



AQUATIC BIODIVERSITY COMPLIANCE STATEMENT

for the proposed

**DEVELOPMENT OF TWO DWELLINGS WITH
ASSOCIATED INFRASTRUCTURE ON ERF 155
KEURBOOMSTRAND, BITOU LOCAL MUNICIPALITY**

DATE:

9TH November 2025

PREPARED FOR:

Samantha Teeluckdhari
Ecoroute Environmental
samantha@ecoroute.co.za



Aquatic specialist services

- Cell: 072 444 8243
 - Email: debbie@upstreamconsulting.co.za
 - Address: 25 Blommekloof Street, George, 6530
- www.upstreamconsulting.co.za

Document Title: Aquatic Biodiversity Compliance Statement for the Development of Two Dwellings with Associated Infrastructure on Erf 155 Keurboomstrand, Bitou Local Municipality

Compiled By: Debra Fordham
SWSPCP (No. 3683),
SACNASP (119102 Ecology)
Aquatic ecologist (M.Sc.)
Director

Reviewed By: Colin Fordham
SACNASP 400166/14 (Ecology)
Director

Authors: D Fordham

Revision History: Version 1 – 09/11/2025

Upstream Consulting

Address:

25 Blommekloof Street,
George,
6530

Tel:

+2772 444 8243
+2764 857 5560

Email:

debbie@upstreamconsulting.co.za
colin@upstreamconsulting.co.za

Website: www.upstreamconsulting.co.za

This document contains information proprietary to Upstream Consulting and as such should be treated as confidential unless specifically identified as a public document by law. The document may not be copied, reproduced, or used for any manner without prior written consent from Upstream Consulting. Copyright is specifically reserved.



Aquatic specialist services

- Cell: 072 444 8243
 - Email: debbie@upstreamconsulting.co.za
 - Address: 25 Blommekloof Street, George, 6530
- www.upstreamconsulting.co.za**

REPORT SUMMARY

The Aquatic Compliance Statement was undertaken using desktop data analysis, site assessment, GIS mapping and scientific knowledge. It was determined that there are no aquatic habitats within the proposed site. Therefore, the site has a Low sensitivity, and the project will not impact aquatic biodiversity. The Compliance Statement for the Aquatic Biodiversity theme concludes that the project does not require further assessment and should be deemed as acceptable.

Declaration of Independence

SPECIALIST REPORT DETAILS

This report has been prepared as per the requirements of the Environmental Impact Assessment Regulations and the National Environmental Management Act (Act 107 of 1998), any subsequent amendments and any relevant National and / or Provincial Policies related to biodiversity assessments. This also includes the minimum requirements as stipulated in the National Water Act (Act 36 of 1998), as amended in Water Use License Application and Appeals Regulations, 2017 Government Notice R267 in Government Gazette 40713 dated 24 March 2017, which includes the minimum requirements for an Aquatic Compliance Statement.

Report prepared by: Debbie Fordham (SACNASP No. 119102 Ecology)

Co-author: Colin Fordham (SACNASP No. 400166/14 Ecology)

Expertise / Field of Study:

Debbie is an internationally certified Professional Wetland Scientist and a registered SACNASP ecologist, with over 10 years of working experience, specialising in aquatic ecology. Debbie holds a M.Sc. degree in Environmental Science from Rhodes University, by thesis, entitled: The geomorphic origin and evolution of the Tierkloof Wetland, a peatland dominated by *Prionium serratum* in the Western Cape. She is a member of scientific organisations such as the Society of Wetland Scientists (SWS), the South African Wetland Society (SAWS), and the Southern African Association of Geomorphologists (SAAG).

Colin is a SACNASP registered Professional Natural Scientist (Pr. Sci. Nat.) ecologist with 14 years of experience in the environmental sector.

I, **Debbie Fordham**, declare that this report has been prepared independently of any influence or prejudice as may be specified by the National Department of Environmental Affairs Fisheries and Forestry and or Department of Water and Sanitation.

Signed:...  Date:...09 November 2025

TABLE OF CONTENTS

1	INTRODUCTION.....	1
1.1	PURPOSE OF THE REPORT	1
1.2	RELEVANT LEGISLATION	2
1.3	SCOPE OF WORK	3
2	PROJECT DESCRIPTION	5
2.1	LOCATION.....	5
2.2	SITE DEVELOPMENT PLAN	5
3	DFFE SCREENING TOOL.....	8
4	DESKTOP ASSESSMENT	9
4.1	BIOPHYSICAL CHARACTERISTICS:.....	9
4.2	WATER RESOURCES:	9
4.3	CONSERVATION	10
4.4	HISTORIC CONTEXT	14
5	INITIAL SITE SENSITIVITY VERIFICATION.....	15
6	APPROACH AND METHODS.....	18
6.1	DESKTOP ASSESSMENT METHODS	18
6.2	SITE ASSESSMENT METHODS	19
7	ASSUMPTIONS AND LIMITATIONS	20
8	MITIGATION FOR INCLUSION IN THE EMP.....	21
9	COMPLIANCE STATEMENT.....	22
10	REFERENCES.....	23
11	SPECIALIST CV	24
	APPENDIX 1 -SPECIALIST DECLARATION.....	27
	REVIEWER DECLARATION	28

LIST OF FIGURES

FIGURE 1: LOCALITY MAP OF ERF 155 KEURBOOMSTRAND, ALSO SHOWING THE 500M BUFFER STUDY AREA.....	5
FIGURE 2: SITE DEVELOPMENT PLAN (SUPPLIED BY CLIENT)	6
FIGURE 3: SUPPLIED DRAWING OF THE SITE LAYOUT.....	7
FIGURE 4: SUPPLIED CROSS-SECTIONAL PROFILE OF THE SITE	7
FIGURE 5: THE DFFE SCREENING TOOL RESULTS FOR THE SITE FOR THE AQUATIC BIODIVERSITY THEME.....	8
FIGURE 6: MAP OF THE SITE RELATIVE TO DWS QUATERNARY CATCHMENTS AND DRAINAGE NETWORK.....	11
FIGURE 7: MAP OF THE SITE IN RELATION TO THE LATEST AVAILABLE RIVER AND WETLAND INVENTORIES.....	12
FIGURE 8: MAP OF THE SITE IN RELATION TO THE WCBSP (CAPE NATURE 2023).....	13
FIGURE 9: GOOGLE SATELLITE IMAGERY FROM 2004 (FOOTPRINT OF DEVELOPMENT SLIGHTLY OFFSET DUE TO GOOGLE EARTH PROJECTIONS).....	14
FIGURE 10: AQUATIC HABITAT IDENTIFIED, AND DELINEATED INTO HYDROGEOMORPHIC (HGM) UNITS, WITHIN 500M OF THE PROPOSED SITE	16

LIST OF TABLES

TABLE 1: THE REPORT CONTENT GUIDE IN RELATION TO THE MINIMUM INFORMATION AND REPORT REQUIREMENTS FOR A COMPLIANCE STATEMENT FOR THE AQUATIC BIODIVERSITY THEME	1
TABLE 2: RELEVANT ENVIRONMENTAL LEGISLATION	2
TABLE 3: UTILISED DATA AND ASSOCIATED SOURCE RELEVANT TO THE PROPOSED PROJECT....	19

LIST OF PHOTO PLATES

PLATE 1: PHOTOGRAPHS OF THE SITE INDICATING THAT THERE ARE NO AQUATIC FEATURES PRESENT WITHIN THE DEVELOPMENT FOOTPRINT OR THAT WILL BE IMPACTED BY THE PROPOSED APPLICATION.....	17
---	----

1 INTRODUCTION

Debbie Fordham of Upstream Consulting has been appointed to undertake an aquatic biodiversity sensitivity assessment for the proposed construction of two dwellings with associated infrastructure on Erf 155 Keurboomstrand, Bitou Local Municipality.

The initial site sensitivity verification study confirmed the DFFE screening tool result of ‘Low’ sensitivity for the aquatic biodiversity theme. Therefore, this Compliance Statement has been compiled to fulfil the NEMA requirements.

1.1 Purpose of the report

This report is in alignment with the requirements for the assessment and reporting of impacts of development on aquatic biodiversity (Table 1) which are set out in the '*Protocol for the assessment and reporting of environmental impacts on aquatic biodiversity*' published in Government Notice No. 648, Government Gazette 45421, on the 10 of May 2019, and the '*Protocol for the specialist assessment and minimum report content requirements for environmental impacts on aquatic biodiversity*' published in Government Notice No. 320, Government Gazette 43110, on the 20th of March 2020.

Table 1: The report content guide in relation to the minimum information and report requirements for a Compliance Statement for the Aquatic Biodiversity Theme

3	Aquatic Biodiversity Compliance Statement Requirements	Relevant section of this report:
3.1	The compliance statement must be prepared by a suitably qualified specialist registered with the SACNASP, with expertise in the field of aquatic sciences.	SWSPCP (No. 3683) and SACNASP (119102) (Page iii) and Section 9 - Specialist CV
3.2	The compliance statement must:	
3.2.1	be applicable to the preferred site and the proposed development footprint;	Section 12 – Location and Section 4 – Desktop Assessment
3.2.2	confirm that the site is of "low" sensitivity for aquatic biodiversity; and	Section 7 – Site Sensitivity verification results
3.2.3	indicate whether or not the proposed development will have an impact on the aquatic features.	Section 7 – Site Sensitivity verification results
3.3	The compliance statement must contain, as a minimum, the following information:	

3.3.1	contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;	SWSPCP (No. 3683) & SACNASP (119102) (Page iii) and Specialist CV
3.3.2	a signed statement of independence by the specialist;	Section 12
3.3.3	a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Approach and Methods Section 5.2
3.3.4	a baseline profile description of biodiversity and ecosystems of the site;	Section 4
3.3.5	the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;	Section 5.1 -Desktop assessment methods
3.3.6	in the case of a linear activity, confirmation from the aquatic biodiversity specialist that, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;	Not applicable
3.3.7	where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;	Section 8 -Mitigation for inclusion into EMP
3.3.8	a description of the assumptions made as well as any uncertainties or gaps in knowledge or data; and	Section 4 -Assumptions and Limitations
3.3.9	any conditions to which this statement is subjected.	Section 8 - Mitigation for inclusion into EMP

1.2 Relevant Legislation

The protection of water resources is essential for sustainable development and therefore many policies and plans have been developed, and legislation promulgated, to protect these sensitive ecosystems. The proposed project must abide by the relevant legislative requirements. Table 2 below shows an outline of the environmental legislation relevant to the project.

Table 2: Relevant environmental legislation

Legislation	Relevance
South African Constitution 108 of 1996	The constitution includes the right to have the environment protected
National Environmental Management Act 107 of 1998	Outlines principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state.

Environmental Impact Assessment Regulations	The 2014 regulations have been promulgated in terms of Chapter 5 of NEMA and were amended on 7 April 2017 in Government Notice No. R. 326. In addition, listing notices (GN 324-327) lists activities which are subject to an environmental assessment.
The National Water Act 36 of 1998	Chapter 4 of the National Water Act addresses the use of water and stipulates the various types of licensed and unlicensed entitlements to the use of water. Any uses of water which do not meet the requirements of Schedule 1 or the GAs, require a license which should be obtained from the Department of Water and Sanitation (DWS).
General Authorisations (GAs)	Government Notice R509 of 2016 was issued as a revision of the General Authorisations (No. 1191 of 1999) for section 21 (c) and (i) water uses (impeding or diverting flow or changing the bed, banks or characteristics of a watercourse) as defined under the NWA. Determining if a water use licence is required is associated with the risk of impacting on that watercourse.
National Environmental Management: Biodiversity Act No. 10 of 2004	This is to provide for the management and conservation of South Africa's biodiversity through the protection of species and ecosystems; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; and the establishment of a South African National Biodiversity Institute.
Conservation of Agricultural Resources Act 43 of 1967	To provide for control over the utilization of the natural agricultural resources to promote the conservation of the soil, water sources and vegetation and the combating of weeds and invader plants.

1.3 Scope of Work

The Aquatic Biodiversity Compliance Statement was prepared by a suitably qualified specialist in the field of aquatic sciences in order to verify:

- a. That the site is of low sensitivity for aquatic biodiversity; and
- b. Whether or not the proposed development will have an impact on the aquatic features.

The Aquatic Biodiversity Compliance Statement contains, as a minimum, the following information:

- a. Contact details and curriculum vitae of the specialist;
- b. A signed statement of independence by the specialist;

- c. Baseline profile description of biodiversity and ecosystems, including the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;
- d. Methodology used to verify the sensitivities of the aquatic biodiversity features on the national web based environmental verification tool;
- e. Methodology used to undertake the Initial Site Sensitivity Verification and preparation of the Compliance Statement, including equipment and modelling used, where relevant;
- f. Where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;
- g. A description of the assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations; and any conditions to which the statement is subjected.

