information obtained from the site visit and desktop study, these would inform the EIA process and would either provide a Terrestrial Animal/Plant/Biodiversity Species Compliance Statement(s) or recommend that a Terrestrial Animal/Plant/Biodiversity Species Specialist Assessment(s) should subsequently be required, as stipulated in the Government Gazette No's. 43855 and 43110: Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Animal/Plant/Biodiversity.

An online site sensitivity report was generated for the proposed project area using the National Web based Environmental Screening Tool (<https://screening.environment.gov.za/screeningtool/>). The screening tool uses spatial biodiversity priority and feature layers, including ecosystem and species level datasets for animal and plants provided by the South African National Biodiversity Institute (SANBI).

The Screening Tool rated the area as:

- **Animal Theme: High sensitivity** for the animal species sensitivity theme.
 - o Four bird Species of Conservation Concern (SCC) were flagged (Figure 1).
- **Plant Theme: Medium sensitivity** for the plant species sensitivity theme.
 - o 38 plant SCC were flagged (Figure 2).
- **Terrestrial Biodiversity: Very High** sensitivity for terrestrial biodiversity, with four CBA categories and two threatened vegetation types flagged (Figure 3).

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
High	Aves-Circus maurus
High	Aves-Afrotis afra
High	Aves-Falco biarmicus
Low	Subject to confirmation

[illegible]

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	<i>Lampranthus aureus</i>
Medium	Sensitive species 244
Medium	<i>Antinimia limboia</i>
Medium	<i>Antinimia aristolata</i>
Medium	<i>Ruschia cupulata</i>
Medium	<i>Ruschia engelbergensis</i>
Medium	<i>Oscularia westerburgensis</i>
Medium	<i>Cephalophyllum notellum</i>
Medium	<i>Indigofera latifolia</i>
Medium	<i>Asplathus platodes</i> subsp. <i>lagopus</i>
Medium	<i>Asplathus stricticlada</i>
Medium	<i>Otholobium venustum</i>

[illegible]

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY

Legend:

- Very High
- High
- Medium
- Low

0 0.5 1 2 Kilometers

Shasta Dam
Colusa
Sacramento
Yuba City
Marysville
Marysville Bay

Source: U.S. Fish and Wildlife Service, 1994. Data from the California Condor Recovery Plan, 1994. Data from the California Condor Recovery Plan, 1994. Data from the California Condor Recovery Plan, 1994.

Sensitivity	Feature(s)
Very High	ESA 2: Restore from other land use
Very High	ESA 1
Very High	CBA 2: Terrestrial
Very High	CBA 1: Terrestrial
Very High	CR Saldanha Granite Strandveld
Very High	EN Langebaan Dune Strandveld

Figure 3: Terrestrial biodiversity sensitivity theme as given by the screening tool.

Terms of Reference

Jonathan Colville and Callan Cohen were appointed through Delta Ecology to conduct a Phase 1 Sensitivity Screening, to provide feedback re. the site sensitivity themes as given by the Screening Report (see above).

The proposed ToR for Phase 1 is as follows:

- Undertake a site visit to inform the Sensitivity Screening.
- Identify and delineate areas of No-Go (Very High), High, Medium, and Low sensitivity in terms of the Sensitivity Mapping Criteria provided in Annexure A to facilitate integration with other specialist maps.
- Verify the sensitivity of the project site.

Assumptions and Limitations

The following limitations and assumptions apply to this assessment:

- It is assumed that all third-party information used (e.g. GIS data and species historical records) was correct at the time of generating this report.
- The site was visited during late summer/early autumn (14 March 2025). Seasonally, this is not an appropriate time to detect many of the spring emerging flowering plants. The Black harrier is also known to begin breeding in spring. This initial sensitivity screening assessment relied on surveying and assessing broad habitat features and utilising ecosystem-level data, such as intact vegetation type, and known habitat and distributional records for the animal/plant SCC.
- This sensitivity screening was undertaken based on the information provided to date by SRK.

Methodology

The methodology used in this report, including a background desktop study and site visit, is outlined in the subsections below.

Desktop Study

- Ecosystem-level data and broad-scale habitat was assessed using the following resources:
 - o Vegetation Map of South Africa (SANBI, 2018; Skowno et al., 2019).
 - o Land cover based habitat modification (Skowno, 2020).
 - o Ecosystem Threat Status and Protection level of South Africa's ecosystems (Skowno et al., 2019; Department of Forestry, Fisheries and the Environment, 2023).
 - o Western Cape Biodiversity Spatial Plan (CapeNature, 2024).
 - o Maps generated by overlaying the project site onto GIS files were carefully examined to compare to what was observed in the field.

- IUCN Red List of Threatened Species (<https://www.iucnredlist.org/>) was consulted for all animal SCC flagged for the project.
- SANBI's Red List of Plants (<http://redlist.sanbi.org/>) was consulted for any potential plant SCC.
- Distributional records from the Southern African Bird Atlas Project (SABAP2 data (<http://sabap2.birdmap.africa/>)) for the bird SCC were examined.
- Taylor, Peacock and Wanless (2015) and online resources, such as BirdLife International (<https://www.birdlife.org/projects/iucn-red-list/>), were consulted for information on the conservation status of bird SCC.
- Published information on animal/plant SCC were investigated to further assess their distribution range, ecology, habitat, and any life history requirements.

Site Visit

- The project area was surveyed 14 March 2025. The extent of disturbance that the project area has experienced was considered.
- Season: Late summer/early autumn.
- Areas at and around selected points were investigated by the specialists across the project area.
- At certain points the surrounding habitat was characterised and the likelihood of any animal/plant SCC being present was assessed.
- Seasonal Relevance:
 - It must be noted that this sensitivity screening report focussed primarily on surveying the state of the habitat, as best that could be undertaken during this time of the year.

Results

Desktop Study

The main vegetation types found at the project site (Figure 4) is:

- Saldanha Granite Strandveld (Critically Endangered)
- Langebaan Dune Strandveld (Endangered)

Based on landcover models, the proposed development area has lost most of its natural vegetation (Skowno, 2020) (Figure 5), except for areas of the northern site. Parts of this area also have a South African Red List of Ecosystems Status of Critically Endangered (South African National Biodiversity Institute and Department of Forestry, 2021) (Figure 5). The northern site also intersects several different Critical Biodiversity Areas (CBA) categories, including CBA1, ESA1, and ONA (CapeNature, 2024) (Figure 6). The latest Western Cape Biodiversity Spatial Plan and Guidelines (CapeNature, 2024) provides detailed land-use guidelines for CBAs and recommends that ideally developments should be restricted to low-impact or avoided in such areas.



Figure 4. The main vegetation types found at, and bordering, the groundwater seeps (SANBI, 2018; Skowno et al., 2019).



Figure 5. Land cover derived terrestrial habitat change layer showing that the most of the project areas have lost their natural vegetation (Skowno, 2020).

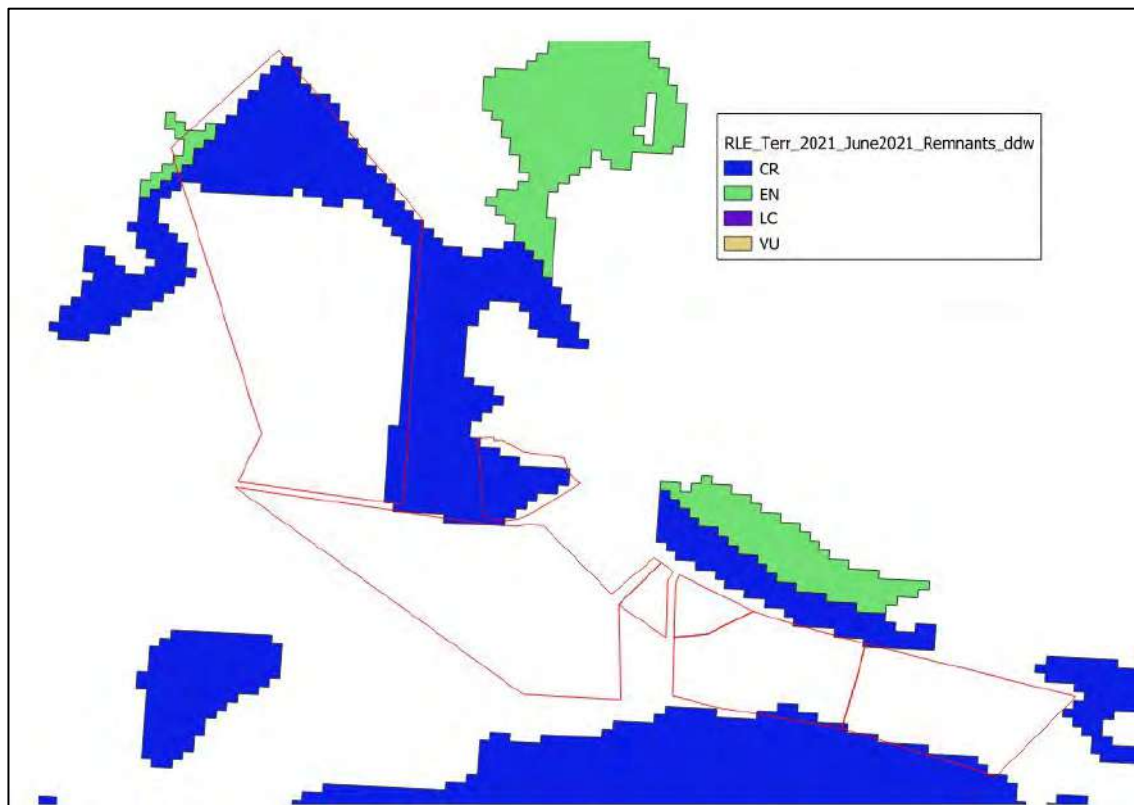


Figure 6. Modelled Red List of Ecosystems Status (RLE) for the terrestrial realm of South Africa and the current remaining natural extents (South African National Biodiversity Institute and Department of Forestry Fisheries and the Environment, 2022).

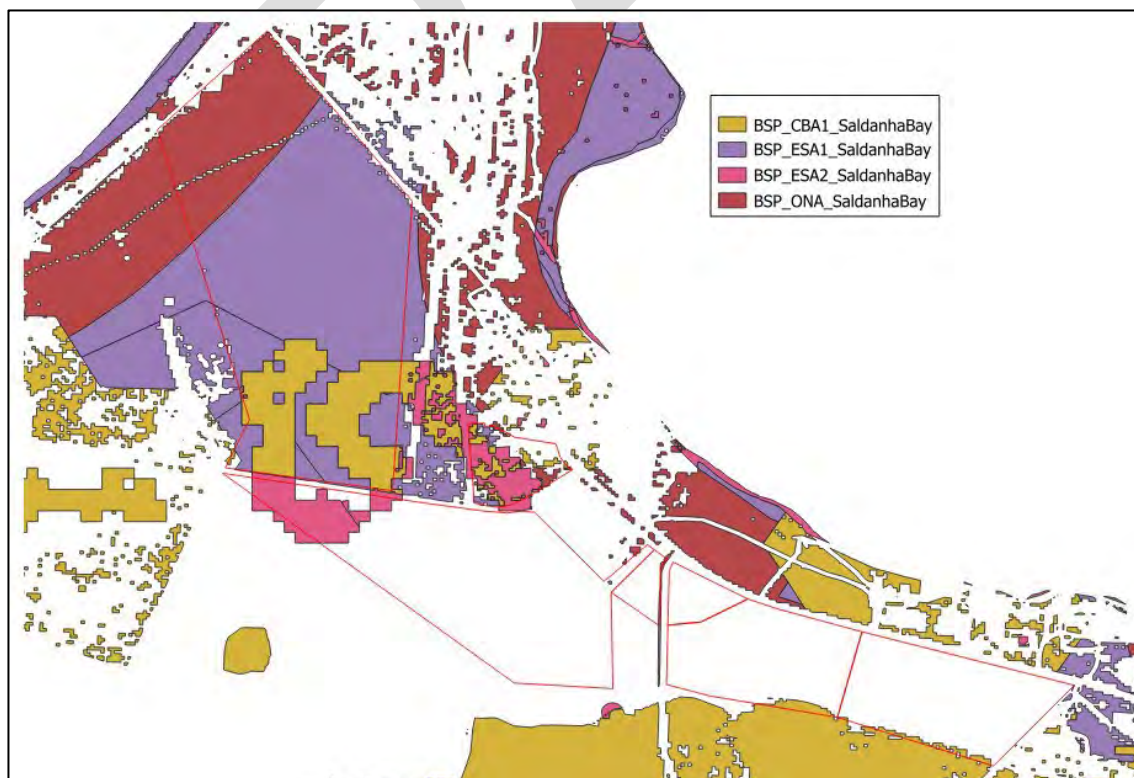


Figure 7. Critical Biodiversity Areas (CBA) of the WCBS.



Figure 8. During late summer/early autumn the project area is in its driest phase and devoid of most of its representative plant community.

Site Sensitivity Verification

At this early Phase 1 feedback stage, the site visit indicated that:

- The sensitivity for the animals (birds) is likely to be low for all sites (Figure 9).
- For the plants and terrestrial biodiversity themes, the northern site near Shelley point is the main area of concern with having several CBA categories. All the other sites appear low for the plants and terrestrial biodiversity (Figures 10 –11).
- Because of the time of year the project area was visited, determining site sensitivity is challenging, especially in terms of the level of disturbance of the site near Shelley Point. It appears that the site has experienced some disturbance (see Figure 5), but how much of the site still retains its ecological integrity is uncertain at this stage. The Shelley Point site is covered by three CBA categories (CBA1, ESA1, and ONA); the largest being an ecological support area (ESA1). Therefore, as the site is considered as ecologically sensitive, one would need to undertake a seasonally-appropriate survey. The Western Cape Biodiversity Spatial Plan land-use guidelines (CapeNature, 2024) indicates that CBA1 and ESA1 should ideally not be developed on, and only restricted development on ONAs should occur. A spring survey would allow one to assess if the CBA areas are ecologically intact or if they are degraded; modelled land-use overlays suggest a degree of degradation and loss of natural vegetation (Figure 5). If they are mostly intact, then one would have to follow a mitigation hierarchy and either avoid these areas (e.g. CBA1 areas) or implement mitigation that would reduce the impact to a residual low significance. If the impact cannot be avoided or reduced, then a biodiversity offset would need to be put forward. If

the CBAs appear degraded, then one would use mitigation and try to avoid potentially restorable sensitive areas, such as through one's design layout. Maintaining ecological corridors and restoring and rehabilitating disturbed CBA1 areas could also be given as mitigations. Overall, one would develop only on some of the site, avoid sensitive areas, and undertake to maintain and restore others.

- As there is a component of natural vegetation in all the sites, spring surveys will be required to confirm our findings. Spring surveys will help guide the development layout in that areas of high sensitivity will be identified, and these can therefore be avoided, or the proposed development can plan around them. Potentially high sensitive areas will either be relatively large areas such as the CBA areas of the Shelley Point site or relatively small pockets of habitat where for example a small population of a sensitive plant species is found and should be avoided.
- In conclusion, the proposed development does fall over a large area, and one would need to undertake seasonally-appropriate surveys to confirm sensitivities, especially for the areas of possible higher terrestrial biodiversity and plant sensitivity. For the low sensitivity areas there will likely be very few constraints on development, from the terrestrial biodiversity perspective, due to the previous high disturbance of the areas; however, this also requires verification through a spring survey.



Figure 9. Animal (bird) theme sensitivity.

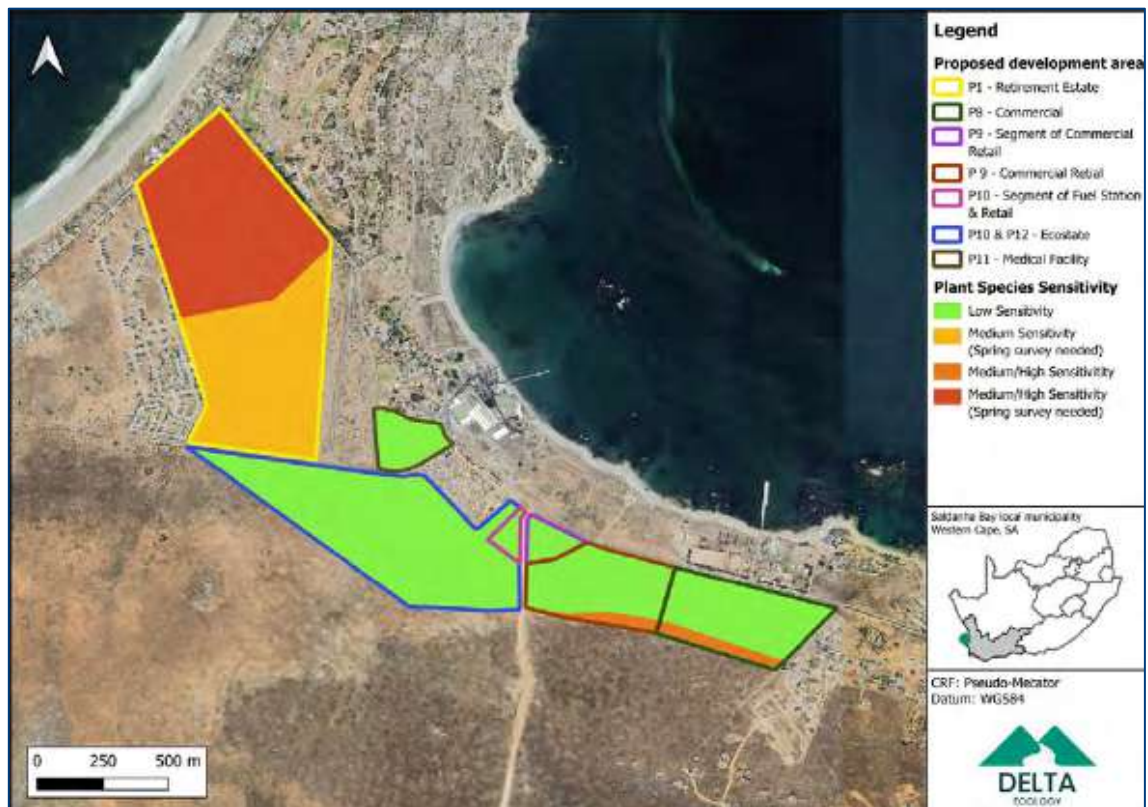


Figure 10. Plant theme sensitivity.

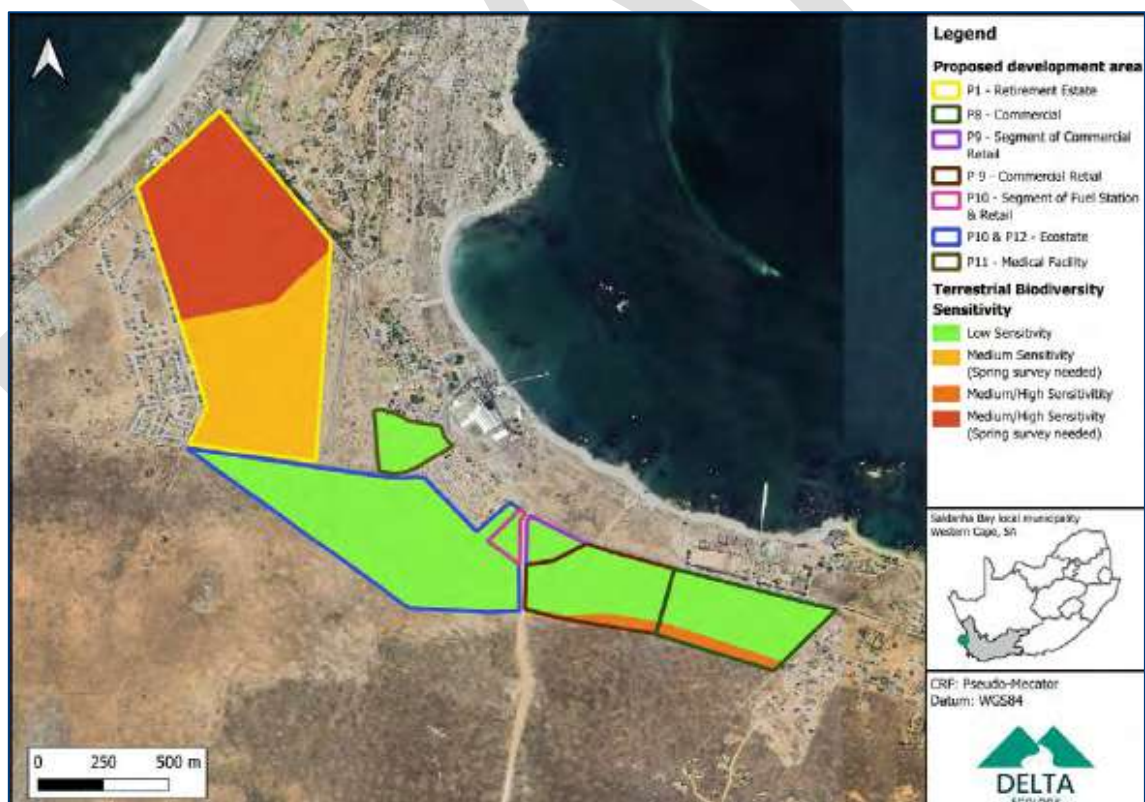


Figure 11. Terrestrial Biodiversity sensitivity.

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CapeNature is thanked for collecting permits: CN44-87-20545 and CN44-59-13497.

DRAFT

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Appendix-1 – CV Jonathan Colville

CURRICULUM VITAE – JONATHAN F. COLVILLE

EDUCATION

PhD (Zoology): University of Cape Town, 2009. Thesis title: “*Understanding the evolutionary radiation of the megadiverse monkey beetle fauna (Scarabaeidae: Hopliini) of South Africa*”.

Postdoctoral research fellowship: South African National Biodiversity Institute, 2009–2010.

PRIOR EMPLOYMENT

National Research Foundation Research Career Advancement Fellow: South African National Biodiversity Institute (2014–2019).

Researcher, South African National Biodiversity Institute, GEF/UNEP/FAO Global Pollination Project – South Africa (2010–2014).

PUBLICATIONS

Books edited:

- Allsopp, N., **Colville, J.F.**, Verboom, G.T. (2014). *Fynbos: Ecology, Evolution, and Conservation of a Megadiverse Region* (16 chapters; pp 1–377). Oxford University Press.

Book chapters:

- Forest F., **Colville J.F.**, Cowling R.M. (2018). Evolutionary diversity patterns in the Cape Flora of South Africa. *In: Phylogenetic Diversity: Applications and challenges in biodiversity science*. R. Scherson, D. Faith (Eds), Springer International Publishing.
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- Barraclough, D.A., and **Colville, J.F.** (2022). The first species of Nemestrinidae (Diptera) endemic to Madagascar: A remarkable new species of *Atriadops* Wandolleck, 1897. *Zootaxa*. 5196 (1): 145–150.
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- **Colville, J.F.** (2001) *Scoping and faunal assessment for proposed housing development, Skapenberg, Somerset West*. Prepared for Design consultants CNDV Africa.

MEMBERSHIPS/RESEARCH ASSOCIATE

- Membership of Entomological Society of Southern Africa (2007–current).
- Membership of Lepidopterists Society of Southern Africa (2014–current).
- Honorary Research Associate (HRA), Statistics in Ecology, Environment and Conservation (SEEC), Department of Statistical Sciences, UCT (2014–current).
- SACNASP registration for Ecological Science (Professional Natural Scientist) (member#: 134759).

PROFESSIONAL SERVICES

- Editorial board *African Entomology* (2010–current).
 - Editorial board *Metamorphosis* (2017–current).
 - Editorial board *PeerJ* (2019–current).
 - CAPE Invasive Alien Animal (IAA) Working Group (2016–2018).
-

Appendix-2 – CV Callan Cohen

ABRIDGED CURRICULUM VITAE DR CALLAN COHEN

Education

PhD in Ornithology (Zoology), University of Cape Town, 2011.

Positions held:

Director: Birding Africa. 1997 – present.

Research Associate: FitzPatrick Institute of African Ornithology, Department of Biological Sciences, University of Cape Town. 2012 – present.

Experience

Acknowledged expert on African birds, based on over 1000 field trips, research studies and surveys from 1990 to present, in over 25 African countries, but focused largely across South Africa. First author of 2 books on African birds, and contributor to almost 10 others. Also publications and reports on Odonata, Lepidoptera, Herpetology and Botany.

Selected Books

Cohen, C., Spottiswoode, C. & Rossouw, J. 2006. **Southern African Birdfinder: where to find 1400 species in southern Africa and Madagascar**. Cape Town: Struik New Holland Publishers, 456 pp. Reprinted 2007, 2012, 2022.

Cohen, C. & Spottiswoode, C. 2000. **Essential Birding in Western South Africa: Key routes from Cape Town to the Kalahari**. Cape Town: Struik New Holland Publishers, 136 pp. Reprinted 2001.

Klaas-Douwe B. Dijkstra & **Callan Cohen**. 2021. **Dragonflies and Damselflies of Madagascar and the western Indian Ocean Islands**. Association Vahatra Antananarivo, Madagascar. 198 pages.

Contributed 20 species accounts in: Harrison, J.A., Allan, D.G., Underhill, L.G., Herremans, M., Tree, A.J., Parker, V. & Brown, C.J. (Eds). 1997. **The Atlas of Southern African Birds**. Johannesburg: BirdLife South Africa.

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Contributor to Red Data Book on Birds: BARNES, K.N. (ed.) 2000. **Threatened Birds of South Africa, Lesotho and Swaziland**. Johannesburg: BirdLife South Africa.

Species account written: African Marsh Harrier

Other Publications

About 100 journal articles and over 50 reports, e.g. most recent:

Cohen, C. 2021. **Deciphering South Africa's first Crested Honey Buzzard**. African Birdlife 9(4): 26–29.

Cohen, C., N. J. Collar, A. Dagnee, L. D. C. Fishpool, S. J. Marsden, C. N. Spottiswoode & S. R. Wotton. 2021. **Status of Taita Falcon *Falco fasciinucha* in Ethiopia and the identification problem posed by African Hobby *F. cuvierii***. Bull ABC Vol 28 No 2: 225–233

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Appendix D: Heritage Screening Assessment

HERITAGE SCREENING REPORT: PROPOSED MIXED-USE DEVELOPMENT ON PORTION 4 OF FARM 6 (DUYKER EILAND), ST HELENA BAY, WESTERN CAPE PROVINCE

Assessment conducted under Section 38 (8) of the National Heritage Resources Act (No. 25 of 1999) as part of an Environmental Impact Assessment

Prepared for:

SRK Consulting (South Africa) (Pty) Ltd

On behalf of:

Oceana Group Limited

Draft for Comment: 18 March 2025



Prepared by

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EXECUTIVE SUMMARY

TerraMare Archaeology (Pty) Ltd was appointed by SRK Consulting (South Africa) (Pty) Ltd, on behalf of Oceana Group Limited, to produce a heritage screening report for a proposed mixed-use development comprising retirement estates, a retail area, lifestyle retail outlets, a petrol station, and a medical facility in St Helena Bay, Saldanha Bay Local Municipality, Western Cape.

This report describes the archaeological and other heritage resources identified during two walkover surveys of the development site, provides an indication of their sensitivity and makes a recommendation as to whether further heritage studies are required as part of the EIA process for the project. The report also addresses the palaeontological sensitivity of the site, and potential intangible heritage sensitivities.

Findings

Palaeontology: Input received from palaeontologist John Pether indicates that the project area is situated on a marine, wave-cut platform which is overlain by shelly, fossiliferous deposits of the Velddrif Formation. These are mainly deposits of the “6 m Raised Beach” of Last Interglacial age, laid down 128-120 thousand years ago when sea level retreated from a high stand which reached about 6 m above sea level.

The geological map indicates an arc of the Velddrif Formation deposit across the base of the Shelly Pont promontory, reminiscent of a “fossil” beach ridge which is a common feature of the Velddrif Formation raised beaches fringing the edge of the coastal plain on the West Coast. However, there is no topographic expression of a beach ridge or outcropping raised beach deposits. Instead, the shelly beach sands and gravels, left behind by the retreating sea, are of greater extent on the marine platform. These beach deposits were reworked by wind, eroding the upper part and producing a palaeosurface upon which both marine and terrestrial fossil bones occur.

Subsequently the Q1 aeolian coversands of the Springfontyn Formation accumulated on the Velddrif Formation and inland lap onto the older Springfontyn Formation Q2 coversand soil. The younger Q1 sands overlie the Velddrif Formation, while older Q2 heuweltjiesveld soil occurs on the higher elevation slopes (>~10 m asl.), where it overlies hillslope bedrock colluvium.