The above is in terms of the latest NEMA Minimum Requirements and Protocol for Specialist Aquatic Biodiversity Impact Assessment as contained in the "*Procedures to be followed for the assessment and minimum criteria for reporting of identified environmental themes of Section 45 (a) and (h) of the National Environmental Management Act, 1998, when applying for Environmental Authorization*" (10 May 2020).

2 PROJECT DESCRIPTION

2.1 Location

The site is located in the town of Keurboomstrand, Bitou Local Municipality, about 70m inland from the High Water Mark. The site is bound by the primary access road to Keurboomstrand and Main street (Figure 1). Also illustrated in Figure 1 is the 500m buffer study area.

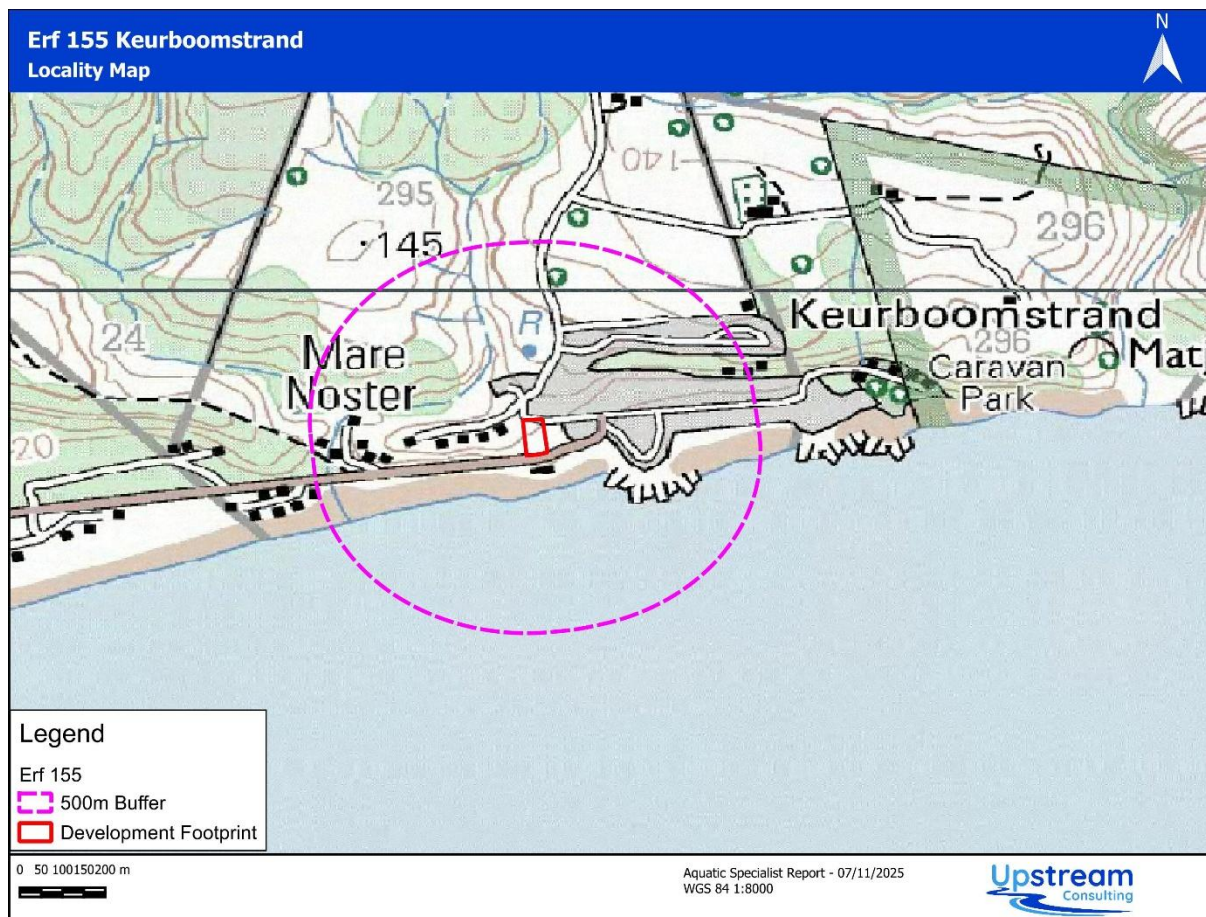


Figure 1: Locality map of Erf 155 Keurboomstrand, also showing the 500m buffer study area

2.2 Site Development Plan

The proposed development includes the development of two dwellings on Erf 155, with all of the relevant associated infrastructure including access road and a pool (Figure 2). The development will make use of municipal services.



Figure 2: Site development Plan (Supplied by client)

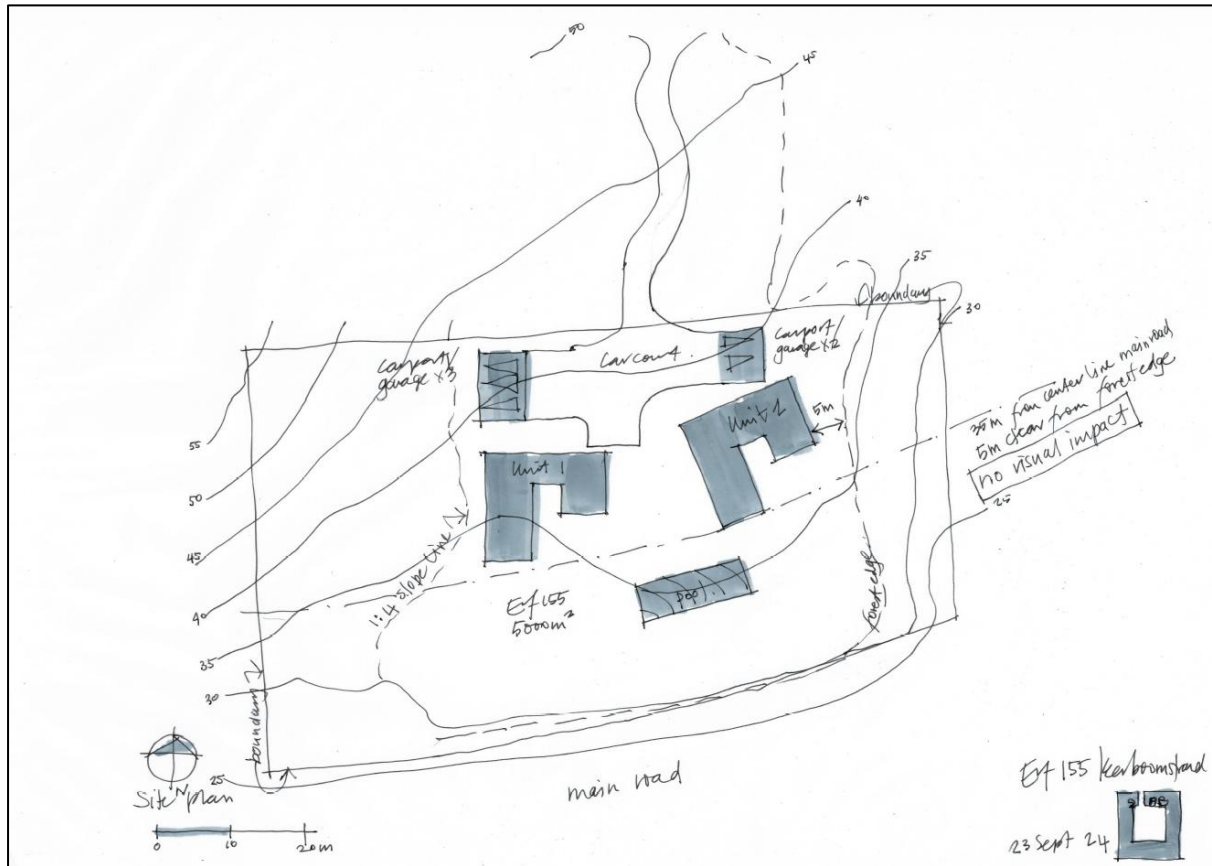


Figure 3: Supplied drawing of the site layout

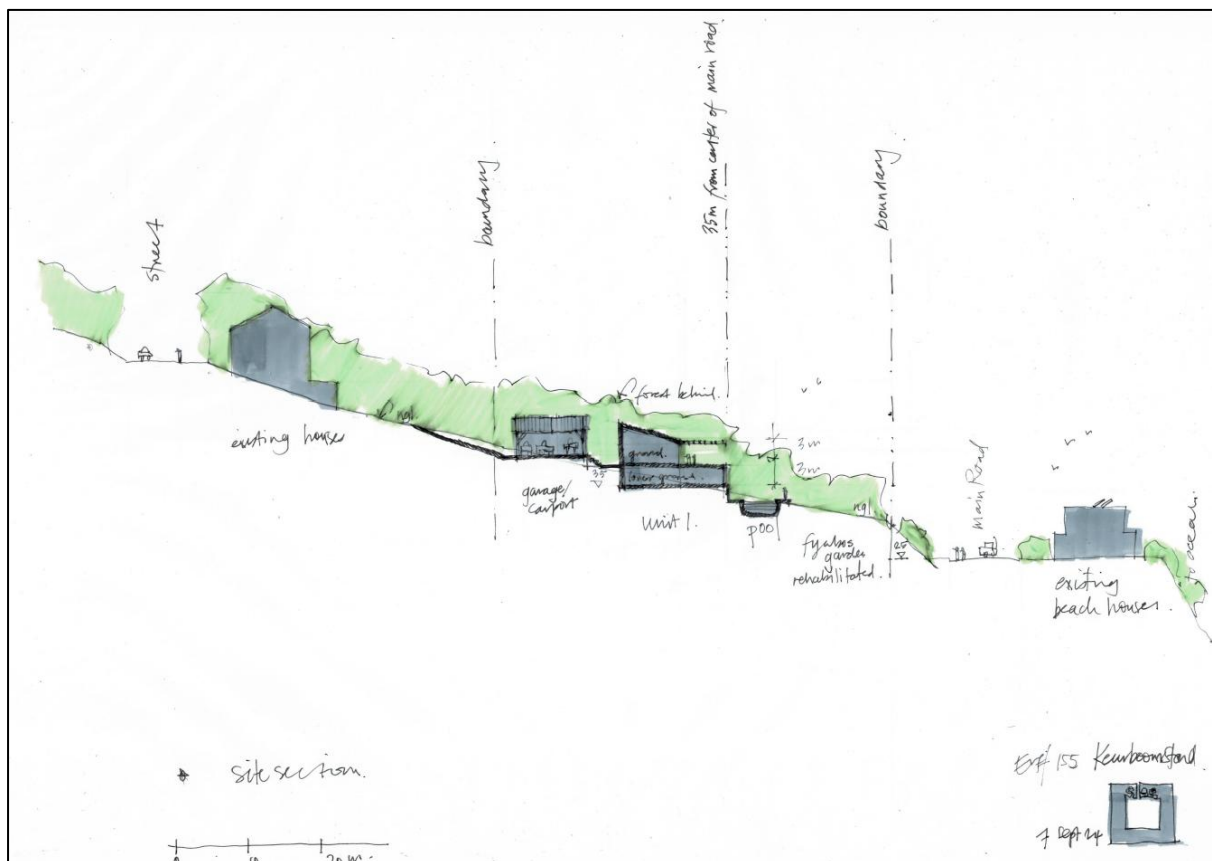


Figure 4: Supplied cross-sectional profile of the site

3 DFFE SCREENING TOOL

Based on the DFFE Screening Tool, the site has Low Aquatic Biodiversity sensitivity (Figure 5). This sensitivity rating was confirmed following site verification undertaken on the 08th of November 2025. It was therefore confirmed that the site sensitivity is ‘Low’ for the aquatic biodiversity theme and that a Compliance Statement be submitted.

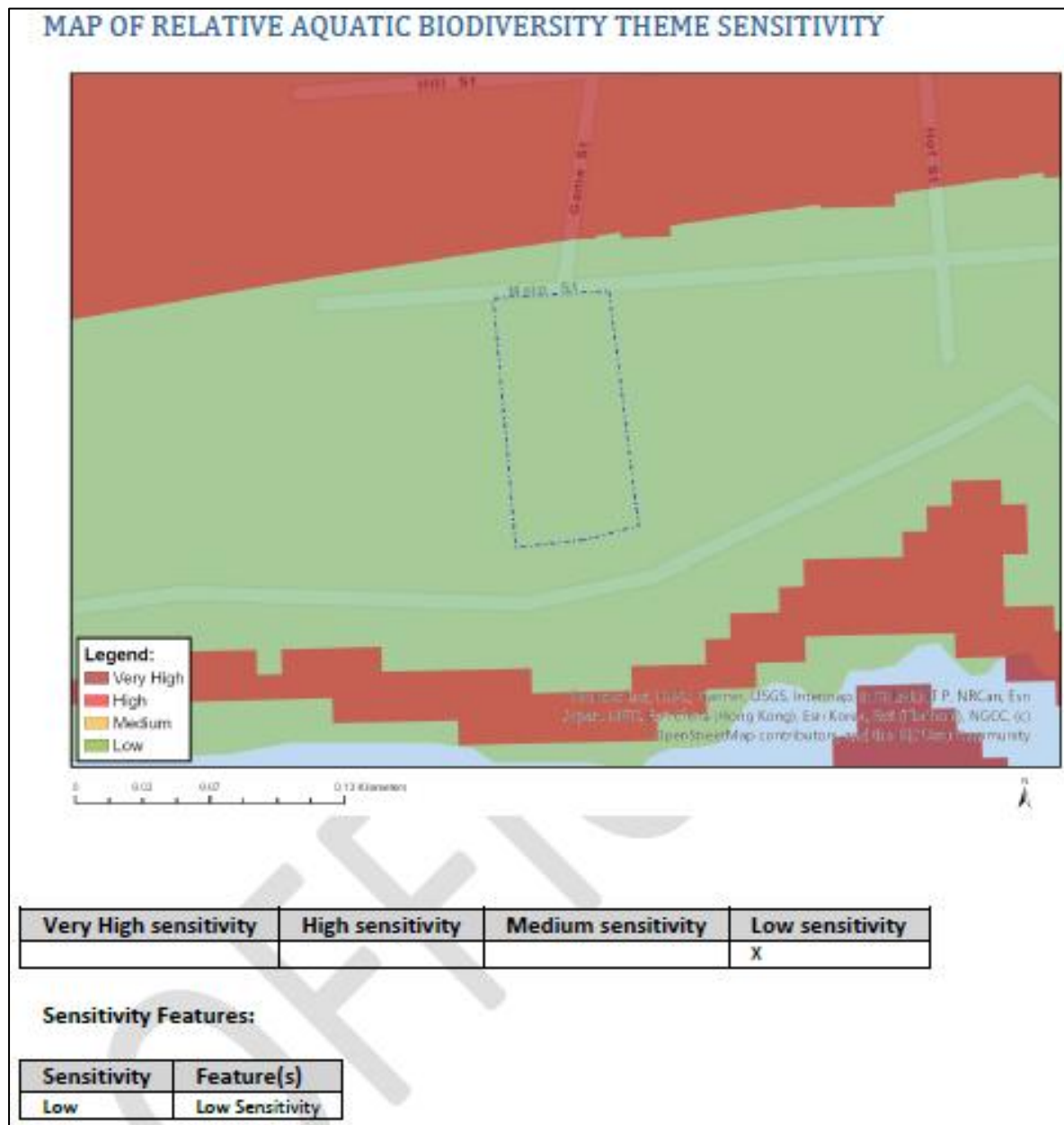


Figure 5: The DFFE Screening Tool results for the site for the aquatic biodiversity theme

4 DESKTOP ASSESSMENT

Mapping the locality of aquatic habitat is essential for classification into the different wetland and river ecosystem types across the country, which in turn can be used with other data to identify aquatic systems of conservation significance. The verification study was informed by the available datasets relevant to water resources, as well as historic and the latest aerial imagery, to develop an understanding of the fluvial processes of the study area.

4.1 Biophysical Characteristics:

The study area experiences a temperate coastal climate with relatively moderate seasonal variation. Rainfall occurs throughout the year, with slight peaks typically during spring and autumn, and an annual average of approximately 600–800 mm, though this can vary considerably between years. The site lies immediately adjacent to the Indian Ocean and is strongly influenced by maritime conditions, including regular coastal winds, high humidity, and moderated temperatures.

Vegetation on the site is mapped as Goukamma Dune Thicket, a dense, species-rich thicket type associated with stabilised coastal dunes along the southern Cape coastline. This vegetation unit forms part of the Southern Cape Dune Thicket complex and supports a mosaic of evergreen shrub and small tree species adapted to sandy, nutrient-poor substrates. The site appears to be in good ecological condition, with no evidence of significant disturbance. The thicket structure remains largely intact, displaying a well-developed canopy layer and diverse indigenous understory, characteristic of near-natural dune thicket systems in this region.

Soils are sandy, well-drained, and highly permeable, typical of the coastal foreland zone. These conditions allow rapid infiltration of rainfall and limit surface water retention. The local topography is gently undulating, with only minor depressions and no defined drainage lines, resulting in minimal surface runoff concentration. Consequently, the combination of permeable soils, moderate slope, and coastal dune geomorphology significantly reduces the potential for wetland or river system development within the property.

4.2 Water resources:

The study area lies within the Gouritz Water Management Area, part of the DWS Eastern Coastal Belt ecoregion (Kleynhans *et al.* 2005) (Figure 6). The entire site falls within DWS

quaternary catchments K70A. The site does not fall within any mapped Strategic Water Source Areas (SWSA), although part of its 500m buffer area does fall within the Tsitsikamma SWSA (Figure 6).

When mapping the river lines relative to the site, the NBA 2018 Rivers data does not map any systems within the site or 500m buffer area (Figure 7). The nearest NBA 2018 delineated systems are the Matjies River which is approximately 1,5km to the east of the site and the Keurbooms River which is located 5.5km west of the site. However, the site is therefore not in proximity, nor has strong linkages, to any mainstem river. The 1:50 000 cadastral NGI river line data do show an unnamed, non-perennial river lines flowing within the 500m buffer area. The site drains seaward towards the coast, while a small stream is located immediately inland, beyond a low topographic rise, within an adjacent catchment area, approximately 170m away from the site boundary, but that system will not be impacted by the proposed development.

The National Wetland Map 5 (NWM5) includes inland wetlands and estuaries, associated with river line data and many other data sets. There are no natural NWM features within the property or 500m buffer area. The nearest feature is 1,7km east of the site and is the Matjies River Estuary. There are also no NFEPA mapped wetlands within the property or the 500m buffer area.

4.3 Conservation

Figure 8 shows the biodiversity priority areas mapped by the Western Cape Biodiversity Spatial Plan (BSP) (CapeNature 2023) relative to the study area. It indicates that there are no BSP aquatic features on the site either Critical Biodiversity Areas (CBA - Aquatic) or Ecological Support Areas (ESA - Aquatic). The ESA that is on site is classified as terrestrial due to it being a coastal corridor feature. However, within the 500m buffer area there are several ESA aquatic features, but none of these will be impacted by the proposed development. Additionally, no rare or endangered biota were found during site assessment.

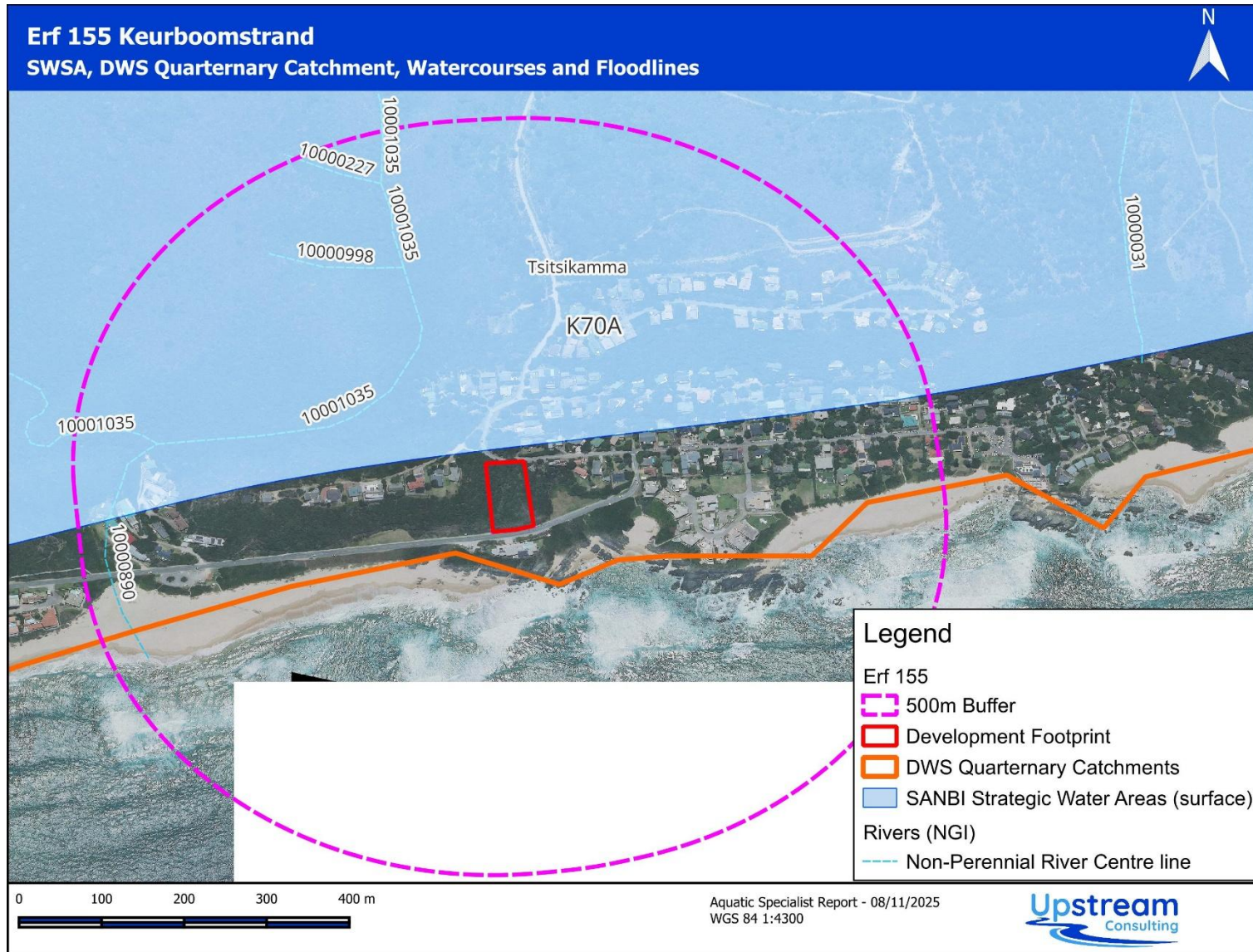


Figure 6: Map of the site relative to DWS quaternary catchments and drainage network

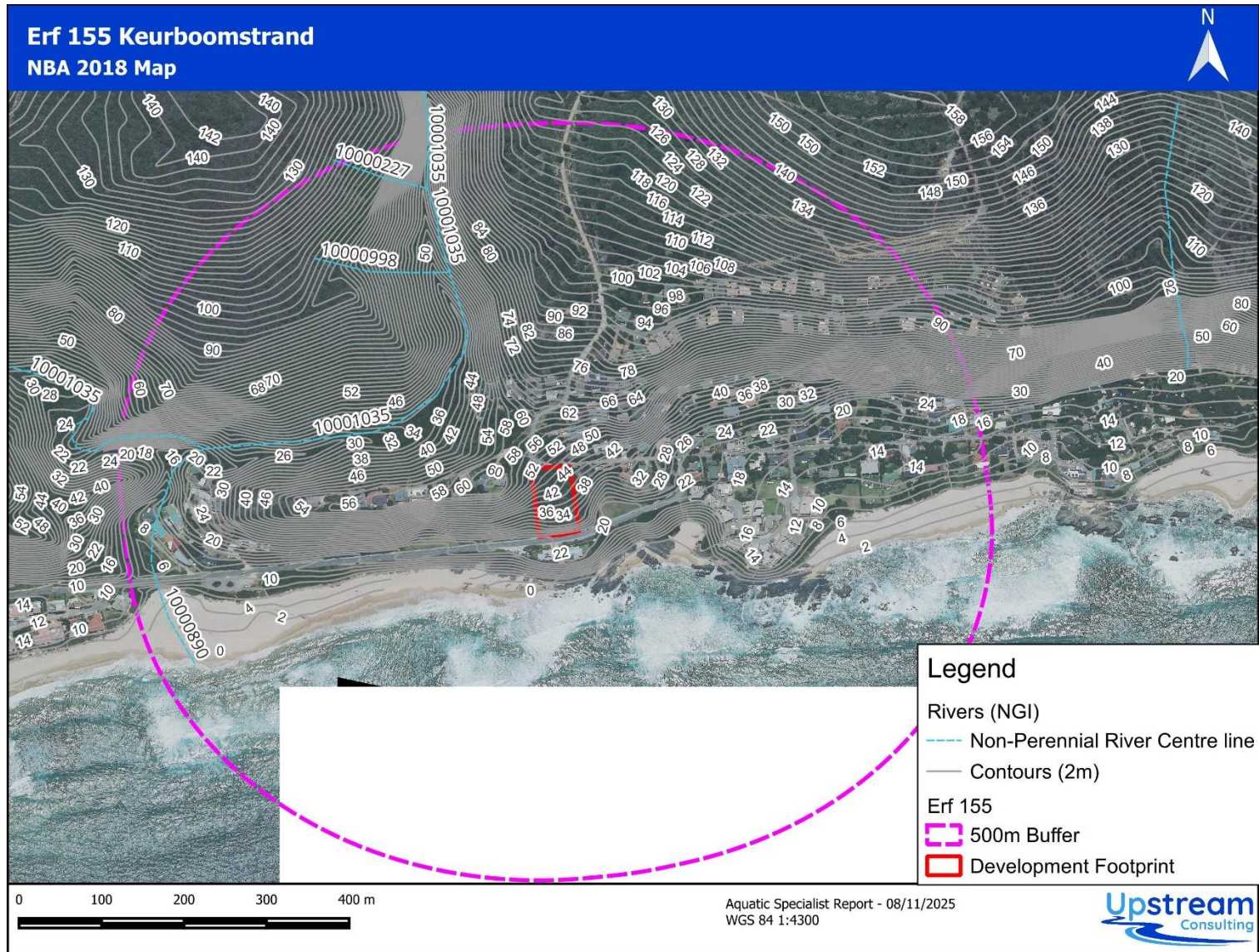


Figure 7: Map of the site in relation to the latest available river and wetland inventories