The marine fossil shell content of the Velddrif Formation raised beaches and the ambient fossil fauna (snails, moles, tortoises) in the Springfontyn Formation coversands are of generally of low palaeontological sensitivity. Fossil bones from whales, dolphins, seals and seabirds sparsely scattered within the Velddrif Formation are of moderate sensitivity.

Archaeology: Although the walkover surveys of the proposed development area undertaken by ACO Associates in 2021 and TerraMare Archaeology in 2025 recorded a wide spread of archaeological material across the site, the project area is, generally, archaeologically poor and the visible archaeological sites and material are of relatively low archaeological significance.

The surveys recorded only one very ephemeral scatter of lithics which can be described as a site. Otherwise, finds consisted of isolated stone artefacts, mostly belonging to the Later Stone Age, with a few, more weathered artefacts that may date from the Middle Stone Age. No Early Stone Age artefacts were recorded anywhere on the proposed development site.

Of the land parcels surveyed in 2025, only occasional scattered flaked stone – mainly derived from beach cobbles – was recorded on the steep hillsides parallel to the coast on the two

easternmost properties. Archaeological marine shell was almost entirely absent here, and no other archaeological material like bone, pottery or charcoal was noted. The archaeological material encountered in other areas of the development site surveyed in 2025 is similar to what was found in 2021 on the proposed SPV facility site but more ephemeral, consisting of patchy, thin scatters of very broken marine shell with occasional pre-colonial lithic artefacts, almost exclusively dating from the LSA. Like on the SPV site, most of the marine shell found in these areas of the proposed development site occurred in dunemole burrow casts, which suggests the presence of buried archaeological sites in places in these areas.

Historical Sites and Built Environment: In terms of historical and built heritage sites, the 2021 survey for the Solar Photovoltaic facility identified a disused and largely ruinous aircraft landing strip and some possible items of associated infrastructure on the site proposed for that development. Based on a comparison of historical mapping, the airstrip was built between 1964 and 1971. The runway and its associated structures are thus currently less than 60 years old, and not subject to protection under the National Heritage Resources Act. This runway has been excluded from the footprint of the proposed mixed-use development and will not be impacted by the proposals.

No other extant built structures were noted on the remainder of the proposed development site during the 2025 TerraMare Archaeology survey. The only possibly historical remains encountered were a small, concrete slab (J010) surrounded by a scatter of shell and charcoal, and a handful of 19th century ceramic shards found in a dunemole burrow cast approximately 70 m away.

Graves and Burials: Noted during the 2021 survey for the proposed SPV facility, but then outside the project area, a historical cemetery was recorded during the 2025 site visit on the portion of the development area on eastern side of the Shelly Point road.

The cemetery is still partially fenced but seems not to have been recently used. Most of the legible gravestone date to the period between 1873 and 1912, although a headstone with the date 1987 was noted. TerraMare Archaeology counted at least 100 identifiable graves within the fenced area - some marked with formal headstones, others with rocks simply marking the head and foot of the grave and yet others on the eastern edge of the graveyard covered by packed stone.

Although no graves were identified elsewhere within the project footprint during the walkover surveys, it is possible that unmarked, particularly pre-colonial burials could be present within the development area. This is evidenced by the accidental discovery of two pre-colonial human burials during development projects in the coastal strip in Britannia Bay and around Shelley Point (Orton, 2019; HWC pers. comm.).

Overall, the cultural landscape of the proposed development area is one that is already substantially altered and rapidly changing with a mix of expanding residential to the west and north-east, and industrial along the coast of St Helena Bay to the north. Only the rural landscape to the south-east of the site retains some of its historical landscape character.

Conclusions

The proposed mixed-use development site is an area of generally low palaeontological sensitivity and should not constrain the proposed development, provided suitable measures to mitigate any impacts are implemented.

Archaeological sites generally are limited in extent and have much smaller constraints footprints on development than those applicable to biodiversity or ecology, for example. It is generally possible to either avoid (by excluding the affected site from the proposed

development) or mitigate (through archaeological intervention such as recording, sampling or excavation) impacts on archaeological sites where they are found to be present within the development footprint. The presence of archaeological resources within a development area is seldom a fatal flaw and it is very unlikely to be the case for the St Helena Bay mixed-use project, provided suitable mitigation measures are implemented.

Although historical graves and burials are extremely sensitive heritage receptors, their presence within a project area is not necessarily a fatal flaw, provided they are excluded from impacts from the development and are sensitively treated. The exhumation of a graveyard as part of a development process, while possible, is costly and can be extremely contentious. The graveyard recorded within the mix-use project area (and perhaps a buffer around it) should thus be excluded from the development footprint.

With respect to unmarked, usually pre-colonial graves, they too are an extremely sensitive and often contested heritage resource, and it is generally impossible to predict their presence in advance of development. However, the inclusion in the project EMP of a procedure for reporting and dealing with chance finds of human remains will ensure that the sensitivity of the development area with respect to this potential heritage resource is low and that they will not be a fatal flaw.

The cultural landscape within which the mixed-use development is being proposed has been heavily altered by recent and ongoing, mainly residential, development and is of relatively low cultural significance. While the existing landscape will be fundamentally changed by the proposed development, this is part of a process already well underway in the area.

It is possible that the intangible heritage claims made by I&APs in relation to the proposed SPV project will also be raised in relation to this proposed mixed-use development. It is, by definition, often difficult to substantiate claims of intangible heritage associated with a site or place, except where objective information is available in relation to the claims made. If intangible heritage issues are raised during the EIA process for this development, these will need to be addressed and assessed on their individual merits and according to what information is available.

The production and submission of a Notice of intent to Develop (NID) to HWC is a requirement for a development such as this, which triggers Section 38 of the NHRA. The formal HWC response to the NID application will set out what their requirements are in terms of the heritage studies they require to be conducted as part of the EIA process for the project. Based on the information set out in this screening report, it should be expected, however, that HWC will request a Heritage Impact Assessment for the St Helena Bay mixed-use development, as part of the project EIA process for the project.

Table of Contents

EXECUTIVE SUMMARY	2
Findings	2
Conclusions	3
GLOSSARY.....	7
ABBREVIATIONS.....	8
1 INTRODUCTION.....	9
1.1 Terms of Reference	9
1.2 The Author	10
2 METHODOLOGY.....	10
2.1 Study Area.....	10
2.2 Sources of Information.....	10
2.3 Site Visits.....	11
2.4 Grading and Site Sensitivity	12
2.5 Restrictions and Assumptions.....	13
3 RECEIVING ENVIRONMENT.....	13
4 HERITAGE SENSITIVITIES OF THE DEVELOPMENT SITE	13
4.1 Palaeontology.....	13
4.2 Archaeology.....	15
4.3 Historical Sites and Built Environment	19
4.4 Graves and Burials	20
4.5 Cultural Landscape.....	22
4.6 Intangible Heritage	22
5 OPPORTUNITIES AND CONSTRAINTS.....	23
6 CONCLUSIONS.....	24
7 REFERENCES.....	25
APPENDIX A: SPECIALIST DECLARATION.....	27
APPENDIX B: CURRICULUM VITAE – JOHN GRIBBLE.....	28
APPENDIX C: ARCHAEOLOGICAL AND PALAEONTOLOGICAL SITES RECORDED DURING THE 2021	
ACO ASSOCIATES AND 2025 TERRAMARE ARCHAEOLOGY FIELD SURVEYS.....	37

Figure 1: Proposed extent of the St Helena Bay mixed-used development (red polygons) within the wider area of Portion 4 of Farm 6, Duyker Eiland (blue polygon (Source: 1:50 000 chart 3217DD-DB, 2010, National Geo-spatial Information, <http://www.ngi.gov.za>). 9

Figure 2: Study area for this screening report comprising the proposed project footprint shown as the red polygons (Source: Google Earth). 11

Figure 3: 2021 survey tracks recorded by ACO Associates (blue lines) in 2021 and by TerraMare Archaeology (yellow lines) in 2025 within the proposed mixed-use development

footprint (red polygons) (Source: Google Earth).....	12
Figure 4: Subsurface extent of the Velddrif Fm (left) and the subsequent Q1 & Witzand sands (right).	14
Figure 5: The development boundaries overlaid on the geological chart of the area (left) and the SAHRIS palaeosensitivity layers (right) (Sources: Geological Survey 1: 250 000 map 3218 Cape Town and https://sahris.sahra.org.za/map/palaeo).	14
Figure 6: Northern half of the proposed development area showing the occurrences of archaeological material recorded by the 2021 and 2025 surveys. White numbered points indicate material which was graded 3C, while yellow points represent material which was considered ungradable (Source: Google Earth).	17
Figure 7: South-eastern half of the proposed development area showing the occurrences of archaeological material recorded by the 2021 and 2025 surveys. White numbered points indicate material which was graded 3C, while yellow points represent material which was considered ungradable (Source: Google Earth).	18
Figure 8: Satellite image of the runway (within the yellow polygon) showing its position outside the current development area (red polygons) (left) and photograph of the runway taken during the 2021 site visit (Photo: J Gribble).....	19
Figure 9: Location of the cemetery (blue polygon) identified during the archaeological surveys of the proposed development area (Source: Google Earth).....	20
Figure 10: Extract from the Winter and Oberholzer (2013) map of the West Coast indicating their demarcations and gradings of the landscape elements in the vicinity of the proposed mixed-used development site. The Da Gama Monument is the upper yellow square (Source: Winter and Oberholzer (2013)).....	23
 Plate 1: Typical trench exposure in the vicinity of the development area showing the shelly sands of the Velddri Formation overlain by the sandy Springfontyn Formation (Photo: John Pether).	15
Plate 2: Cemetery and examples of grave types and gravestones recorded during the archaeological walkover survey conducted in February 2025 (Photos: J Gribble / G Euston-Brown)	21

GLOSSARY

Archaeology: Remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures.

Early Stone Age: Period of the Stone Age extending between approximately 2 million and 200 000 years ago.

Fossil: Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

Heritage: That which is inherited and forms part of the National Estate, as defined by the National Heritage Resources Act 25 of 1999.

Later Stone Age: The archaeology of the last 20,000 years associated with fully modern people.

Middle Stone Age: The archaeology of the Stone Age between approximately 200,000 and 20,000 years ago, associated with early modern humans.

Palaeontology: Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

Quaternary: The geologic time period that encompasses the most recent 2.6 million years. It comprises the Pleistocene (2.6 Ma – 10,000 years ago) and the Holocene (10,000 years ago to the present) and is characterised by a series of global glacial cycles.

SAHRA: South African Heritage Resources Agency – the compliance authority which protects national heritage.

Structure (historic): Any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Protected structures are those which are over 60 years old.

ABBREVIATIONS

asl	Above sea level
EIA	Environmental Impact Assessment
GPS	Global Positioning System
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
ka	Thousand years ago
LIG	Last Interglacial
LSA	Later Stone Age
MSA	Middle Stone Age
NHRA	National Heritage Resources Act (No 25 of 1999)
SAHRA	South African Heritage Resources Agency
SPV	Solar Photovoltaic
SAHRIS	South African Heritage Resources Information System

1 INTRODUCTION

TerraMare Archaeology (Pty) Ltd was appointed by SRK Consulting (South Africa) (Pty) Ltd, on behalf of Oceana Group Limited, to produce a heritage screening report for a proposed mixed-use development comprising retirement estates, a retail area, lifestyle retail outlets, a petrol station, and a medical facility in St Helena Bay, Saldanha Bay Local Municipality, Western Cape (Figure 1).

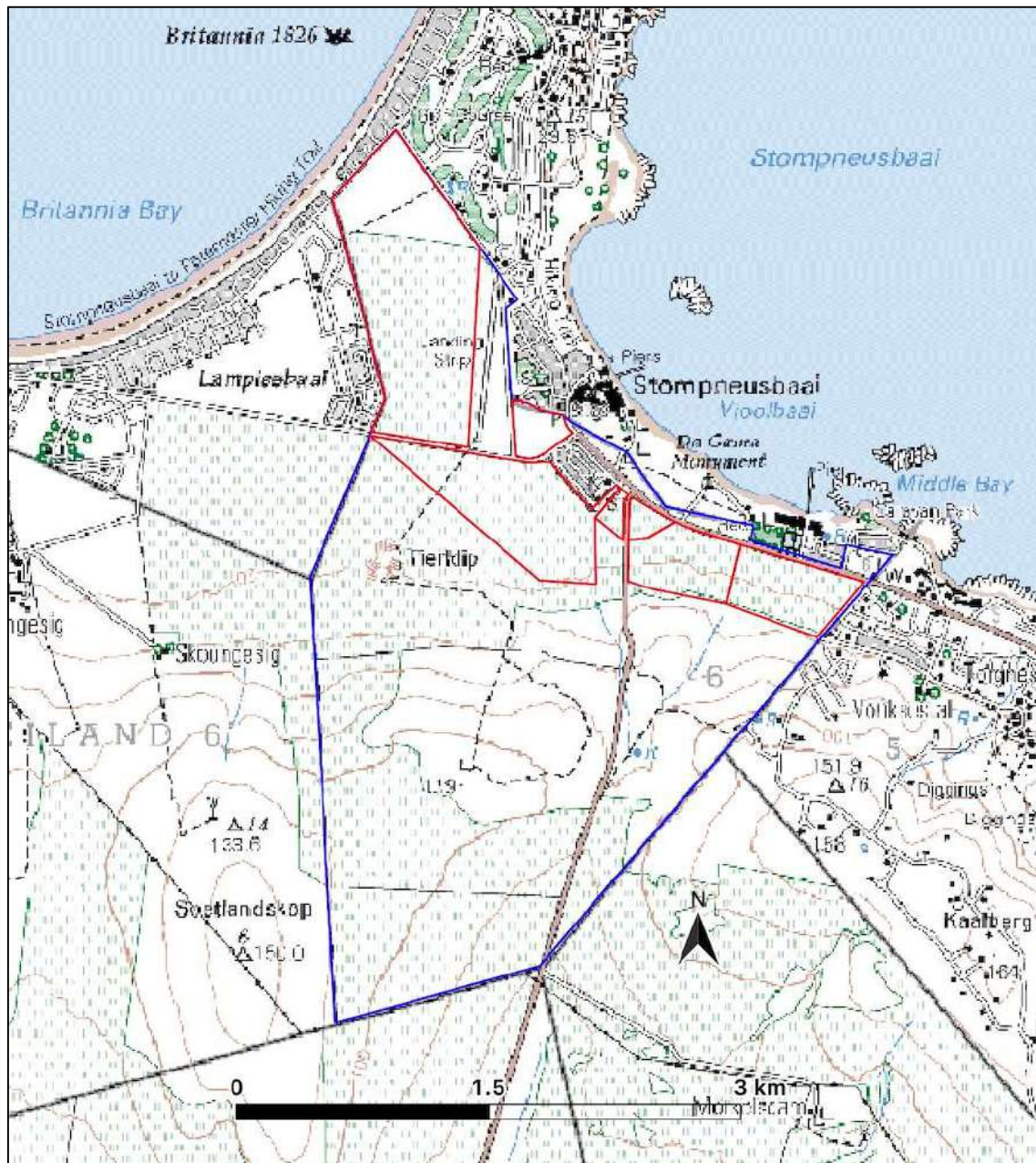


Figure 1: Proposed extent of the St Helena Bay mixed-used development (red polygons) within the wider area of Portion 4 of Farm 6, Duyker Eiland (blue polygon (Source: 1:50 000 chart 3217DD-DB, 2010, National Geospatial Information, <http://www.ngi.gov.za>).