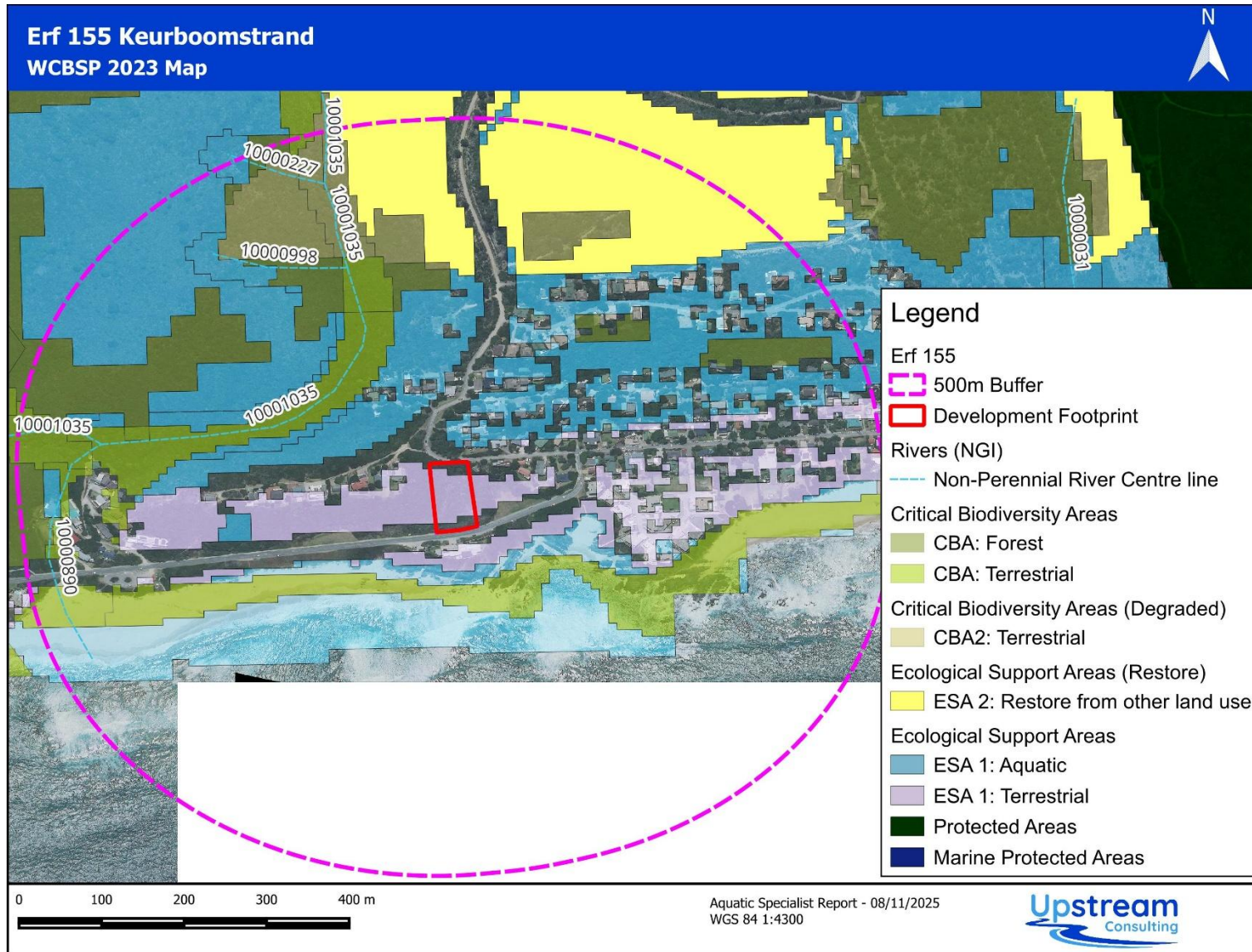


Figure 8: Map of the site in relation to the WCBSP (CapeNature 2023)

4.4 Historic Context

The site and surrounding area have been subjected to increasing land use cover changes for many decades as Keurboomstrand has developed as a settlement. Some drainage lines have been disturbed by service infrastructure (i.e. the roads and municipal servitudes). Historic imagery shows that the entire property has only undergone minor changes and is generally in a natural condition since 2004 (Figure 9). No watercourses were identified in historic imagery within the site. Additionally, due to the high infiltration rate of the sandy soils, it remains highly unlikely that natural aquatic features were ever present within the site.



Figure 9: Google Satellite Imagery from 2004 (footprint of development slightly offset due to Google Earth projections)

5 INITIAL SITE SENSITIVITY VERIFICATION

The site verification specialist findings were informed by a site visit undertaken on the 8th of November 2025. This information was then compared to historical imagery, current wetland and river inventories, critical biodiversity areas, and 1: 50 000 topocadastral surveys of the site. A baseline map of aquatic habitat was then developed (Figure 10).

It was determined that there are no aquatic features within the site. There are three HGM units within the 500m buffer study area. These are associated with the drainage line in the neighbouring minor catchment area and include two riparian HGM units and an Unchannelled Valley Bottom wetland adjacent to where the system discharges into the sea.

The SSVr concluded that there are no watercourses that will be impacted by the project, and the proposal will not result in reduced aquatic biodiversity. It is also evident that the site is steep and well vegetated with terrestrial plant species (Plate 1). Therefore, the DFFE designation of Low aquatic biodiversity sensitivity was confirmed and led to the compilation of this Compliance Statement.

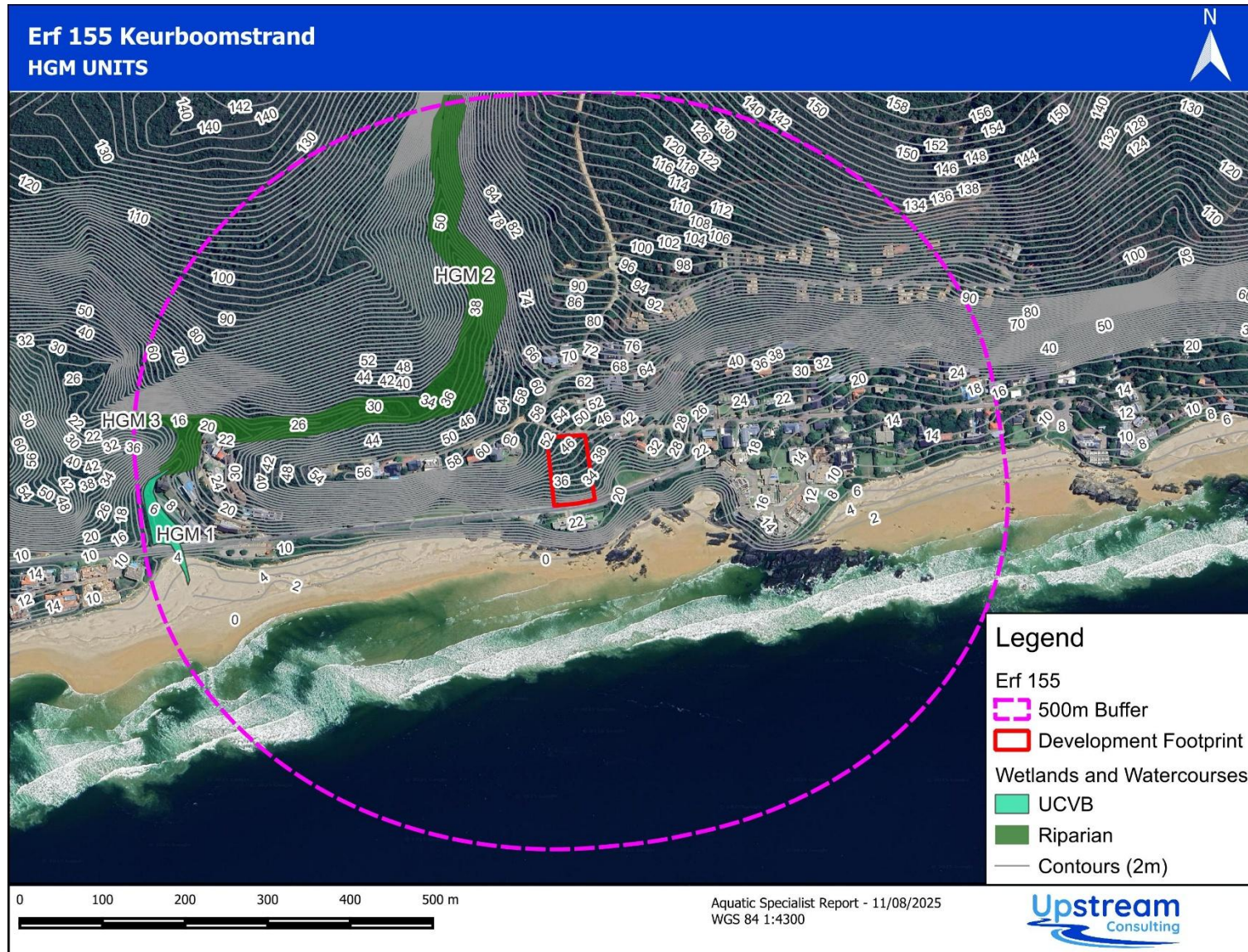


Figure 10: Aquatic habitat identified, and delineated into hydrogeomorphic (HGM) units, within 500m of the proposed sit



Plate 1: Photographs of the site indicating that there are no aquatic features present within the development footprint or that will be impacted by the proposed application.

6 APPROACH AND METHODS

6.1 Desktop Assessment Methods

- The study area for the assessment was defined as the development footprint i.e. the area on which the proposed development will take place, which includes the area that will be disturbed or impacted plus any watercourses situated within 500 m buffer of that development, i.e. the ‘regulated zone’ of a watercourse as defined by the National Water Act.
- The contextualization of the study area was undertaken in terms of important biophysical characteristics and the latest available aquatic conservation planning information in a Geographical Information System (GIS). It is imperative to develop an understanding of the regional drainage setting and longitudinal dynamics of the watercourses. The conservation planning information aids in the determination of importance and sensitivity, management objectives, and the significance of potential impacts.
- Following this, desktop delineation and illustration of all potential watercourses within the study area was undertaken utilising available site-specific data such as aerial photography, contour data and water resource data. Digitization and mapping were undertaken using QGIS 3.42 GIS software (Table 3).
- These results, as well as professional experience, allowed for the identification of specific areas that could potentially be impacted by the activities and therefore required groundtruthing and detailed assessment. The following data sources listed within table below assisted with the assessment.

Table 3: Utilised data and associated source relevant to the proposed project

Data	Source
Google Earth Pro™ Imagery	Google Earth Pro™
DWS Eco-regions (GIS data)	DWS (2005)
South African Vegetation Map (GIS Coverage)	Mucina & Rutherford (2006-2018)
National Biodiversity Assessment Threatened Ecosystems (GIS Coverage)	SANBI (2018)
Geology	Council for Geoscience (2019)
Contours (elevation) - 2m intervals	Surveyor General
NFEPA river and wetland inventories (GIS Coverage)	CSIR (2010)
NEFPA river, wetland and estuarine FEPAs (GIS Coverage)	CSIR (2010)
Western Cape Biodiversity Framework 2023: Critical Biodiversity Areas of the Western Cape.	CapeNature (2023)
Strategic Water Source Areas	SANBI 2021
National Wetland Map 5	Van Deventer, <i>et al.</i> (2018)

6.2 Site Assessment Methods

- Infield site assessment was conducted on the 8th of November 2025 for a total of 4 hours to identify if there are any discrepancies with the current use of land and environmental status quo versus the environmental sensitivity as identified on the national web based environmental verification tool (Low), such as new developments, infrastructure, indigenous/pristine vegetation, etc.
- Infield assessment was undertaken with a hand-held GPS, for mapping, in alignment with standard field-based procedures in terms of the Department of Water and Sanitation (DWA 2008) *Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas*, and a Dutch soil auger.