1.1 Terms of Reference

This report describes the archaeological and other heritage resources identified during two walkover surveys of the development site. The report also addresses the palaeontological

sensitivity of the site, and potential intangible heritage sensitivities.

The report provides an indication of the sensitivity of heritage resources on the site and makes a recommendation as to whether further heritage studies are required as part of the EIA process for the project.

1.2 The Author

John Gribble has an MA (UCT, 1989), in archaeology and has been working in cultural resource management since the early 1990s. He has worked in both the regulatory and commercial heritage management fields: the former during 13 years at the National Monuments Council / South African Heritage Resources Agency (SAHRA), and the latter as both a terrestrial and maritime archaeological consultant in South Africa and the UK.

He holds archaeological accreditation with the Association of Southern African Professional Archaeologists CRM section (Member #43) as follows:

- Principal Investigator: Maritime Archaeology and Colonial Archaeology; and
- Field Director: Stone Age Archaeology.

A signed and certified specialist statement of independence is attached to this scoping report as Appendix A and the author's CV is attached as Appendix B.

2 METHODOLOGY

This scoping report aims to provide a general description of the known and potential heritage sensitivities of the project site and to flag any heritage-related fatal flaws to the proposed Oceana mixed-use development.

The National Heritage Resources Act (No 25 of 1999) (NHRA) defines the range and extent of what are considered to be South Africa's heritage resources. At its broadest, according to Section 2(xvi) of the Act, a heritage resource is "any place or object of cultural significance". This means that the object or place has aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

In terms of the definitions provided in Section 2 of the NHRA, heritage resources potentially present on the development site which may be impacted by the proposed development include:

- Palaeontological resources;
- Pre-colonial archaeological sites and materials;
- Colonial era archaeological sites and materials;
- Rock paintings and / or rock engravings;
- Historical built structures; and
- Graves and burials.

2.1 Study Area

The study area for this screening report comprises the proposed project footprint proposed shown on Figure 2.

2.2 Sources of Information

This scoping report relies on a range of primary and secondary information to provide a high-level assessment of the potential palaeontological, archaeological and other heritage sensitivities of the development site.

The sources of information used include:

- Historical and current 1:50 000 topographic maps of the study area and immediate surrounds.
- The current 1:250 000 geological chart for the area.
- Historical aerial photography of the study area and immediate surrounds.
- Historical survey diagrams.
- Previous impact assessments for any developments in the vicinity of the study area.
- Historical and current literature describing the study area and any relevant aspects of cultural heritage.

These information sources, used in conjunction with the results of the site visits have allowed a description of the heritage potential and sensitivities of the project site.



Figure 2: Study area for this screening report comprising the proposed project footprint shown as the red polygons (Source: Google Earth).

2.3 Site Visits

In addition, two site inspections of the project area have been conducted. A survey of the portion of the development area which was subject to a proposal to develop a solar photovoltaic (SPV) facility, was surveyed by John Gribble and Gail Euston-Brown by ACO Associates on 8 November 2021 (Gribble, 2022).

More recently the remainder of the mixed-use project area was surveyed by John Gribble and

Gail Euston-Brown of TerraMare Archaeology on 2 February 2024.

Both John Gribble and Gail Euston-Brown are experienced field archaeologists, and heritage resources identified during both site visits were recorded on Garmin GPS units (GPSMap 62s) carried by the field team, by site descriptions recorded while in the field and photographically, when pertinent.

The survey track plots recorded during both site visits are shown in Figure 3.



Figure 3: 2021 survey tracks recorded by ACO Associates (blue lines) in 2021 and by TerraMare Archaeology (yellow lines) in 2025 within the proposed mixed-use development footprint (red polygons) (Source: Google Earth).

No palaeontological field assessment has been conducted, partly because it was unlikely that that new pertinent information about the subsurface of the development site would be visible, and partly because of John Pether's familiarity with the scientific literature pertaining to the geology and palaeontology of the coastal plains of the West Coast, and previous observations of natural and ephemeral exposures along the coast of St. Helena Bay.

2.4 Grading and Site Sensitivity

Section 7(2) of the National Heritage Resources Act (NHRA) requires that provincial authorities formulate a system for the grading of heritage resources. Heritage Western Cape (HWC) has formulated a grading system for archaeology and palaeontology which is applied

in the Western Cape, where it is the statutory commenting authority.

Sites of local heritage significance form the Grade 3 tier of the system, with those of high local significance designated as Grade 3A. Those of medium or low local significance are designated Grades 3B and 3C respectively.

It is generally assumed that Grade 3A heritage resources should be preserved in their entirety, while Grade 3B and 3C sites can be mitigated or part preserved, as appropriate.

Resources which do not meet the Grade 3 criteria are referred to as Not Conservation-Worthy, although this author prefers the term “Ungradable”, and this is used in this report. Generally, ungradable heritage resources require no further action or mitigation in respect of development proposed on a site.

2.5 Restrictions and Assumptions

The 2021 and 2024 field surveys observed the surface only and any completely buried archaeological sites or material will not have been recorded. The degree of survey coverage was, in part, a reflection of the density of archaeological and other heritage sites present in the development area and, therefore, has provided a good picture of the heritage resources present.

Although we believe that most of the relevant archaeological assessments and HIAs from the area have been located and reviewed, it is acknowledged that, particularly, recent (post-2010) heritage reports from the Western Cape do not generally appear on the SAHRIS database and that may mean that some recent reports may not have been identified for review.

With respect to palaeontology, and for the reasons indicated above, no fieldwork has been conducted on the project site. For this desktop screening exercise, the palaeontologist's familiarity with the scientific literature pertaining to the geology and palaeontology of the coastal plains, together with his own observations of natural and ephemeral exposures along the coast of St. Helena Bay were deemed to be sufficient.

3 RECEIVING ENVIRONMENT

The Portion 4 of Farm 6 proposed for the mixed-use development is located on the lower slopes of the hills of the Vredenburg Peninsula overlooking St Helena Bay and on relatively flat land behind the coastal dune cordon.

The property comprises agricultural land, bordered in the north and west by residential urban development.

The site is largely covered in thick, pale reddish/white sand, but calcrete outcrops on the hillsides, and granite bedrock, is visible in places.

4 HERITAGE SENSITIVITIES OF THE DEVELOPMENT SITE

This section describes the known and potential heritage sensitivities of the proposed mixed-use development site as they are currently understood.

4.1 Palaeontology

The project area is situated on a marine, wave-cut platform which is overlain by shelly, fossiliferous deposits of the Velddrif Formation (Figure 4, left). These are mainly deposits of the “6 m Raised Beach” of Last Interglacial (LIG) age, laid down 128-120 thousand years ago (ka) when sea level retreated from a high stand which reached about 6 m above sea level

(asl). Just inland may be erosional remnants of the older “12 m Raised Beach” deposited around 400 ka.

The geological map (Figure 5 left) indicates an arc of the Velddrif Formation deposit across the base of the Shelly Pont promontory, reminiscent of a “fossil” beach ridge which is a common feature of the Velddrif Formation raised beaches fringing the edge of the coastal plain on the West Coast. However, there is no topographic expression of a beach ridge or outcropping raised beach deposits. Instead, the shelly beach sands and gravels, left behind by the retreating sea, are of greater extent on the marine platform, as indicated in Figure 4 (left).

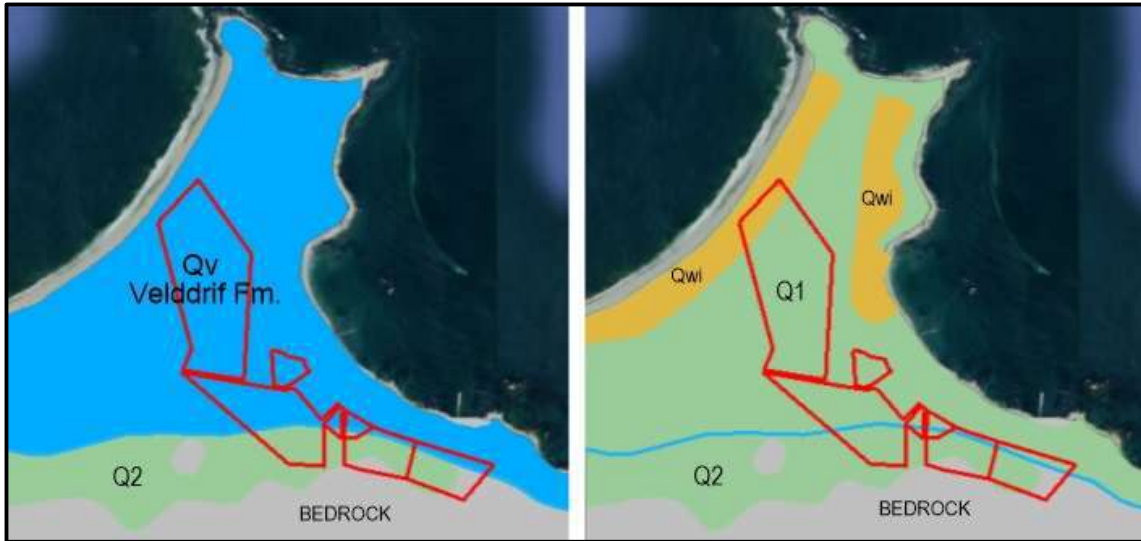


Figure 4: Subsurface extent of the Velddrif Fm (left) and the subsequent Q1 & Witzand sands (right).

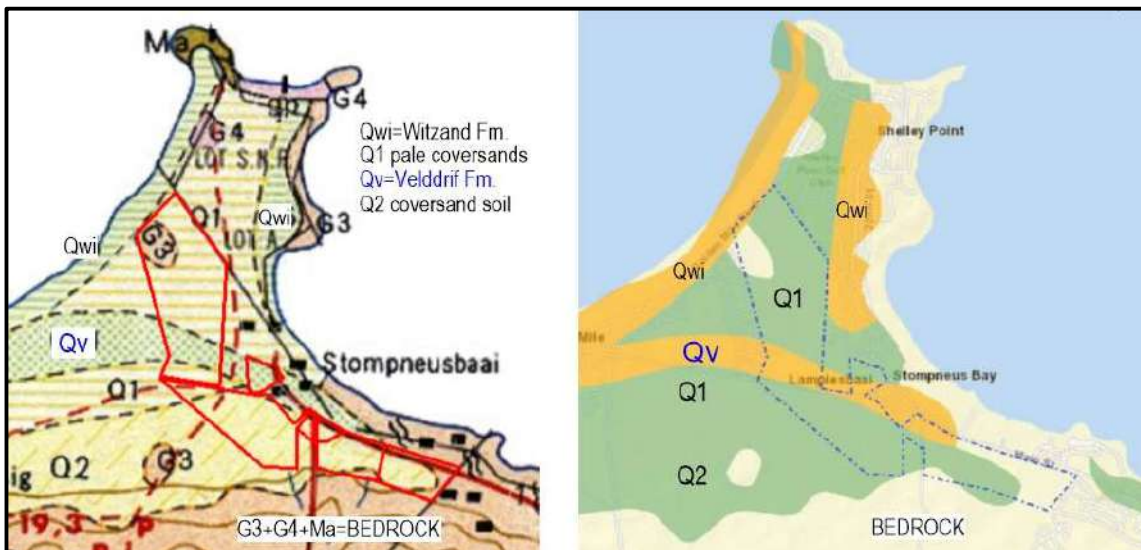


Figure 5: The development boundaries overlaid on the geological chart of the area (left) and the SAHRIS palaeosensitivity layers (right) (Sources: Geological Survey 1: 250 000 map 3218 Cape Town and <https://sahris.sahra.org.za/map/palaeo>).

These beach deposits were reworked by wind, eroding the upper part and producing a palaeosurface upon which both marine and terrestrial fossil bones occur (Plate 1).

Subsequently the Q1 aeolian coversands of the Springfontyn Formation accumulated on the

Velddrif Formation and inland lap onto the older Springfontyn Formation Q2 coversand soil. As indicated on Figure 4 and Figure 5, the younger Q1 sands overlie the Velddrif Formation “6 m Raised Beach”, while older Q2 heuweltjiesveld soil occurs on the higher elevation slopes (>~10 m asl.), where it overlies hillslope bedrock colluvium.

The marine fossil shell content of the Velddrif Formation raised beaches and the ambient fossil fauna (snails, moles, tortoises) in the Springfontyn Formation coversands are of generally of low palaeontological sensitivity. Fossil bones from whales, dolphins, seals and seabirds sparsely scattered within the Velddrif Formation are of moderate sensitivity.

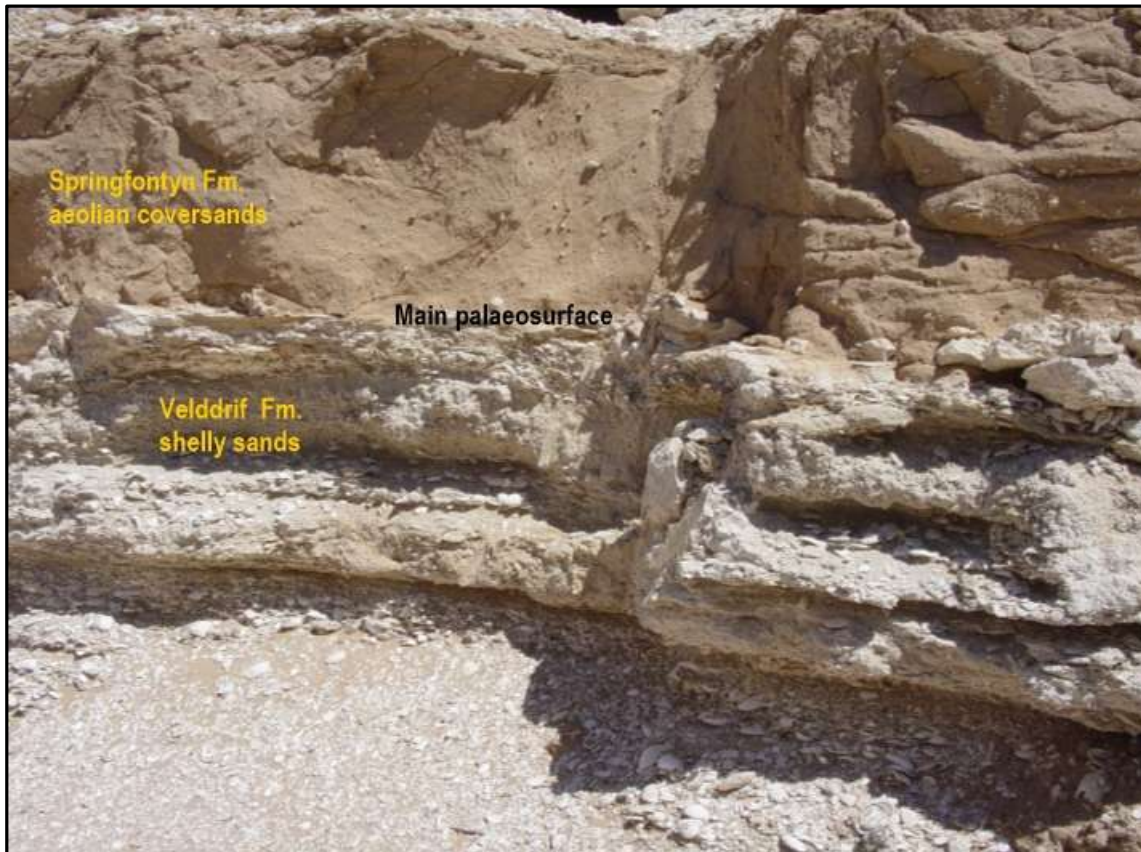


Plate 1: Typical trench exposure in the vicinity of the development area showing the shelly sands of the Velddrif Formation overlain by the sandy Springfontyn Formation (Photo: John Pether).

4.2 Archaeology

The West Coast of South Africa has been settled for at least 100 000 years. There are shell middens dating to the Middle Stone Age (MSA) both on, and to the north and south of the Vredenburg peninsula (Halkett & Hart 1993, Halkett et al 2003, Klein et al. 2004, Berger and Parkington 2005a,b). Associated with these middens are MSA stone artefacts and an anatomically modern human tooth from the Sea Harvest site (Grine & Klein 1993), and other anatomically modern post-cranial remains from Hoedjiespunt, all clearly older than 50 000 years. The presence of the so-called Saldanha skull fragment and the not infrequent finds of distinctive ESA artefacts, including handaxes, attests to a much more ancient use of the area, although, the coastal morphology has changed over time.

Hunter-gatherers living on the west coast of South Africa during the latter part of the Holocene made use of the coastal resources (perhaps seasonally). Archaeological excavations at sites such as Duyker Eiland on the coast near Britannia Bay (Robertshaw 1979) confirm the importance of shellfish such as mussel and limpet in the diet forming a dependable and easily

accessible protein resource during these times. In addition, the excavations of other sites on the Vredenburg peninsula have confirmed the importance of coastal resources such as seals, marine birds, crayfish and beached whales (see Bateman 1946; Buchanan et al. 1978; Cronin & Thackeray 1975; Rudner 1968).

The archaeological sites on the Vredenburg Peninsula date predominantly to the later part of the Stone Age, although earlier material dating to the mid-late mid Holocene provides evidence of the occupation of the area by early San hunter-gatherers. The broad survey of the Vredenburg Peninsula by Sadr (2009) identified at least 99 archaeological sites occurring predominantly around granite koppies, with many more found in open wheat fields during ongoing commercial archaeological impact assessment surveys (Hart et al 2005; Orton & Hart 2011; Orton 2009, Webley et al. 2010).

Although the walkover surveys of the proposed development area undertaken by ACO Associates in 2021 and TerraMare Archaeology in 2025 recorded a wide spread of archaeological material across the site, the project area is, generally, archaeologically poor and the visible archaeological sites and material are of relatively low archaeological significance. The locations of the occurrences of archaeological material recorded by the two surveys are shown on Figure 6 and Figure 7 and all findspots are described in Appendix C.

The surveys recorded only one very ephemeral scatter of lithics which can be described as a site (J029). Otherwise, finds consisted of isolated stone artefacts, mostly belonging to the Later Stone Age, with a few, more weathered artefacts that may date from the Middle Stone Age.

On the site proposed for the SPV facility surveyed in 2021, the material encountered consisted of scatters of marine shell of varying density and extent, with occasional associated flaked stone. A single small fragment of Khoi pottery was noted at one findspot (G018) very close to the southern boundary of the property. No bone, charcoal or other archaeological material was recorded at any of the scatters.

The shell was a mix of black mussel and various limpet species, all of which would have been readily available from the rocky seashore outcrops along the coast surrounding the site. The mix of shell species appeared to differ from occurrence to occurrence, with some scatters dominated by mussel and others by limpets. The degree of fragmentation of the shell also differed between occurrences with very broken up shell in some areas and much more intact shell in others.

On this land parcel, lithics were the exception rather than the rule and most were found in the shell scatters on the northern half of the property, outside the area identified for the SPV. The lithics appear to be Later Stone Age (LSA) in date, and most are flakes and chunks. Quartz is the dominant raw material with a substantially lower number of silcrete artefacts present. Other raw materials were represented by a single, large, retouched quartzite flake (J029), and two pieces of flaked black granite. No Early Stone Age artefacts were recorded anywhere on the proposed development site.

Of the land parcels surveyed in 2025, only occasional scattered flaked stone – mainly derived from beach cobbles – was recorded on the steep hillsides parallel to the coast on the two easternmost properties. Archaeological marine shell was almost entirely absent here, and no other archaeological material like bone, pottery or charcoal was noted.

The archaeological material encountered in other areas of the development site surveyed in 2025 is similar to what was found in 2021 on the proposed SPV facility site but more ephemeral, consisting of patchy, thin scatters of very broken marine shell with occasional pre-colonial lithic artefacts, almost exclusively dating from the LSA. Like on the SPV site, most of

the marine shell found in these areas of the proposed development site occurred in dunemole burrow casts, which suggests the presence of buried archaeological sites in places in these areas.

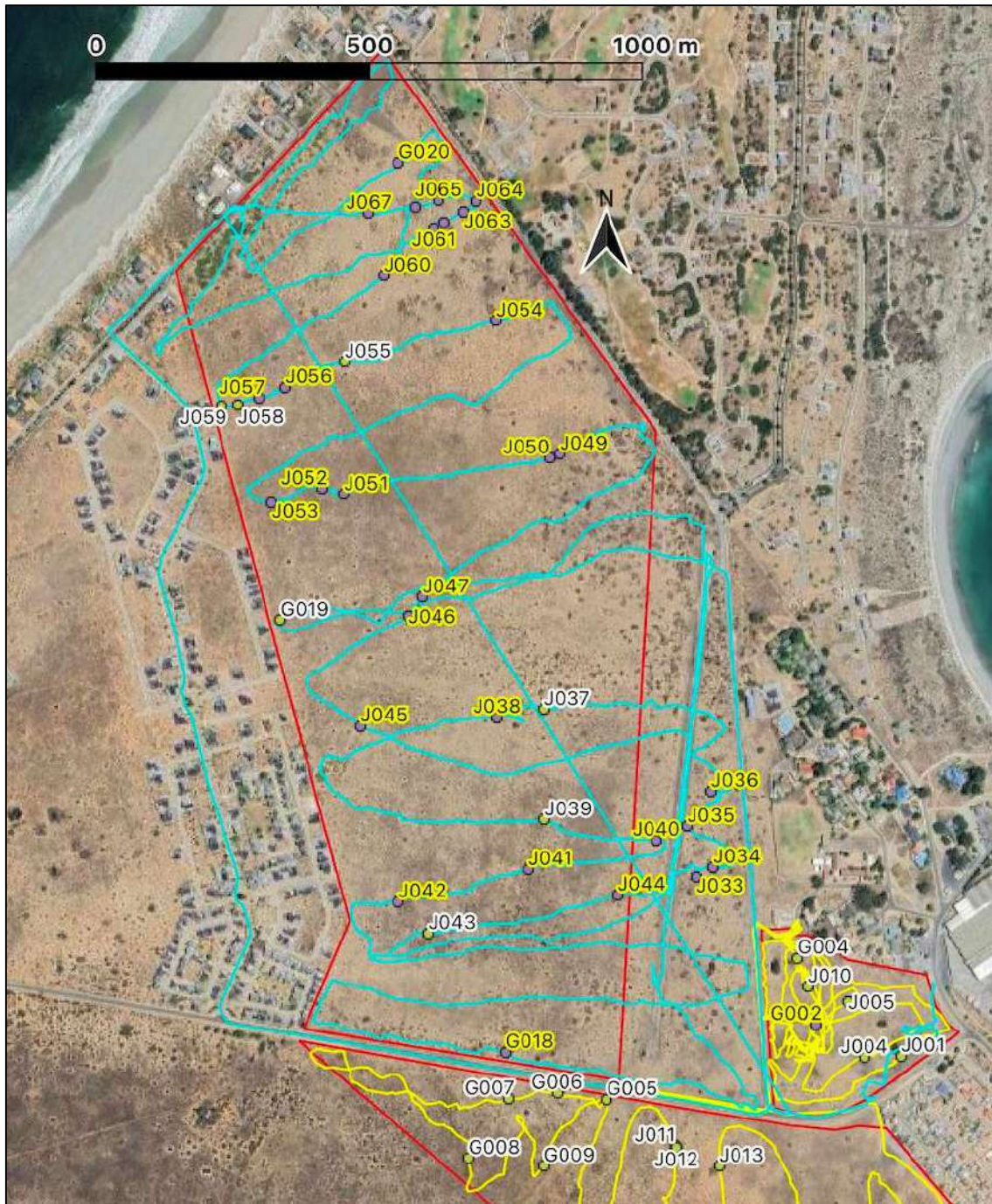


Figure 6: Northern half of the proposed development area showing the occurrences of archaeological material recorded by the 2021 and 2025 surveys. White numbered points indicate material which was graded 3C, while yellow points represent material which was considered ungradable (Source: Google Earth).



Figure 7: South-eastern half of the proposed development area showing the occurrences of archaeological material recorded by the 2021 and 2025 surveys. White numbered points indicate material which was graded 3C, while yellow points represent material which was considered ungradable (Source: Google Earth).

4.3 Historical Sites and Built Environment

St Helena Bay enters the written historical record on 7 November 1497 when the Portuguese explorer, Vasco da Gama made his first landfall in southern Africa on the shores of the bay. Da Gama reported a wide bay backed by low-lying plains (Cliff, 2011).

After Da Gama's departure, St Helena Bay was next visited by European ships more than a century later when the Dutch fleet of Cornelis de Houtman stopped there in November 1598 (Sleigh, 1993). Although visitors to the bay remark that it was a rich fishery (in later years it was the centre of a major whaling fishery), a lack of fresh water sources ashore, and the other supplies required by passing ships meant that the bay was infrequently visited.

In 1733, in response to reports that the French East India Company was investigating the area as a possible refreshment station, the Dutch authorities at the Cape made enquiries of the free burgher farmers who had already settled around the coast of St Helena Bay about the best place in the area to establish a Company buitepos or outpost. The following year, these farmers (H O Eksteen, J Coljin and J Cruijwagen) helped to set up the buitepos below Patysberg in the south-western corner of the bay (Sleigh, 1993). By the end of the first quarter of the 18th century, therefore, it appears that the area around St Helena Bay was already being farmed by European settlers.

It has not been possible to access the original land grant and survey diagram for Duiker Eiland, but the Surveyor General diagram (2052/1921) for a subdivision of the farm (**Error! Reference source not found.**), refers to the parent farm being originally granted to DJ Morkel and others on 31 January 1831.

In terms of historical and built heritage sites, the 2021 survey for the SPV facility identified a disused and largely ruinous aircraft landing strip and some possible items of associated infrastructure on the site proposed for that development. Based on a comparison of historical mapping, the airstrip was built between 1964, when it is not indicated on the 1:50 000 topographic map of the area, and 1971, when it is visible on aerial photography. The runway and its associated structures are thus currently less than 60 years old, and not subject to protection under the NHRA. This runway has been excluded from the footprint of the proposed mixed-use development and will not be impacted by the proposals (Figure 8).



Figure 8: Satellite image of the runway (within the yellow polygon) showing its position outside the current

development area (red polygons) (left) and photograph of the runway taken during the 2021 site visit (Photo: J Gribble).

No other extant built structures were noted on the remainder of the proposed development site during the 2025 TerraMare Archaeology survey. The only possibly historical remains encountered were a small, concrete slab (J010) surrounded by a scatter of shell and charcoal, and a handful of 19th century ceramic shards found in a dunemole burrow cast approximately 70 m away (J005).

4.4 Graves and Burials

Noted during the 2021 survey for the proposed SPV facility, but then outside the project area, a historical cemetery was recorded during the 2025 site visit on the portion of the development area on eastern side of the Shelly Point road (Figure 9).