7 ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations are relevant:

- Project extent and layout footprint were inferred. Georeferenced data were not provided.
- No services layout was provided however, it was assumed services would be confined to the development footprint delineated by the specialist.
- Aquatic ecosystems vary both temporally and spatially. Once-off surveys such as this are therefore likely to miss certain ecological information due to seasonality, thus limiting accuracy and confidence. That said, the level of confidence in the findings is high.
- The timing of the site assessments (wet season) was considered suitable for undertaking the aquatic assessment, due to the footprint area's low aquatic sensitivity and sandy soils. No additional site visits are deemed to be required.
- Infield soil and vegetation sampling was only undertaken within a specific focal area and the surrounding possible impact area, at the proposed site, while the remaining aquatic features were delineated at a desktop level.

8 MITIGATION FOR INCLUSION IN THE EMP

Standard best-practice construction methods, good ‘housekeeping’, and adherence to the EMP should be sufficient to prevent impacts upon aquatic biodiversity. However, the following recommendations should also be adopted:

- An independent ECO must be appointed to oversee construction.
- Stormwater management should focus on introducing runoff responsibly into the receiving environment and implement the SUDs designs. No contaminated surface runoff or wastewater/ wash water must be allowed to enter the stormwater system or surrounding environment, including pool backwash water.
- Alien invasive plant (AIP) species must be actively managed.

9 COMPLIANCE STATEMENT

In conclusion, the DFFE Screening Tool resulted in Low aquatic biodiversity sensitivity rating. Following site verification, this Low sensitivity rating for the project is confirmed. There are no aquatic features that will be impacted by the project.

It is therefore recommended that the site sensitivity be regarded as ‘Low’ for the aquatic biodiversity theme and that this Compliance Statement be submitted with the EIA application.

10 REFERENCES

CSIR (Council for Scientific and Industrial Research). 2010. National Aquatic Ecosystem Priority Areas (NFEPA). Council for Scientific and Industrial Research, Pretoria, South Africa.

DEPARTMENT OF WATER AFFAIRS AND FORESTRY, 2005. A Practical Field Procedure for Identification and Delineation of Wetland and Riparian areas. Edition 1, September 2005. DWAF, Pretoria.

DRIVER, A., NEL, J.L., SNADDON, K., MURRAY, K., ROUX, D.J., HILL, L., SWARTZ, E.R., MANUEL, J. AND FUNKE, N. 2011. *Implementation Manual for Aquatic Ecosystem Priority Areas. Report to the Water Research Commission*. Pretoria

DWAF. 2008. Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas, prepared by M. Rountree, A. L. Batchelor, J. MacKenzie and D. Hoare. Stream Flow Reduction Activities, Department of Water Affairs and Forestry, Pretoria, South Africa

MUCINA, L. AND RUTHERFORD, M. C. (EDS) 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

11 SPECIALIST CV

CURRICULUM VITAE

Debra Jane Fordham

Cell: 0724448243

Email: debbie@upstreamconsulting.co.za

Professional profile

Debbie Fordham is an ecologist and Professional Wetland Scientist, registered with the SWSPCP (No. 3683) and SACNASP (119102, Cert. Nat. Sci. Ecological Science). She has over 10 years of working experience, largely specialising in aquatic ecology. She has authored over 100 reports and applications and she constantly contributes to the scientific and local community. Debbie holds a M.Sc. degree in Environmental Science from Rhodes University, by thesis, entitled: The geomorphic origin and evolution of the Tierkloof Wetland, a peatland dominated by *Prionium serratum* in the Western Cape.

She is a certified Professional Wetland Scientist (PWS certification number 3683) by the Society for Wetland Scientists (SWS) Professional Certification Program, which is internationally accredited by the Council of Engineering and Scientific Specialty Boards (CESB). She is a member of the Society for Wetland Scientists, the South African Wetland Society, the Southern African Association of Geomorphologists, and SACNASP.

Most of her projects involve (as a minimum) in-depth wetland and river field delineation (including soil investigations via augering, vegetation identification, and classifying the hydrological characteristics), laboratory analysis (such as water quality and sediment analysis), classification, characterisation, ecological health and ecosystem functioning assessments (using the latest available tools), as well as impact rating, buffer determinations, mitigation recommendations and detailed rehabilitation plans. She is highly proficient using GIS software to incorporate accurate spatial analysis and visual aids (No Go Area maps etc.) into her reports.

Tertiary Education

- M.Sc. Environmental Science (Rhodes University):

Master of Science thesis entitled: The geomorphic origin, evolution and collapse of a peatland dominated by *Prionium serratum*: a case study of the Tierkloof Wetland, Western Cape.

- BA Hons. Environmental Science (Rhodes University):

Honours dissertation: The status and use of *Aloe ferox*. Mill in the Grahamstown commonage, South Africa.

Courses: Wetland Ecology, Environmental Water Quality /Toxicology, Biodiversity, Non-Timber Forest Products (NTFPs) and Rural Livelihoods, Environmental Impact Assessment (EIA), Statistics

- BA - Environmental Science and Geography (Rhodes University)

Work Experience:

- Ecological specialist (2022/03/01 – present)
- Sharples Environmental Services cc (2016/08/10 – 2022/03/01)

Position: Aquatic Ecologist and WULA Manager

- KSEMS Environmental Consulting (2015/08/10 - 2016/07/31)

Position: Wetland specialist

- AGES EC (Pty) Ltd (2014/10/01 – 2015/08/10)

Position: Aquatic Ecologist and WULA Manager

- Environmental Impact Management Services (2014/02/04-2014/02/07)

Position: Environmental consultant

- Rhodes University (2009/04/01 – 2010/12/17)

Recent Reports:

- Aquatic biodiversity impact assessment for the proposed residential development on Portion 21 of Kraaibosch 195, George
- Aquatic biodiversity impact assessment for the expansion of Kolkies River Gypsum Mine.
- Aquatic biodiversity impact assessment for the proposed residential development of Portion 7 and 8, Kranshoek
- Aquatic biodiversity impact assessment for the expansion of Maskam Gypsum Mine and the construction of a fine residue tailings dam, Vanrhynsdorp
- Aquatic biodiversity impact assessment for the construction of the Meul River pumpstation rising main sewer pipeline, George
- Aquatic biodiversity impact assessment for the expansion of Kleingeluk Quarry, Hartenbos
- Installation of A Water Pipeline from An Existing Borehole to The Herbertsdale Reservoir, Mossel Bay Municipality

- Unauthorised Clearance of Vegetation and Construction of a Dam on Farm Angeliersbosch Re/157, Prince Albert
- Rehabilitation of The Excavation of a Channel Within the Brandwag River, On the Remainder of Farm Bowerf 161, Brandwacht, Mossel Bay
- Rehabilitation Plan for activities On A Portion of Remainder Portion 104 Of the Farm Modder Rivier No 209, George
- Aquatic Impact Assessment for The Proposed Extension of Walvis Street, Mossel Bay
- Rehabilitation Plan for the transformation of agricultural land to commercial land on Farm Re 109/209, George
- Aquatic assessment for the proposed Dana Bay Access Road, near Mossel Bay
- Invasive Alien Plant Control Plan for New Horizons Mixed-Use Development on Farm Hillview No. 437, Plettenberg Bay
- Cemetery expansion on Erf 566 and 480, Melkhoutfontein
- The expansion of Goue Akker Cemetery in Beaufort West
- Construction of a bulk sewerage pipeline from Green Valley township, Wittedrift, to the Plettenberg Bay WWTW
- Periodic Maintenance of Trunk Road 31- Barrydale To Ladismith (Km 30.89 To Km 76.06), Western Cape Province
- Expansion of the Gansbaai Sand en Klip Quarry
- Seven Oaks Residential Development, Wittedrift, Plettenberg Bay
- Gran Sasso Quarry water abstraction and proposed construction of a road crossing a watercourse, Tygervally, Cape Town
- Maintenance of Trunk Road 33/4 and Trunk Road 34/2, though Meiringspoort, Western Cape Province
- Proposed Waste Water Treatment Works, Irrigation Activities & Effluent Discharge by Parmalat SA (Pty) Ltd, Bonnievale
- Development of Remainder of Erf 562 Kurland, Plettenberg Bay
- Ladismith Cheese Water Use Application
- Construction of A 22kv Overhead Powerline, near Humansdorp, Eastern Cape
- Development of Herold's Bay Country Estate on A Portion of Portion 7 Of Farm

End

APPENDIX 1 -SPECIALIST DECLARATION

Specialist Name: B-BBEE	Company	Upstream Consulting		
		Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
		NA		
Specialist name:	Debra Fordham			
Specialist Qualifications:	M.Sc. – Environmental Science (Wetland Ecology) B. Sc. (Hons) - Environmental Science B.A. – Environmental Science and Geography SACNASP registered Professional Wetland Scientist			
Professional affiliation/registration:	Debra Fordham is a Professional Wetland Scientist and SACNASP registered ecologist with more than 10 years of experience in the environmental and conservation sectors, specialising in aquatic biodiversity assessment.			
Physical address:	25 Blommekloof Street, George			
Postal address:	25 Blommekloof Street, George			
Postal code:	6530		Cell:	0724448243
Telephone:			Fax:	
E-mail:	debbie@upstreamconsulting.co.za			

DECLARATION BY THE SPECIALIST

I, Debra Fordham, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

Name of Company: Upstream Consulting

DATE: 09/11/2025

REVIEWER DECLARATION

Specialist Name: B-BBEE	Company	Upstream Consulting		
		Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
		NA		
Specialist name:		Colin Fordham		
Specialist Qualifications:		M.Sc. – Entomology (Biological Control) B. Sc. (Hons) - Botany (Environmental Management) B.Sc. – Botany and Biochemistry SACNASP registered Professional Wetland Scientist		
Professional affiliation/registration:		Colin Fordham is a SACNASP registered Professional Natural Scientist (Pr. Sci. Nat.) Ecologist with 14 years of experience in the environmental and conservation sectors.		
Physical address:		25 Blommekloof Street, George		
Postal address:		25 Blommekloof Street, George		
Postal code:		6530	Cell:	0648575560
Telephone:			Fax:	
E-mail:		Colin@upstreamconsulting.co.za		

DECLARATION BY THE SPECIALIST

I, Colin Fordham, declare that –

- I act as the independent review specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Reviewer

Name of Company: Upstream Consulting

DATE: 09/11/2025



Aquatic specialist services

- Cell: 072 444 8243
 - Email: debbie@upstreamconsulting.co.za
 - Address: 25 Blommekloof Street, George, 6530
- www.upstreamconsulting.co.za**

AQUATIC BIODIVERSITY

SITE SENSITIVITY VERIFICATION REPORT

for the proposed

DEVELOPMENT OF TWO DWELLINGS WITH ASSOCIATED INFRASTRUCTURE ON ERF 155 KEURBOOMSTRAND, BITOU LOCAL MUNICIPALITY

DATE: 09 November 2025

PREPARED FOR:

Samantha Teeluckdhari
Ecoroute Environmental
Samantha@ecoroute.co.za

PREPARED BY:

Debbie Fordham
Upstream Consulting
25 Blommekloof St, George, 6529
debbie@upstreamconsulting.co.za



Site Verification Report for the Aquatic Biodiversity Theme

Summary

The site sensitivity verification study confirms the DFFE screening tool result of 'Low' sensitivity for the aquatic biodiversity theme. No aquatic features were identified within the site, the overall site sensitivity is low and the development, with mitigation, will not affect aquatic biodiversity. It is recommended that a Compliance Statement be compiled, assessing the final layout, to fulfil the NEMA requirements.

CONTENTS

INTRODUCTION	1
LOCATION	1
SITE DEVELOPMENT PLAN	1
SCREENING TOOL	4
METHODS	5
ASSUMPTIONS AND LIMITATIONS	5
Biophysical Characteristics:.....	6
Water resources:.....	6
Conservation	7
Historic Context.....	11
SITE ASSESSMENT:	12
Delineation.....	12
Classification.....	14
Risk Screening	16
SITE SENSITIVITY BASED ON SPECIALIST ASSESSMENT:.....	16
MOTIVATION OF THE OUTCOMES OF THE SENSITIVITY MAP AND KEY CONCLUSIONS:	16
DECLARATION OF INDEPENDENCE.....	17

INTRODUCTION

Debbie Fordham of Upstream Consulting has been appointed to undertake an aquatic biodiversity sensitivity assessment for the proposed construction of two dwellings with associated infrastructure on Erf 155 Keurboomstrand, Bitou Local Municipality.

LOCATION

The site is located in the town of Keurboomstrand, Bitou Local Municipality, about 70m inland from the High Water Mark. The site is bound by the primary access road to Keurboomstrand and Main street (Figure 1). Also illustrated in Figure 1 is the 500m buffer study area.

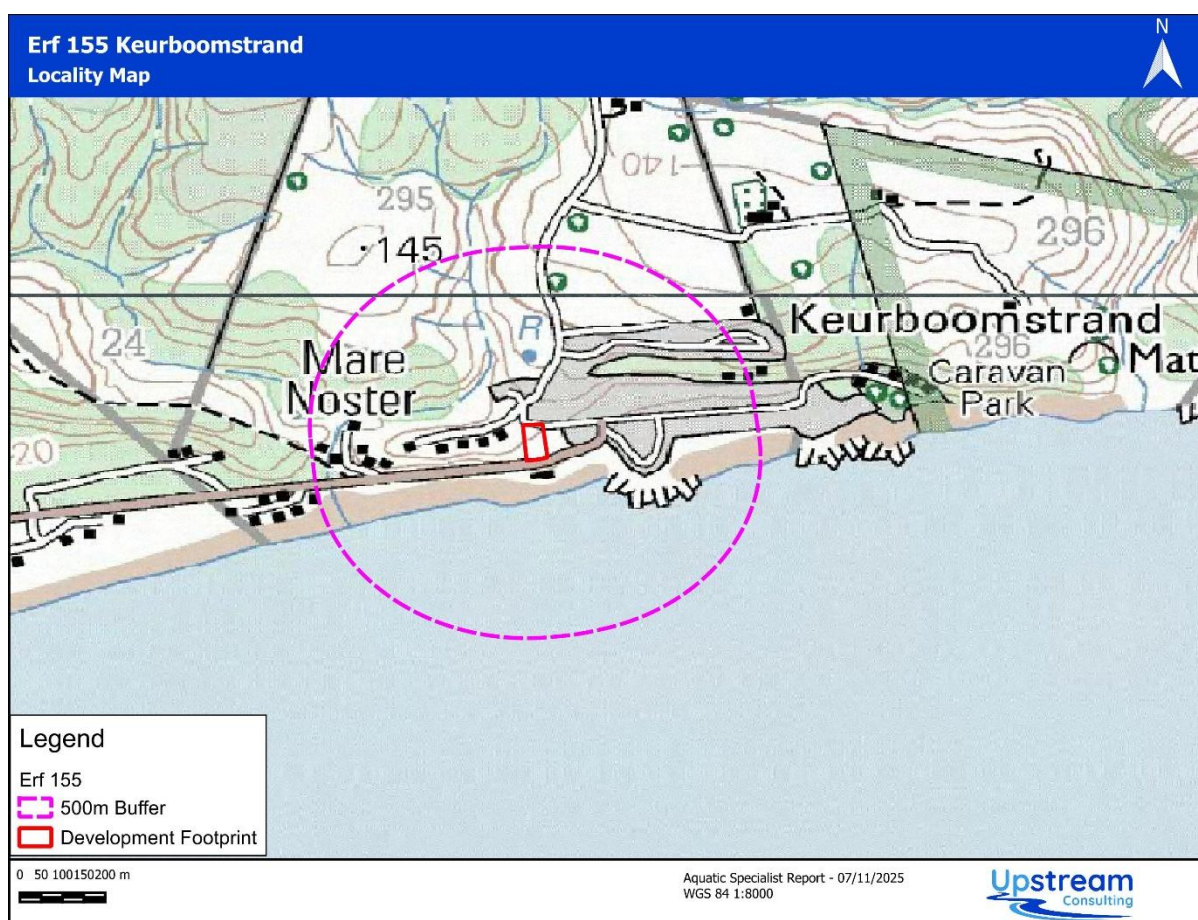


Figure 1: Locality map of Erf 155 Keurboomstrand, also showing the 500m buffer study area

SITE DEVELOPMENT PLAN

The proposed development includes the development of two dwellings on Erf 155, with all of the relevant associated infrastructure including access road and a pool (Figure 2). The development will make use of municipal services.



Figure 2: Site development Plan (Supplied by client)

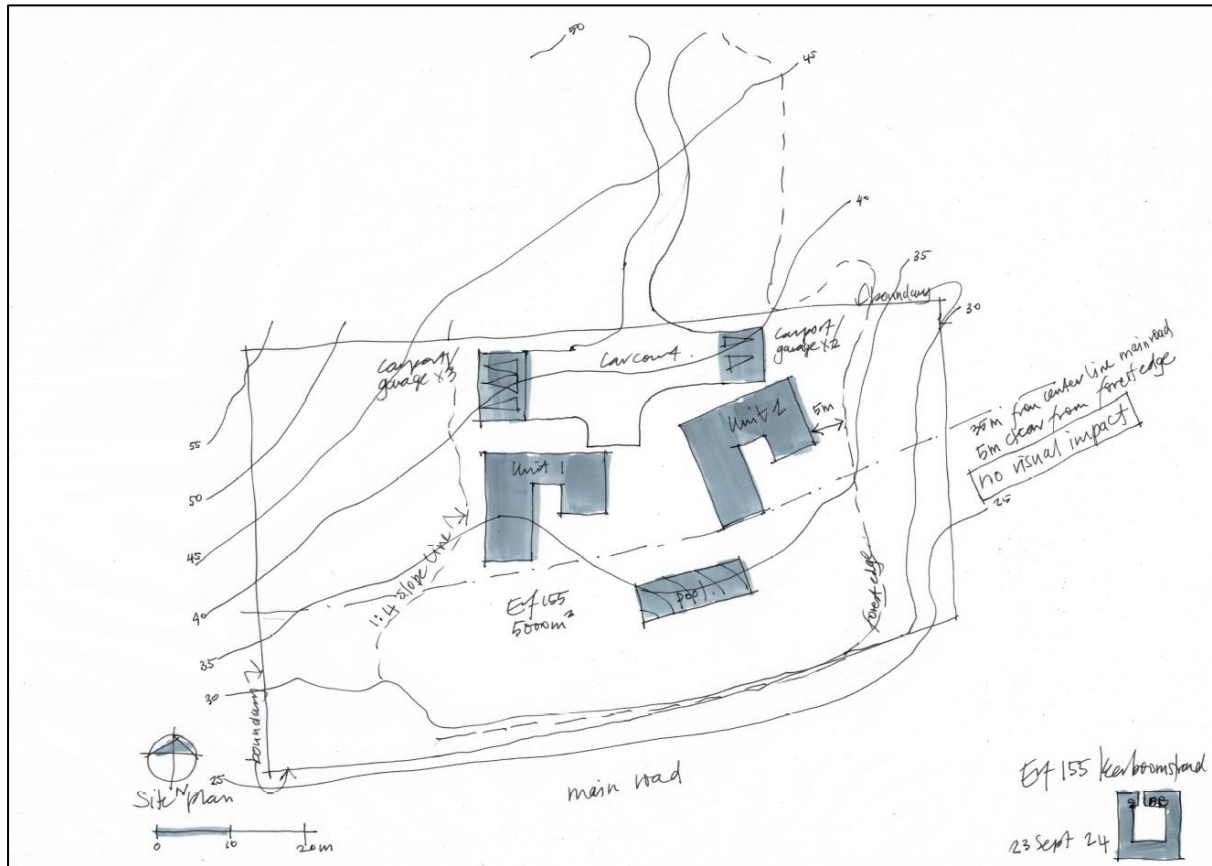


Figure 3: Supplied drawing of the site layout

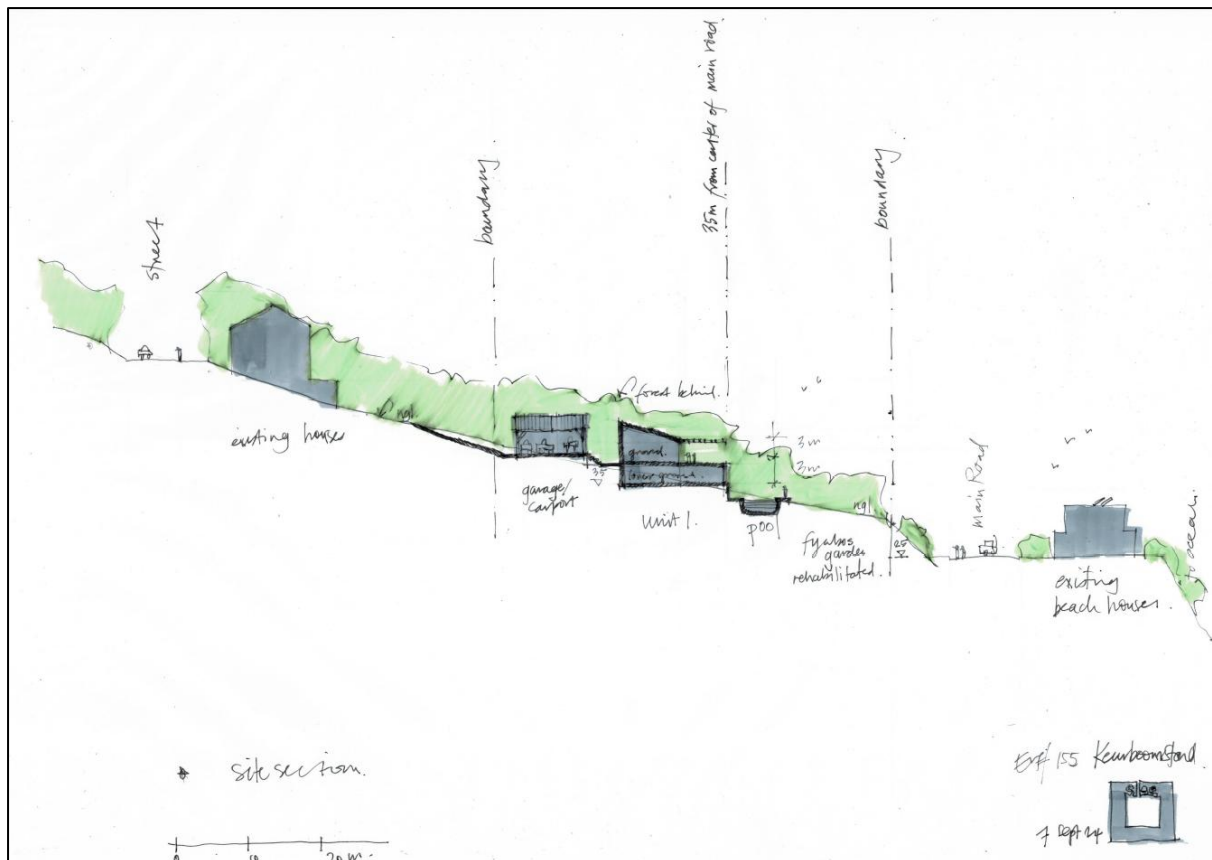


Figure 4: Supplied cross-sectional profile of the site

SCREENING TOOL

Based on the DFFE Screening Tool, the site has Low Aquatic Biodiversity sensitivity (Figure 5). This sensitivity rating was confirmed following site verification undertaken on the 8th of November 2025. It was therefore confirmed that the site sensitivity is 'Low' for the aquatic biodiversity theme and that a Compliance Statement be submitted.