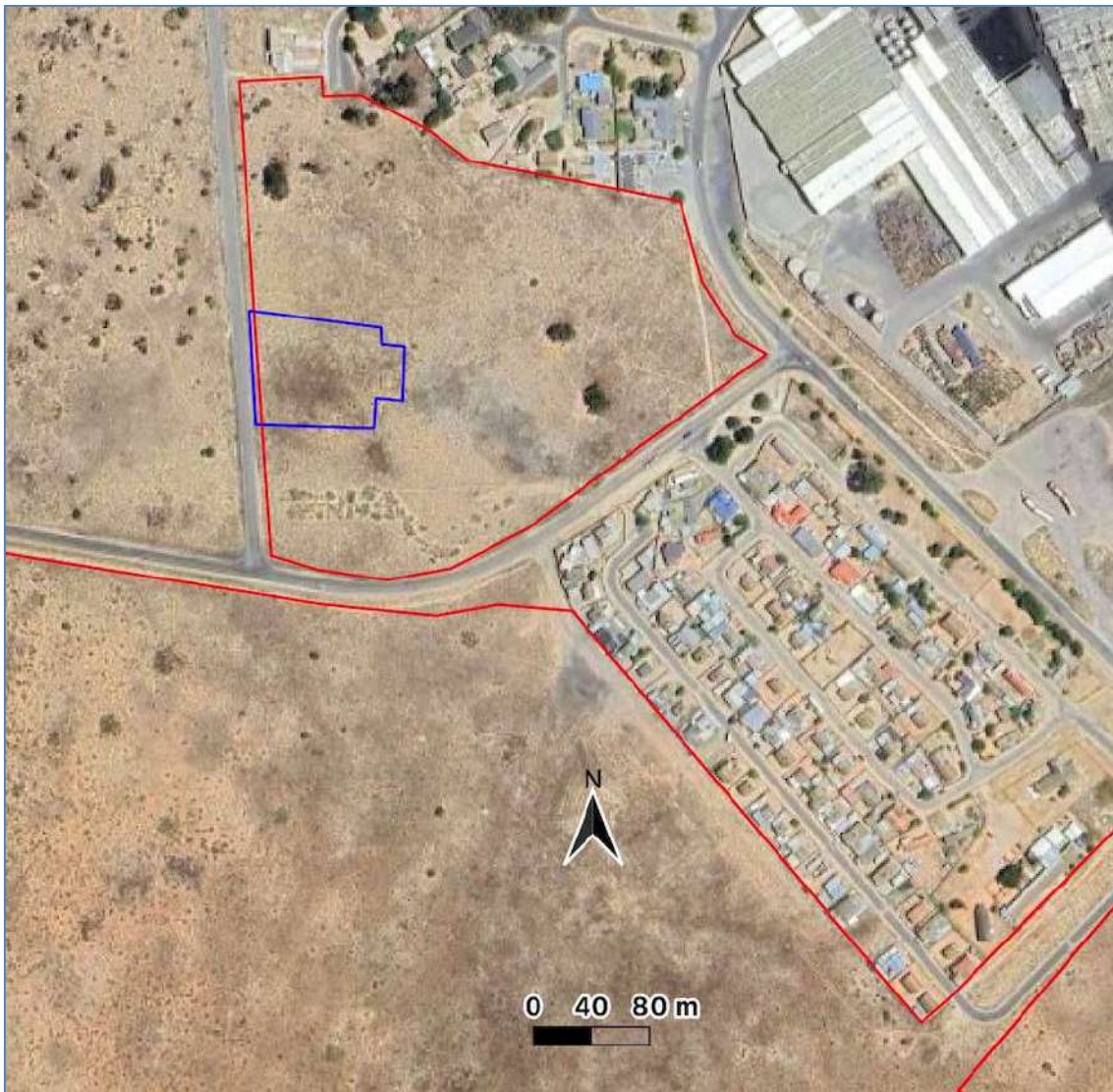


Figure 9: Location of the cemetery (blue polygon) identified during the archaeological surveys of the proposed development area (Source: Google Earth).



Plate 2: Cemetery and examples of grave types and gravestones recorded during the archaeological walkover survey conducted in February 2025 (Photos: J Gribble / G Euston-Brown)

The cemetery is still partially fenced but seems not to have been recently used. Most of the legible gravestone date to the period between 1873 and 1912, although a headstone with the date 1987 was noted. TerraMare Archaeology counted at least 100 identifiable graves within the fenced area - some marked with formal headstones, others with rocks simply marking the head and foot of the grave and yet others on the eastern edge of the graveyard covered by packed stone (Plate 2 above).

Although no graves were identified elsewhere within the project footprint during the walkover surveys, it is possible that unmarked, particularly pre-colonial burials could be present within the development area. This is evidenced by the accidental discovery of two pre-colonial human burials during development projects in the coastal strip in Britannia Bay and around Shelley Point (Orton, 2019; HWC pers. comm.).

4.5 Cultural Landscape

The historical mapping and aerial photographs of the area indicate that the proposed development site was rural and agricultural, with small nodes of coastal development associated with the fishing industry until relatively recently. This has changed markedly in roughly the last three decades with a marked growth in residential developments such as at Shelley Point, Lampiesbaai and Britannia Bay, to the extent that the proposed development area now falls within defined St Helena Bay urban edge.

Winter and Oberholzer (2013) have defined the coastline of the Vredenburg Peninsula, including the development site, as a water landscape (Cwl.5) with a landscape grading of Grade 3 which arises from its high scenic and recreational value (Figure 10). The peninsula also forms part of an archaeological landscape (Cal.1), while the unpaved gravel road between Vredenburg and Stompneus Bay is marked as a scenic route of secondary importance and the Da Gama Monument is indicated as a Grade 3 local heritage site (Figure 10).

The West Coast Guriqua Bloodline Council (WCGBC), in comments on the 2022 HIA for the proposed SPV facility, made the claim that the SPV site was sacred and also that it represents the locus of a historical battle between the Khoi and the Portuguese (see next section). These claims potentially add layers to the cultural landscape, and although neither has been supported by concrete evidence, they were considered in the assessment of impacts to the cultural landscape in the 2022 HIA (Gribble, 2022).

Overall, the cultural landscape of the proposed development area is one that is already substantially altered and rapidly changing with a mix of expanding residential to the west and north-east, and industrial along the coast of St Helena Bay to the north. Only the rural landscape to the south-east of the site retains some of its historical landscape character.

4.6 Intangible Heritage

As mentioned in the previous section, a claim was made during the public participation exercise for the SPV facility that the site of a skirmish between the Khoi and Vasco da Gama's ships was on that site.

The historical documents indicate that on Sunday 12 November 1497, after one of Da Gama's men, had visited ashore with the local people, there seems to have been some sort of disagreement, and he was pursued back to the beach. The boat sent to take him off the beach was pelted with stones, spears and arrows and Da Gama and three or four others were injured. Da Gama responded by ordering his crossbowmen to fire toward the shore (Ravenstein, 1898; Cliff, 2011) but there is no indication in his journal of whether there were casualties among the indigenous group.

Based on the information above, it seems that the crossbowmen did not go ashore but fired

towards the shore from the ships and that this skirmish played out on the beach adjacent to where the Portuguese ships were anchored, rather than further afield in the surrounding landscape.



Figure 10: Extract from the Winter and Oberholzer (2013) map of the West Coast indicating their demarcations and gradings of the landscape elements in the vicinity of the proposed mixed-used development site. The Da Gama Monument is the upper yellow square (Source: Winter and Oberholzer (2013))

5 OPPORTUNITIES AND CONSTRAINTS

The proposed mixed-use development site is an area of generally low palaeontological sensitivity and should not constrain the proposed development, provided suitable measures

to mitigate any impacts are implemented.

Archaeological sites generally are limited in extent and have much smaller constraints footprints on development than those applicable to biodiversity or ecology, for example. It is generally possible to either avoid (by excluding the affected site from the proposed development) or mitigate (through archaeological intervention such as recording, sampling or excavation) impacts on archaeological sites where they are found to be present within the development footprint. The presence of archaeological resources within a development area is seldom a fatal flaw and it is very unlikely to be the case for the St Helena Bay mixed-use project, provided suitable mitigation measures are implemented.

Although historical graves and burials are extremely sensitive heritage receptors, their presence within a project area is not necessarily a fatal flaw, provided they are excluded from impacts from the development and are sensitively treated. The exhumation of a graveyard as part of a development process, while possible, is costly and can be extremely contentious. The graveyard recorded within the mix-use project area (and perhaps a buffer around it) should thus be excluded from the development footprint.

With respect to unmarked, usually pre-colonial graves, they too are an extremely sensitive and often contested heritage resource, and it is generally impossible to predict their presence in advance of development. However, the inclusion in the project EMP of a procedure for reporting and dealing with chance finds of human remains will ensure that the sensitivity of the development area with respect to this potential heritage resource is low and that they will not be a fatal flaw.

The cultural landscape within which the mixed-use development is being proposed has been heavily altered by recent and ongoing, mainly residential, development and is of relatively low cultural significance. While the existing landscape will be fundamentally changed by the proposed development, this is part of a process already well underway in the area.

It is possible that the intangible heritage claims made by I&APs in relation to the proposed SPV project will also be raised in relation to this proposed mixed-use development. It is, by definition, often difficult to substantiate claims of intangible heritage associated with a site or place, except where objective information is available in relation to the claims made. If intangible heritage issues are raised during the EIA process for this development, these will need to be addressed and assessed on their individual merits and according to what information is available.

6 CONCLUSIONS

The production and submission of a Notice of intent to Develop (NID) to HWC is a requirement for a development such as this, which triggers Section 38 of the NHRA. The formal HWC response to the NID application will set out what their requirements are in terms of the heritage studies they require to be conducted as part of the EIA process for the project. Based on the information set out in this screening report, it should be expected, however, that HWC will request a Heritage Impact Assessment for the St Helena Bay mixed-use development, as part of the project EIA process for the project.

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APPENDIX A: SPECIALIST DECLARATION

(See separate PDF file)

APPENDIX B: CURRICULUM VITAE – JOHN GRIBBLE

(Updated – January 2024)

Name: John Gribble
Profession: Archaeologist (Maritime)
Date of Birth: 15 November 1965
Parent Firm: TerraMare Archaeology (Pty) Ltd
Position in Firm: Director & Senior Archaeologist
Years of experience: 33
Nationality: South African

Education:
1979-1983 Wynberg Boys' High School
1986 BA (Archaeology), University of Cape Town
1987 BA (Hons) (Archaeology), University of Cape Town
1990 Master of Arts, (Archaeology) University of Cape Town

Employment:

- September 2023 – present: TerraMare Archaeology, Director and Senior Archaeologist
- September 2017 – August 2023: ACO Associates, Senior Archaeologist and Consultant
- 2014-2017: South African Heritage Resources Agency, Manager: Maritime and Underwater Cultural Heritage Unit
- 2012-2018: Sea Change Heritage Consultants Limited, Director
- 2011-2012: TUV SUD PMSS (Romsey, United Kingdom), Principal Consultant: Maritime Archaeology
- 2009-2011: EMU Limited (Southampton, United Kingdom), Principal Consultant: Maritime Archaeology
- 2005-2009: Wessex Archaeology (Salisbury, United Kingdom), Project Manager: Coastal and Marine
- 1996-2005: National Monuments Council / South African Heritage Resources Agency, Maritime Archaeologist
- 1994-1996: National Monuments Council, Professional Officer: Boland and West Coast, Western Cape Office

Professional Qualifications and Accreditation:

- Member: Association of Southern African Professional Archaeologists (ASAPA) (No. 043)
 - Principal Investigator: Maritime and Colonial Archaeology, ASAPA CRM Section
 - Field Director: Stone Age Archaeology, ASAPA CRM Section
- Class III Diver (Surface Supply), Department of Labour (South Africa) / UK (HSE III)

Experience:

I have more than 30 years of professional archaeological and heritage management experience. After completing my postgraduate studies and a period of freelance archaeological work in South Africa and abroad, I joined the National Monuments Council (NMC) (now the South African Heritage Resources Agency (SAHRA)) in 1994. In 1996 I became the NMC's first full-time maritime archaeologist and in this regulatory role was responsible for the management and protection of underwater cultural heritage in South Africa under the National Monuments Act, and subsequently under the National Heritage Resources Act.

In 2005 I moved to the UK to join Wessex Archaeology, one of the UK's biggest archaeological consultancies, as a project manager in its Coastal and Marine Section. In 2009 I joined Fugro EMU Limited, a marine geosurvey company to set up their maritime archaeological section. I then spent a year at TUV SUD PMSS, an international renewable energy consultancy, where I again

provided maritime archaeological consultancy services to principally the offshore renewable and marine aggregate industries.

In August 2012 I established Sea Change Heritage Consultants Limited, a maritime archaeological consultancy. Sea Change traded until 2018, providing archaeological services to a range of UK maritime sectors, including marine aggregates and offshore renewable energy.

Relevant maritime experience includes specialist archaeological consultancy for more than two dozen offshore renewable energy projects and aggregate extraction licence areas in UK waters including:

- Lynn and Inner Dowsing OWF;
- Humber Gateway OWF;
- Sheringham Shoal OWF;
- Race Bank OWF;
- Docking Shoal OWF;
- Triton Knoll OWF;
- Neart na Gaoithe OWF;
- Dogger Bank OWF;
- Hornsea OWF;
- Navitus Bay OWF;
- Aggregate Area 392/393, Hilbre Swash;
- Area 478, East English Channel;
- Area 372/1, North Nab;
- Areas 401 & 2;
- Area 466, North West Rough; and
- Area 447, Cutline.

In the UK I was also involved in strategic projects which developed guidance and best practice for the UK offshore industry with respect to the marine historic environment. This included the principal authorship of two historic environment guidance documents for COWRIE and the UK renewable energy sector (*Historical Environment Guidance for the Offshore Renewable Energy Sector* (2007) and *Offshore Geotechnical Investigations and Historic Environment Analysis: Guidance for the Renewable Energy Sector* (2010)). I was also manager and lead author in the development of the archaeological elements of the first Regional Environmental Assessments for the UK marine aggregates industry, and in the 2009 *UK Continental Shelf Offshore Oil and Gas and Wind Energy Strategic Environmental Assessment* for Department of Energy and Climate Change. In 2013-14 I was lead author and project co-ordinator on *The UNESCO Convention on the Protection of the Underwater Cultural Heritage 2001: An Impact Review for the United Kingdom* and in 2016 I was co-author of a Historic England / Crown Estate / British Marine Aggregate Producers Association funded review of marine historic environment best practice guidance for the UK offshore aggregate industry.