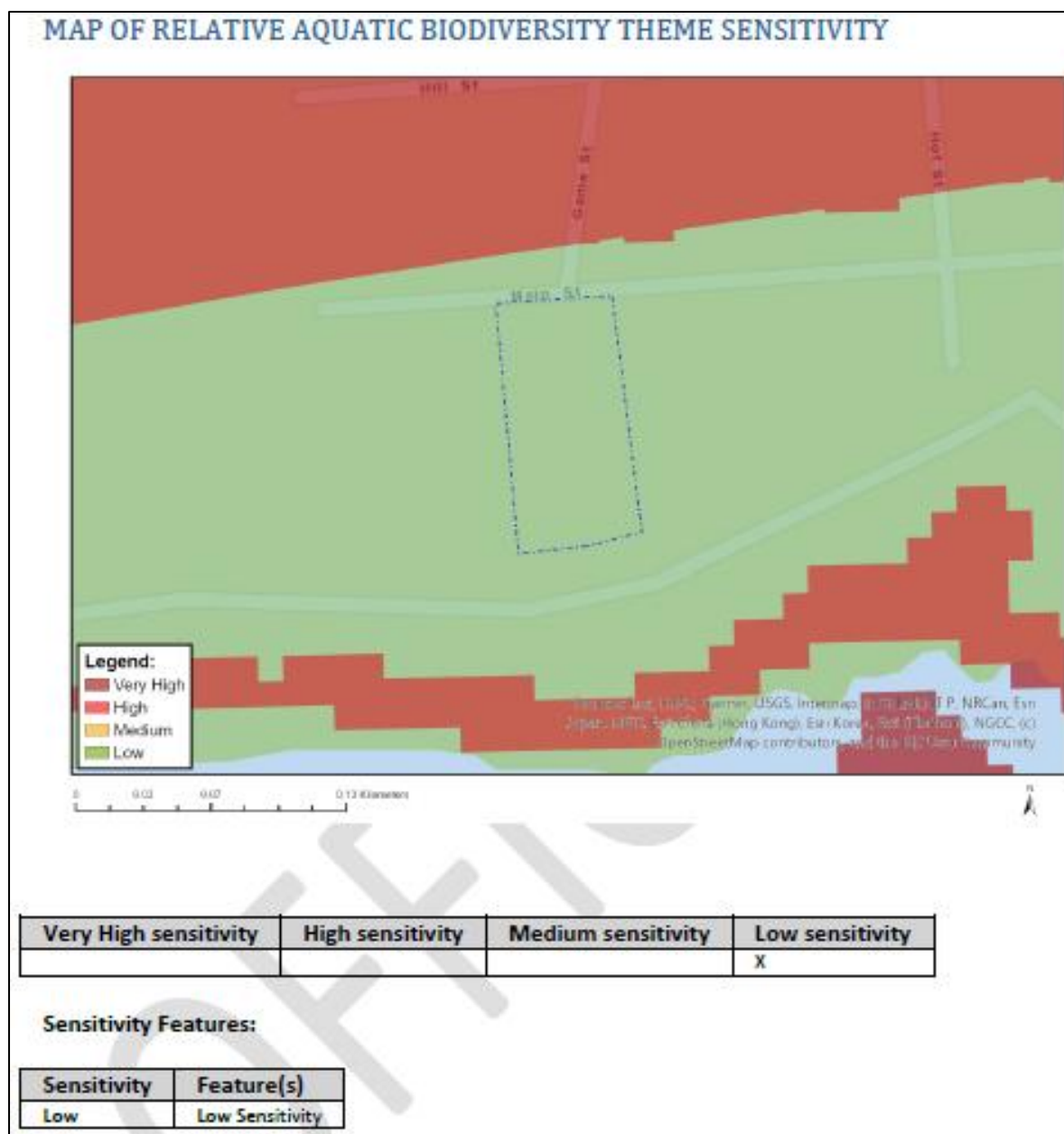


Figure 5: The DFFE Screening Tool results for the site for the aquatic biodiversity theme

Government Notice No. 645, dated 10 May 2019, includes the requirement that an Initial Site Sensitivity Verification Report must be produced for a project footprint. As per Part 1, Section 2.3, the outcome of the Initial Site Verification must be recorded in the form of a report that-

- Confirms or disputes the current use of the land and environmental sensitivity as identified by the national web based environmental screening tool;

- Contains a motivation and evidence of either the verified or different use of the land and environmental sensitivity;
- is submitted together with the relevant reports prepared in accordance with the requirements of the Environmental Impact Assessment Regulations.

This report has been produced specifically to consider the aquatic biodiversity theme and addresses the content requirements of (a) and (b) above. The report will be appended to the respective specialist study included in the Scoping and EIA Reports produced for the project.

METHODS

This study followed the approaches of several national guidelines with regards to wetland/ riparian identification and delineation.

- The aquatic habitats within the property and its associated 500m buffer area were identified and mapped on a desktop level utilising available data. Digitization and mapping were undertaken using QGIS 3.40.0 "Bratislava" GIS software.
- The desktop/ screening study was informed by the available datasets relevant to water resources, as well as historic and the latest aerial imagery, to develop an understanding of the fluvial processes of the study area.
- Following the desktop findings, a site assessment was conducted to verify the location and extent of these systems. General observations were made with regards to the vegetation, fauna and current impacts. The identified aquatic ecosystems were classified in accordance with the '*National Wetland Classification System for Wetlands and other Aquatic Ecosystems in South Africa*' (Ollis *et al.* 2013) and *WETECoservices* (Kotze *et al.* 2009).
- Infield delineation was undertaken with a hand-held GPS, for mapping of any potentially affected aquatic ecosystems, in alignment with standard field-based procedures in terms of the Department of Water and Sanitation (DWA 2008) *Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas*. The delineation is based upon observations of the landscape setting, topography, vegetation and soil characteristics (using a hand held soil auger for wetland soils).

ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations are relevant:

- Project extent and layout footprint were inferred. Georeferenced data were not provided.
- No services layout was provided; however it was assumed services would be confined to the development footprint delineated by the specialist.
- Aquatic ecosystems vary both temporally and spatially. Once-off surveys such as this are therefore likely to miss certain ecological information due to seasonality, thus limiting accuracy and confidence. That said, the level of confidence in the findings is high.

- The timing of the site assessments (wet season) was considered suitable for undertaking the aquatic assessment, due to the footprint area's low aquatic sensitivity and sandy soils. No additional site visits are deemed to be required.

Infield soil and vegetation sampling was only undertaken within a specific focal area at the proposed site, while any remaining aquatic features were delineated at a desktop level.

Mapping the locality of aquatic habitat is essential for classification into the different wetland and river ecosystem types across the country, which in turn can be used with other data to identify aquatic systems of conservation significance. The verification study was informed by the available datasets relevant to water resources, as well as historic and the latest aerial imagery, to develop an understanding of the fluvial processes of the study area.

BIOPHYSICAL CHARACTERISTICS:

The study area experiences a temperate coastal climate with relatively moderate seasonal variation. Rainfall occurs throughout the year, with slight peaks typically during spring and autumn, and an annual average of approximately 600–800 mm, though this can vary considerably between years. The site lies immediately adjacent to the Indian Ocean and is strongly influenced by maritime conditions, including regular coastal winds, high humidity, and moderated temperatures.

Vegetation on the site is mapped as Goukamma Dune Thicket, a dense, species-rich thicket type associated with stabilised coastal dunes along the southern Cape coastline. This vegetation unit forms part of the Southern Cape Dune Thicket complex and supports a mosaic of evergreen shrub and small tree species adapted to sandy, nutrient-poor substrates. The site appears to be in good ecological condition, with no evidence of significant disturbance. The thicket structure remains largely intact, displaying a well-developed canopy layer and diverse indigenous understory, characteristic of near-natural dune thicket systems in this region.

Soils are sandy, well-drained, and highly permeable, typical of the coastal foreland zone. These conditions allow rapid infiltration of rainfall and limit surface water retention. The local topography is gently undulating, with only minor depressions and no defined drainage lines, resulting in minimal surface runoff concentration. Consequently, the combination of permeable soils, moderate slope, and coastal dune geomorphology significantly reduces the potential for wetland or river system development within the property.

WATER RESOURCES:

The study area lies within the Gouritz Water Management Area, part of the DWS Eastern Coastal Belt ecoregion (Kleynhans *et al.* 2005) (Figure 6). The entire site falls within DWS quaternary catchments K70A. The site does not fall within any mapped Strategic Water Source

Areas (SWSA), although part of its 500m buffer area does fall within the Tsitsikamma SWSA (Figure 6).

When mapping the river lines relative to the site, the NBA 2018 Rivers data does not map any systems within the site or 500m buffer area (Figure 7). The nearest NBA 2018 delineated systems are the Matjies River which is approximately 1,5km to the east of the site and the Keurbooms River which is located 5.5km west of the site. However, the site is therefore not in proximity, nor has strong linkages, to any mainstem river. The 1:50 000 cadastral NGI river line data do show an unnamed, non-perennial river lines flowing within the 500m buffer area. The site drains seaward towards the coast, while a small stream is located immediately inland, beyond a low topographic rise, within an adjacent catchment area, approximately 170m away from the site boundary, but that system will not be impacted by the proposed development.

The National Wetland Map 5 (NWM5) includes inland wetlands and estuaries, associated with river line data and many other data sets. There are no natural NWM features within the property or 500m buffer area. The nearest feature is 1,7km east of the site and is the Matjies River Estuary. There are also no NFEPA mapped wetlands within the property or 500m buffer area.

CONSERVATION

Figure 8 shows the biodiversity priority areas mapped by the Western Cape Biodiversity Spatial Plan (BSP) (CapeNature 2023) relative to the study area. It indicates that there are no BSP aquatic features on the site either Critical Biodiversity Areas (CBA - Aquatic) or Ecological Support Areas (ESA - Aquatic). The ESA that is on site is classified as terrestrial due to it being a coastal corridor feature. However, within the 500m buffer area there are several ESA aquatic features, but none of these will be impacted by the proposed development. Additionally, no rare or endangered biota were found during site assessment.

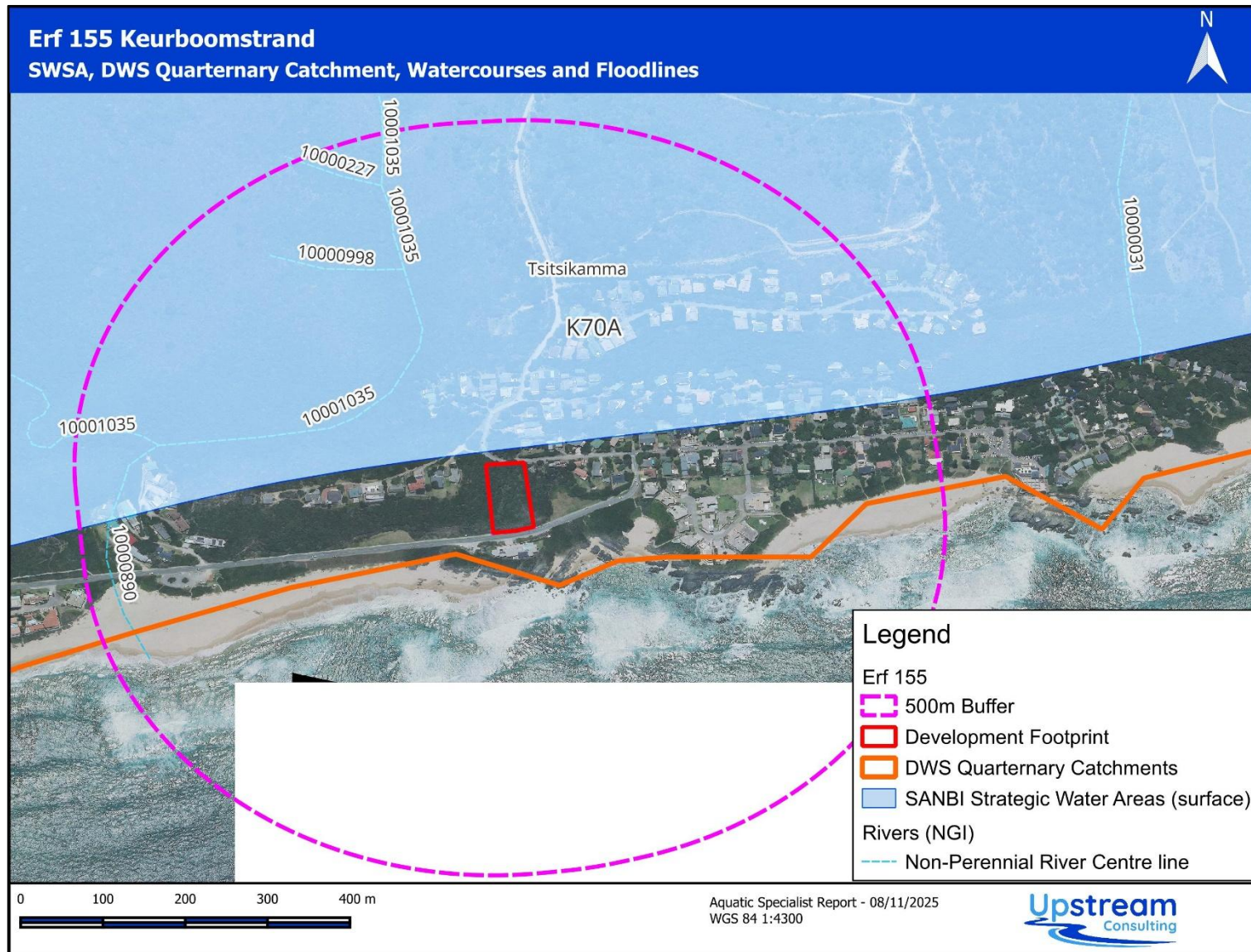


Figure 6: Map of the site relative to DWS quaternary catchments and drainage network