I returned to South African in mid-2014 where I was re-appointed to my earlier post at SAHRA: Manager of the Maritime and Underwater Cultural Heritage Unit. In July 2016 I was appointed as Acting Manager of SAHRA's Archaeology, Palaeontology and Meteorites Unit.

I left SAHRA in September 2017 to join ACO Associates as Senior Archaeologist and Consultant. While at ACO I carried out a wide range of terrestrial and maritime archaeological assessments, many of which are listed in the following section. In 2018 I conducted an assessment of the potential impacts of marine mining on South Africa's palaeontological and archaeological heritage for the Council for Geoscience, on behalf of the Department of Mineral Resources.

On 1 September 2023 I left ACO to establish my own consultancy, TerraMare Archaeology (Pty) Ltd, which will provide specialist assessment and management services and advice for both

terrestrial and maritime archaeological heritage.

I have been a member of the Association of Southern African Professional Archaeologists (No. 043) for nearly thirty years and am accredited by ASAPA's Cultural Resource Management section.

I have been a member of the ICOMOS International Committee for Underwater Cultural Heritage since 2000 and served as a member of its Bureau between 2009 and 2018.

Since 2010 I have been a member of the UK's Joint Nautical Archaeology Policy Committee.

I am a member of the Advisory Board of the George Washington University / Iziko Museums of South Africa / South African Heritage Resources Agency / Smithsonian Institution 'Southern African Slave Wrecks Project'.

I served on the Heritage Western Cape Archaeology, Palaeontology and Meteorites Committee between 2014 and 2023.

Selected Project Reports:

Gribble, J. 2017. *Archaeological Assessment of Farm No 8/851, Drakenstein*. Unpublished report prepared for Balwin Properties Pty Ltd. ACO Associates.

Gribble, J. 2017. *Archaeological Assessment of Bosjes Phase 2, Farm 218 Witzenberg*. Unpublished report prepared for Farmprops 53 (Pty) Ltd. ACO Associates.

Gribble, J. 2017. *Canal Precinct, V&A Waterfront: Heritage Impact Assessment*. Unpublished report prepared for Nicolas Baumann Urban Conservation and Planning. ACO Associates.

Gribble, J. 2017. *Archaeological Assessment of the proposed dam on the farm Constantia Uitsig, Erven 13029 and 13030, Cape Town*. Unpublished report prepared for SLR Consulting (South Africa) (Pty) Ltd. ACO Associates.

Gribble, J. 2017. *Archaeological Assessment of Erf 4722 Blouvillei, Wellington*. Unpublished report prepared for Urban Dynamics Western Cape (Pty) Ltd. ACO Associates.

Hart, T.G., Gribble, J. & Robinson, J. 2017 *Heritage Impact Assessment for the Proposed Phezukomoya Wind Energy Facility to be Situated in the Northern Cape*. Unpublished report prepared for Arcus Consulting. ACO Associates.

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Gribble, J. 2018. *Integrated Heritage Impact Assessment of the Peter Falke Winery on Farm 1558 Groenvlei, Stellenbosch*. Unpublished report prepared for Werner Nel Environmental Consulting Services. ACO Associates.

Gribble, J. & Halkett, D. 2018. *Heritage Impact Assessment for a Proposed Extension of the Kaolin Mine on Portion 1 of the Farm Rondawel 638, Namaqualand District, Northern Cape*. Unpublished report prepared for Rondawel Kaolien (Pty) Ltd. ACO Associates.

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Halkett, D. & Gribble, J. 2018. *Archaeological/Heritage Report for the Expansion of the Current Granite Mining at Oeranoep and Ghaams, Northern Cape Province*. Unpublished report prepared for Klaas Van Zyl. ACO Associates.

Gribble, J. 2018. *Potential Impacts of Marine Mining on South Africa's Palaeontological and Archaeological Heritage*. Report prepared for Council for Geoscience. ACO Associates.

Gribble, J. 2018. *Maritime Heritage Impact Assessment: Block ER236, Proposed Exploration Well Drilling*. Unpublished report prepared for ERM Southern Africa (Pty) Ltd. ACO Associates.

Gribble, J. 2018. *Maritime Heritage Impact Assessment: IOX Cable Route*. Unpublished report prepared for ERM Southern Africa. ACO Associates.

Gribble, J. 2018. *Archaeological Assessment of the Terrestrial Portion of the IOX Cable Route*. Unpublished report prepared for ERM Southern Africa. ACO Associates.

Gribble, J. 2018. *Archaeological Assessment: Erven 11122, 11123, 11124, 11125, 11126, 11127 and Re 11128, Corner Frere Street and Albert Road, Woodstock, Cape Town*. Unpublished report prepared for Johan Cornelius. ACO Associates.

Gribble, J. 2018. *Maritime Heritage Impact Assessment: Expansion of Diamond Coast Aquaculture Farm on Farm 654, Portion 1, Kleinsee, Northern Cape*. Unpublished report prepared for ACRM. ACO Associates.

Gribble, J. 2018. *Heritage Impact Assessment: Ship Repair Facility, Port of Mossel Bay*. Unpublished report prepared for Nema Consulting. ACO Associates.

Gribble, J. 2018. *Archaeological Assessment: Sites B and C, Portwood Ridge Precinct, V&A Waterfront*. Unpublished report prepared for Urban Conservation. ACO Associates.

Gribble, J. 2018. *Heritage Impact Assessment: Zandrug, Farm Re 9/122, Cederberg*. Unpublished report prepared for Cederberg Environmental Assessment Practice. ACO Associates.

Gribble, J. and Hart, T.G. 2018. *Initial Assessment Report and Motivation for Exploratory Permit, Erf 4995, corner of Waterfall and Palace Hill Roads, Simonstown*. Unpublished report prepared for Regent Blue Sayers' Lane (Pty) Ltd. ACO Associates.

Gribble, J. and Hart, T.G. 2018. *Initial investigation report with respect to human remains found at Erf 4995, corner of Waterfall and Palace Hill Roads, Simonstown*. Unpublished permit report prepared for Regent Blue Sayers' Lane (Pty) Ltd. ACO Associates.

Gribble, J. 2019. *Maritime Heritage Impact Assessment: ASN Africa METISS Subsea Fibre Optic Cable System*. Unpublished report prepared for ERM Southern Africa. ACO Associates.

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Gribble, J. 2019. *Heritage Impact Assessment: Rooilandia Farm Dam, Pipeline and New Irrigation Areas*. Unpublished report prepared for Cornerstone Environmental Consultants. ACO Associates.

Gribble, J. 2019. *Maritime Archaeological Impact Assessment of Proposed Equiano Cable System, landing at Melkbosstrand, Western Cape Province*. Unpublished report prepared for Acer

(Africa) Environmental Consultants. ACO Associates.

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Gribble, J., Euston-Brown, G.L. & Hart, T. 2020. *Heritage Impact Assessment: Proposed Construction of Five Guest Cottages on the Farm Groenfontein (Farm 96), Outside Ceres, Western Cape*. Unpublished report prepared for Doug Jeffery Environmental Consultants. ACO Associates.

Gribble, J. 2020. *Maritime Archaeological Impact Assessment for Prospecting Rights Applications: Sea Concession Areas 14b, 15b and 17b, West Coast, Western Cape Province*. Unpublished report prepared for SLR Consulting. ACO Associates.

Gribble, J. 2020. *Maritime Archaeological Impact Assessment for Prospecting Rights Applications: Sea Concession Areas 13C and 15C - 18C, West Coast, Western Cape Province*. Unpublished report prepared for SLR Consulting. ACO Associates.

Gribble, J. 2020. *Heritage Impact Assessment for Proposed Sand Mining on Portion 2 Of Farm Kleinfontein 312, Klawer District, Western Cape*. Unpublished report prepared for Green Direction Sustainability Consulting (Pty) Ltd. ACO Associates.

Gribble, J. 2020. *Archaeological Assessment: Erven 10712 and Re 14932, Corner Railway Street and Albert Road, Woodstock, Cape Town*. Unpublished report prepared for Claire Abrahamse. ACO Associates.

Gribble, J. & Euston-Brown, G.L. 2020. *Heritage Impact Assessment: Leliefontein to Conmarine Bulk Water Pipeline, between Paarl and Wellington*. Unpublished report prepared for Aurecon South Africa (Pty) Ltd. ACO Associates.

Gribble, J. & Euston-Brown, G.L. 2020. *Heritage Impact Assessment: Proposed Expansion of the Sand Mine on Portion 4 of The Farm Zandbergfontein, Robertson, Western Cape*. Unpublished report prepared for Greenmined Environmental. ACO Associates.

Gribble, J. 2021. *Maritime Archaeological Impact Assessment of Proposed 2AFRICA/GERA (East) Submarine Fibre Optic Cable System, Landing at Duynefontein, Western Cape Province*. Unpublished report prepared for Acer (Africa) Environmental Consultants. ACO Associates.

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Gribble, J. 2021. *Heritage Impact Assessment: Beaufort West Photovoltaic Project, outside Beaufort West, Western Cape*. Unpublished report prepared for Nema Consulting (Pty) Ltd. ACO Associates.

Gribble, J. 2021. *Heritage Impact Assessment: Proposed Esizayo 132KV Transmission Integration Project, on Farms Standvastigheid 210 Remainder and Aurora 285, Western and Northern Cape*. Unpublished report prepared for WSP Group Africa (Pty) Ltd. ACO Associates.

Gribble, J. 2022. *Heritage Impact Assessment: Proposed Oceana 10 MW Solar Photovoltaic Facility, on Portion 4 of Farm 6 Duyker Eiland, St Helena Bay, Western Cape*. Unpublished report prepared for SRK Consulting (South Africa) (Pty) Ltd. ACO Associates.

Gribble, J. & Euston-Brown, G. 2021. *Heritage Impact Assessment: Proposed Photovoltaic Facility on Remainder of Farm Vaal Rivier 261, Farm Vaal Kloof 262, Portion 1 of Farm Jurgens Fontein 263, Portion 2 of Farm Kolkies Rivier 234 and Portion 1 of Farm Eiberg West 260, East of Ceres, Western Cape*. Unpublished report prepared for Ecocompliance. ACO Associates.

Gribble, J. 2022. *Heritage Walkdown Survey Report for the Final Layout of the Mulilo De Aar 2 South Wind Energy Facility, Northern Cape Province*. Unpublished report prepared for Holland & Associates Environmental Consultants. ACO Associates.

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Gribble, J. 2022. *Heritage Sensitivity Assessment: Proposed Beaufort West PV Project on the farms Portion 9 (RE) of Kuils Port 161, Remainder of South Lemoenfontein 162, Portion 1 (RE) of Buls Kop 163 and Portion 2 Farm Lemoen Fontein 158, outside Beaufort West, Western Cape*. Unpublished report prepared for Nema Consulting. ACO Associates.

Gribble, J. & Euston-Brown, G. 2022. *Heritage Impact Assessment: Two New Transmission Lines and a Switching Station in Support of the Authorised De Aar 2 South Wind Energy Facility, De Aar, Northern Cape*. Unpublished report prepared for Arcus Consultancy Services South Africa (Pty) Ltd. ACO Associates.

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Gribble, J. & Euston-Brown, G. 2023. *Heritage Impact Assessment for the Hercules Solar Cluster Project, outside De Aar, Northern Cape Province*. Unpublished report prepared for Sharples Environmental Services cc. ACO Associates.

Gribble, J. 2023. *Archaeological Walkdown Survey Report for the Final Layout of the Koup 1 Wind Energy Facility, South Of Beaufort West, Western Cape Province*. Unpublished report prepared for Arcus Consultancy Services South Africa (Pty) Ltd. ACO Associates.

Gribble, J. 2023. *Archaeological Walkdown Survey Report for the Final Layout of the Koup 2 Wind Energy Facility, South Of Beaufort West, Western Cape Province*. Unpublished report prepared for Arcus Consultancy Services South Africa (Pty) Ltd. ACO Associates.

Gribble, J. 2023. *Heritage Impact Assessment: Proposed Soyuz 1-6 Solar Photovoltaic Parks, outside Britstown, Northern Cape Province*. Unpublished report prepared for Terramanzi Group (Pty) Ltd. ACO Associates.

Gribble, J. 2023. *Maritime Heritage Impact Assessment for Offshore Production Right and Environmental Authorisation Applications for Block 11B/12B*. Unpublished report prepared for WSP Group Africa (Pty) Ltd. ACO Associates.

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Gribble, J. and Scott, G., 2017, *We Die Like Brothers: The sinking of the SS Mendi*, Historic England, Swindon.

Sharfman, J., Boshoff, J. and Gribble, J. 2017. Benefits, Burdens, and Opportunities in South Africa: The Implications of Ratifying the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage, in L. Harris (ed) *Sea Ports and Sea Power: African Maritime Cultural Landscapes*, Springer International Publishing, Switzerland, pp 101-110.

Lloyd Jones, D., Langman, R., Reach, I., Gribble, J., and Griffiths, N., 2016, Using Multibeam and Sidescan Sonar to Monitor Aggregate Dredging, in C.W. Finkl and C. Makowski (eds) *Seafloor Mapping along Continental Shelves: Research and Techniques for Visualizing Benthic Environments*, Coastal Research Library 13, Springer International Publishing, Switzerland, pp 245-259.

Athiros, G. and Gribble, J., 2015, *Wrecked at the Cape Part 2*, The Cape Odyssey 105, Historical Media, Cape Town.

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APPENDIX C: ARCHAEOLOGICAL AND PALAEONTOLOGICAL SITES RECORDED DURING THE 2021 ACO ASSOCIATES AND 2025 TERRAMARE ARCHAEOLOGY FIELD SURVEYS

Name	Latitude	Longitude	Altitude	Date	Type	Description	Grade
G002	-32.726052	17.972566	4.2	2025	Site	Cemetery fence post. The cemetery consists of a smaller more formal section on the far side of the cemetery (away from the road). The gravestones are placed on a concrete base, and the area is edged with low concrete slabs. There are 8 graves, 7 of which have slate gravestones. The decipherable dates were 1873, 1881, 1909 and 1920. The bigger section has a large number of graves without headstones, while some are marked only by one rough stone. A lot of the headstones don't have an inscription, or it has worn away. Most are made of concrete. Some graves are surrounded by concrete slabs, some are informally edged with stones, while There is a lot of marine shells (mainly big donax) both on and around the graves, which seem to have been intentionally placed. The dates range between 1901 and 1987. There is one possibly marble headstone, dated 1912, for three men drowned at sea. Graves with headstones: 8. Graves without headstones: at least 101	3C?
G004	-32.725135	17.972275	7.3	2025	Artefact	One silcrete flake lying near a dune mole rat burrow.	Ungradable
G005	-32.727093	17.969133	5.3	2025	Artefact	A CCS flake (no retouch) found in the road.	Ungradable
G006	-32.727005	17.96832	6.3	2025	Artefact	A quartz flake/chunk lying amongst a light scattering of broken shell. Plus another quartz flake about 30 m further on.	Ungradable
G007	-32.727084	17.967511	4.6	2025	Artefact	A quartz chunk and a granite? flake near dune mole rat activity, amongst a light scattering of shell.	Ungradable
G008	-32.727908	17.966857	1.7	2025	Artefact	A granite? chunk near dune mole rat activity. No shell.	Ungradable
G009	-32.728015	17.968094	3	2025	Artefact	A quartz flake/chunk near dune mole rat activity. No shell	Ungradable
G010	-32.731708	17.98402	11	2025	Artefact	A broken granite hammerstone in an open area below a slight rise. Also a couple of quartz chunks/flakes nearby. The ground looks a bit worked over.	Ungradable
G011	-32.732103	17.983507	16.1	2025	Site	Running down the hill, in the direction of the road is a stone lined, plaster covered water channel, with two side channels joining the main one at this GPS reading. There is also some brick work on the side channel walls. The main channel is approximately 1.5 m wide.	3C?
G012	-32.732943	17.980444	28.4	2025	Artefact	A couple of quartz chunks/cores on the upper slopes of a hill. Nearby is another quartz flake.	Ungradable
G013	-32.733152	17.978569	32.7	2025	Artefact	A small speckled silcrete? upper grindstone with 2 facets, lying about 100 m downslope from a few large boulders on the brow of a hill.	Ungradable
G014	-32.732887	17.978482	30.2	2025	Artefact	A handful of quartz chunks and a silcrete flake further down the hill from the boulders. About 1 stone tool every 2 meters.	Ungradable
G015	-32.731135	17.981821	12.7	2025	Artefact	A granite hammerstone/upper grindstone	Ungradable

G016	-32.729666	17.978045	8.8	2025	Artefact	A small very light black manuport with a smoothed edge. And a flat smoothed broken quartzite stone.	Ungradable
G017	-32.72996	17.9797	9.9	2025	Artefact	A silcrete flake.	Ungradable
G018	-32.726439	17.967465	3.5	2021	Artefact	Small piece of Khoi pottery (± 2 cm across) found in area with fragmented marine shell.	3C
G019	-32.720457	17.963764	4.3	2021	Artefact	LSA Quartz flake in dunemole burrow cast associated with marine shell	Ungradable
G020	-32.714124	17.965706	6.6	2021	Artefact	LSA Silcrete flake and MRP associated with scatter of marine shell	3C
J001	-32.726492	17.973971	7.1	2025	Artefact	Broken pebble, associated with shell in mole mounds. Mainly black mussel.	Ungradable
J004	-32.726511	17.973371	5.1	2025	Site	Area ± 50 m ² around waypoint of shell slag from lime making.	Ungradable
J005	-32.725744	17.973101	6.7	2025	Artefact	Flaked quartz pebble associated with shell. Probably from mole mound. 3 pieces European earthenware and one piece of coarse Chinese porcelain - possibly from a ginger jar?	Ungradable
J010	-32.725531	17.972439	5.2	2025	Site	Small square concrete slab ±3 x 2 m ² . Shell and charcoal surrounding it.	Ungradable
J011	-32.727735	17.970267	5.8	2025	Artefact	Small quartz flake isolated.	Ungradable
J012	-32.727763	17.970276	5.9	2025	Artefact	Isolated yellow-green silcrete flake. Weathered.	Ungradable
J013	-32.728018	17.970984	5.1	2025	Artefact	Isolated quartz chunk.	Ungradable
J014	-32.731615	17.973454	12.4	2025	Artefact	Large flake quartz chunk? Isolated	Ungradable
J015	-32.732817	17.975674	19.1	2025	Artefact	Isolated red silcrete flake. Slightly weathered.	Ungradable
J016	-32.733789	17.98924	16.7	2025	Artefact	Isolated quartz chunk on steep slope.	Ungradable
J017	-32.733911	17.98324	27.7	2025	Site	Stone mound - one of 3. J017 is in the centre and the largest. ± 2 m x 1.5 m x 50 cm high. Largely comprised of calcrete. Source unknown - may be field clearance.	Ungradable
J018	-32.733872	17.983177	28.2	2025	Site	Stone mound (W). Smaller and lower	Ungradable
J019	-32.734033	17.983329	27.5	2025	Site	Stone mound (E)	Ungradable
J020	-32.734093	17.983631	27.5	2025	Site	Water channel. Concreted calcrete. Runs down slope.	Ungradable
J021	-32.733299	17.985102	22.7	2025	Artefact	Large, isolated quartz chunk. On calcrete outcrop.	Ungradable
J022	-32.733398	17.986972	19	2025	Artefact	2 x possible beach cobble (quartzite) manuports. Isolated and ±5 m apart. On slope with exposed calcrete.	Ungradable
J023	-32.733169	17.986387	18.8	2025	Artefact	Isolated quartzite chunk.	Ungradable
J024	-32.732904	17.985556	19.9	2025	Artefact	Isolated flaked beach cobble. Grey quartzite.	Ungradable
J025	-32.732875	17.985387	19.7	2025	Artefact	Granite flake, quartz chunk, and limpet shell, on outcropping calcrete ??	Ungradable
J026	-32.732777	17.984822	17.6	2025	Artefact	Flaked quartz cobble & quartz chip found on hillside terrace.	Ungradable

J027	-32.73264	17.984419	18.6	2025	Artefact	Flat broken quartzite beach cobble & possible beach cobble HS (quartzite).	Ungradable
J028	-32.732162	17.984345	14.3	2025	Artefact	Isolated granite flake	Ungradable
J029	-32.732315	17.984595	13.9	2025	Site	Thin scatter of flaked beach cobbles and some quartz. Occasional shell (marine) visible in mole mounds. In a shallow hollow. $\pm 10 \text{ m}^2$ in visible extent. On flat outcropping granite (decomposing).	3C?
J030	-32.732543	17.985161	16	2025	Site	Possible continuation of J029. ??	3C?
J031	-32.732996	17.986744	16.7	2025	Artefact	Quartzite cobble manuport and occasional black mussel and limpet fragments on edge of calcrete heuweltjie.	Ungradable
J032	-32.732709	17.987697	12.5	2025	Artefact	Broken black granite (?) pebble. Rubbed flat at unbroken end. Isolated. Possible raised beach material below this point / 1st terrace. Lots of broken shell and small pebbles. Nothing clearly archaeological. Unlike higher on the slope the stone here is not flaked. No quartz. Only pebbles and cobbles.	Ungradable
J033	-32.72401	17.970609	4.9	2021	Shell scatter	Marine shell scatter on surface and in dunemole casts in area between old runway and J002. Low density but visible across $\pm 60 \text{ m}$. J001 the approximate centre point. Black mussel, argenvillei, grantina, donax, whelks and pencil bait. 1 x quartz flake noted.	3C
J034	-32.723877	17.970884	4.2	2021		Marine shell scatter on surface and in dunemole casts in area between old runway and J002. Low density but visible across $\pm 60 \text{ m}$. J001 the approximate centre point. Black mussel, argenvillei, grantina, donax, whelks and pencil bait. 1 x quartz flake noted.	3C
J035	-32.723313	17.970455	3.7	2021	Shell scatter	Dense shell on surface from dunemole casts	3C
J036	-32.722827	17.970843	6	2021	Structure	Small metal structure east of runway. Likely associated. Possible wind direction indicator. Remain of second metal pole noted buried $\pm 5 \text{ m}$ away. Line of calcrete boulders and some loose calcrete and beach cobbles near the metal structure.	3C
J037	-32.721693	17.968095	2.9	2021	Shell scatter	Highly fragmented shell in dunemole casts. Black mussel and whelks.	Ungradable
J038	-32.7218	17.967325	5.6	2021	Shell scatter	Small area of dense shell in dunemole casts. Primarily black mussel with some small donax, whelks and a single granatina shell.	3C
J039	-32.72322	17.968106	3.5	2021	Shell scatter	Thin scatter of shell on south-western side of low rise above shallow streambed. Visible in dunemole casts. Black mussel, and limpet. Visible in area of $\pm 15 \text{ m}^2$.	Ungradable
J040	-32.723502	17.969949	4.1	2021	Shell scatter	Fairly dense shell in dunemole casts. Black mussel with some limpet and whelk. Shell in large pieces – not heavily fragmented. Visible over area of $\pm 5 \text{ m}^2$.	3C
J041	-32.723906	17.967843	2.1	2021	Shell scatter	Thin scatter of shell in dunemole casts. Large black mussel pieces and some fragmentary limpet. Below crest of low rise – i.e. on gentle slope down to drainage. $\pm 5 \text{ m}^2$.	3C
J042	-32.724356	17.965706	4.2	2021	Shell scatter	Thin scatter of shell in dunemole casts. Black mussel dominated with occasional limpet and whelk. Quartz flake and 3 x quartz chunks noted. $\pm 10 \text{ m}^2$	3C

J043	-32.724794	17.966194	4.1	2021	Shell scatter	Very fragmented shell in dunemole casts. Sand much whiter than surrounding. Possibly old beach? Black mussel, haliotis, limpet.	Ungradable
J044	-32.72426	17.969313	4.5	2021	Shell scatter	Fairly dense shell in dunemole casts. Black mussel dominated with some whelk. Shell in large pieces. Visible over area of ± 10 m ² .	3C
J045	-32.72192	17.96508	5.3	2021	Shell scatter	Thin scatter of fragmented shell in dunemole casts. Black mussel dominated with occasional limpet and whelk. ± 5 m ²	3C
J046	-32.7204	17.965866	5.4	2021	Shell scatter	Fairly dense shell in dunemole casts. Black mussel, granatina, argenvillei. Large pieces. Mussels are large. Visible over area between J046 and J047	3C
J047	-32.720135	17.966095	5.6	2021	Shell scatter	Fairly dense shell in dunemole casts. Black mussel, granatina, argenvillei. Large pieces. Mussels are large. Visible over area between J046 and J047	3C
J049	-32.718156	17.968359	7.4	2021	Shell scatter	Dense shell in dunemole casts. Fairly fragmented but with some large pieces present. Whole limpet (granatina and argenvillei) whelk and black mussel. The mussel seems less dominant than seen elsewhere. 1 x quartz flake. Shell scatter is extensive – from J049 to J050	3C
J050	-32.718205	17.968197	7.8	2021	Shell scatter	Dense shell in dunemole casts. Fairly fragmented but with some large pieces present. Whole limpet (granatina and argenvillei) whelk and black mussel. The mussel seems less dominant than seen elsewhere. 1 x quartz flake. Shell scatter is extensive – from J049 to J050	3C
J051	-32.718714	17.964802	8	2021	Shell scatter	Scatter of shell with 5 x quartz flakes noted. Limpet dominated (granatina with some argenvillei). Also, some black mussel, whelks and a few pieces of granularis. Extensive (30m +) – continuing at J051. No stone noted.	3C
J052	-32.718636	17.964446	6.1	2021	Shell scatter	Scatter of shell with 5 x quartz flakes noted. Limpet dominated (granatina with some argenvillei). Also, some black mussel, whelks and a few pieces of granularis. Extensive (30m +) – continuing from J050. No stone noted.	3C
J053	-32.718827	17.96362	9	2021	Shell scatter	Similar shell scatter to J019/J020. Quartz chunk and flake noted. Material coming up in dunemole casts.	3C
J054	-32.71631	17.96731	6.7	2021	Shell scatter	Fairly dense shell scatter. 1 x red silcrete flake noted	3C
J055	-32.716877	17.964813	8.4	2021	Feature	Small out cropping of granite bedrock. No archaeological material associated	Ungradable
J056	-32.717231	17.96384	8.1	2021	Shell scatter	Outcropping of granite bedrock ($\pm 2 \times 3$ m in extent) surrounded for ± 10 m by fragmented shell. Some LSA lithics noted: 2 x quartz flakes, 2 x silcrete flakes.	3C
J057	-32.71738	17.963417	9.5	2021	Shell scatter	Dense shell scatter in dunemole casts. Predominantly limpet with some black mussel. Covering an area of ± 30 m ² . 3 x quartz flakes and single grey silcrete flake noted. Probably LSA.	3C
J058	-32.71748	17.963055	12.9	2021	Artefact	Continuation of J025. Quartz chunk recorded at waypoint. Dense shell.	Ungradable
J059	-32.717487	17.962787	12	2021	Artefact	Continuation of J025/J026. Quartz chunk and chip at waypoint. Still shell present but less dense than at J025 and J026.	Ungradable
J060	-32.715684	17.965458	7.8	2021	Shell scatter	Dense shell in dunemole casts. Predominantly limpet with some waterworn black mussel and some whelks. 1 x quartz chunk. Covers area of ± 10 m ² .	3C
J061	-32.715023	17.966288	7	2021	Shell scatter	Thin shell scatter at waypoint. Shell gets more dense towards J030, approximately 10 m distant. Silcrete flake and a large green-grey quartzite flake with retouch noted.	3C

J062	-32.714947	17.966457	7	2021	Site	Continuation of shell scatter at J029.	3C?
J063	-32.714807	17.966774	8.1	2021	Site	Continuation of shell scatter at J029 and J030. Granite chunk noted.	3C?
J064	-32.714651	17.966977	9.1	2021	Shell scatter	Thin shell scatter. Silcrete flake noted in dunemole cast.	3C
J065	-32.714642	17.966362	7.3	2021	Shell scatter	Dense shell in dunemole casts. Mainly limpet (granatina and granularis). Some whelk and fragmentary black mussel. Visible over area of ± 5 m2. Silcrete flake and black granite chunk recorded.	3C
J066	-32.714732	17.965979	7	2021	Shell scatter	Probable continuation of J033.	3C
J067	-32.71482	17.965214	7.8	2021	Shell scatter	Dense shell in dunemole casts. Mainly limpet (granatina and granularis). Some whelk and fragmentary black mussel. Visible over area of ± 10 m2. 1 x black granite cobble flake noted.	3C