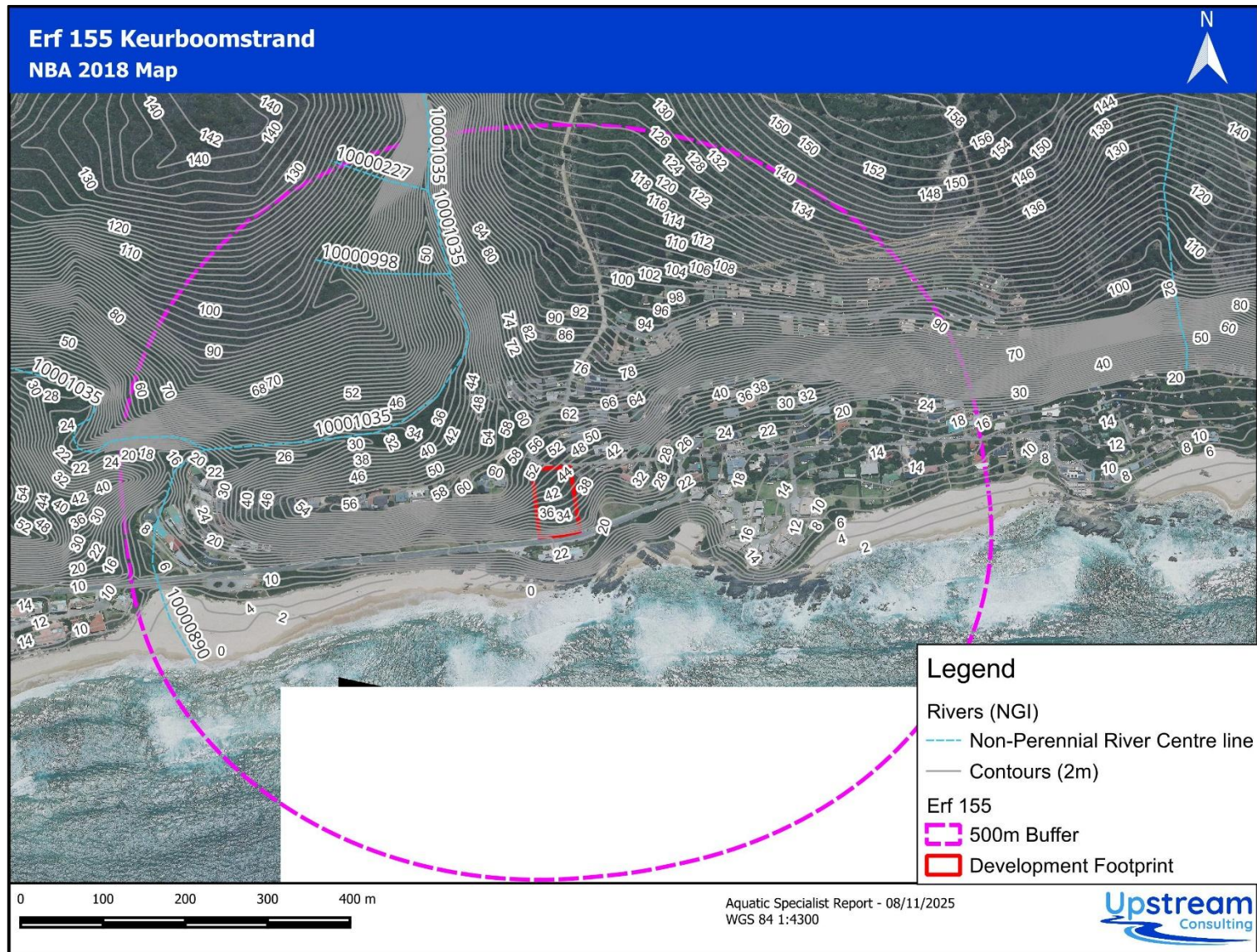


Figure 7: Map of the site in relation to the latest available river and wetland inventories

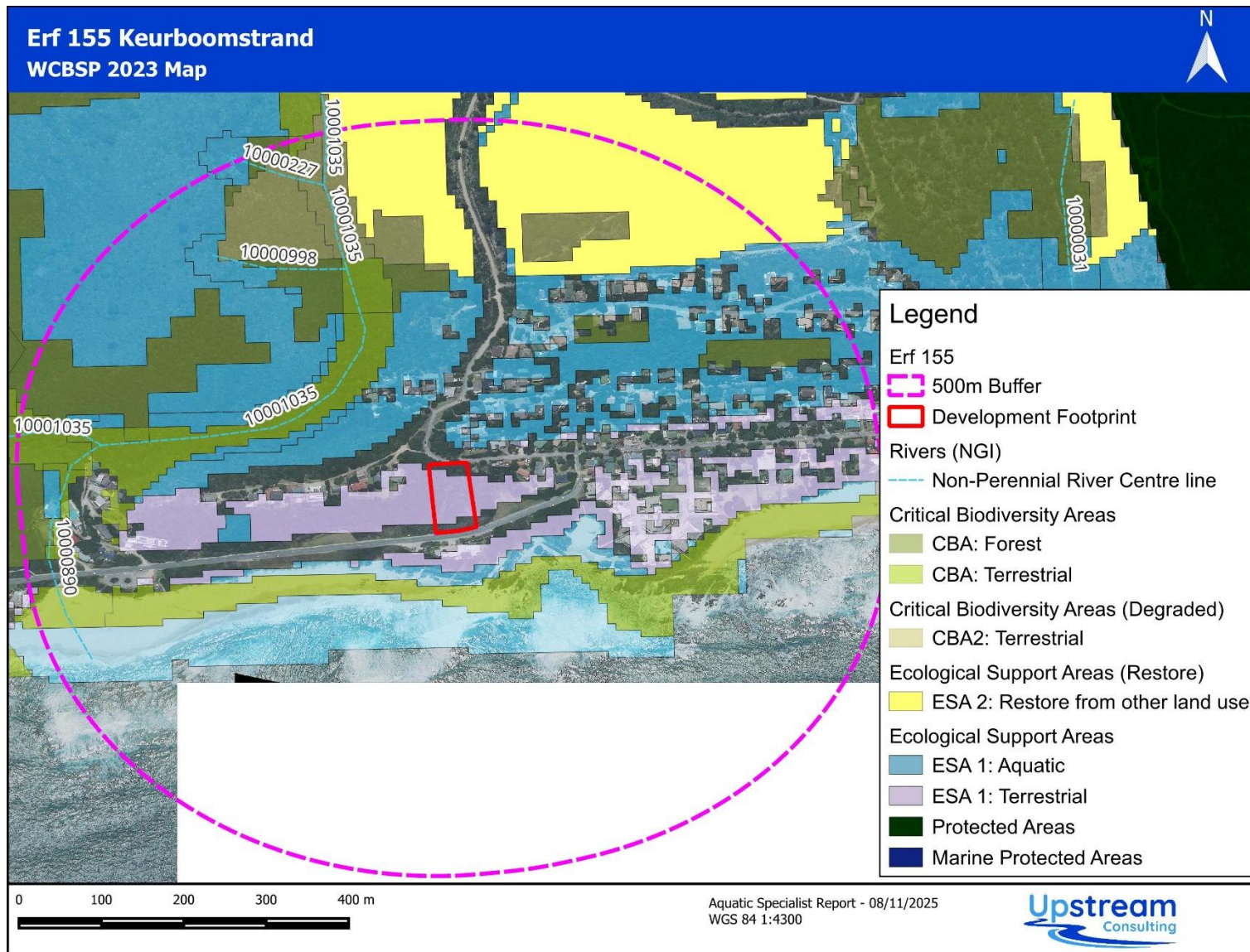


Figure 8: Map of the site in relation to the WCBSP (CapeNature 2023)

HISTORIC CONTEXT

The site and surrounding area have been subjected to land use cover changes for many decades as Keurboomstrand has developed as a settlement. Some drainage lines have been disturbed by service infrastructure (i.e. the roads and municipal servitudes). Historic imagery shows that the entire property has only undergone minor anthropogenic impacts and is generally in a natural condition since 2004 (Figure 9). However, due to the high infiltration rate of the sandy soils, it remains highly unlikely that natural aquatic features were ever present within the site.



Figure 9: Google Satellite Imagery from 2004 (footprint of development slightly offset due to Google Earth projections)

SITE ASSESSMENT:

DELINEATION

The site verification specialist findings were informed by a site visit undertaken on the 8th of November 2025. This information was then compared to historical imagery, current wetland and river inventories, critical biodiversity areas, and 1: 50 000 topocadastral surveys of the site. A baseline map of aquatic habitat was then developed (Figure 10).

It was determined that there are no aquatic features within the site. There are three HGM units within the 500m Buffer study area. These are associated with the drainage line in the neighbouring minor catchment area and include two riparian HGM units and an Unchannelled Valley Bottom wetland adjacent to where the system discharges into the sea. .

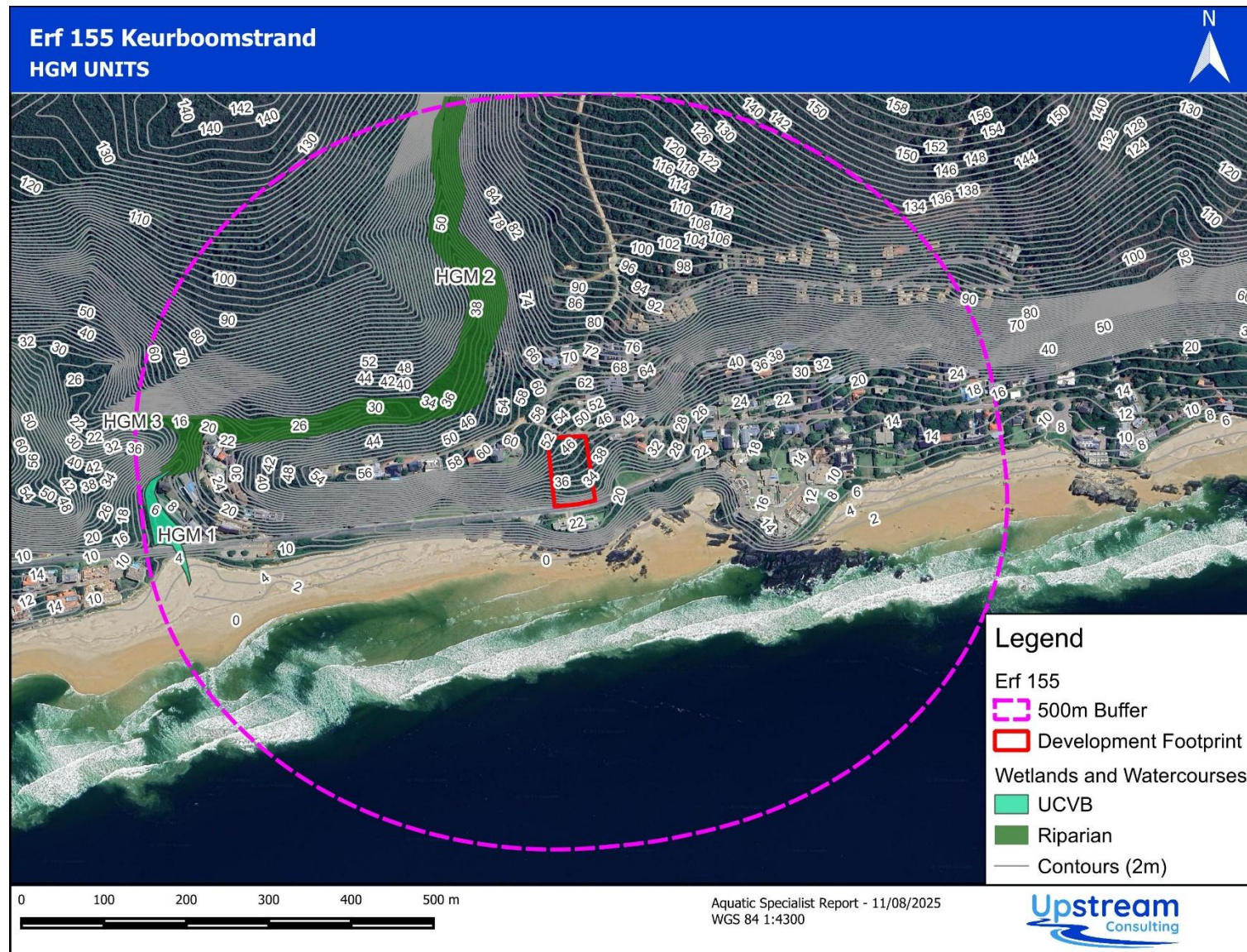


Figure 10: Aquatic habitat identified, and delineated into hydrogeomorphic (HGM) units, within 500m of the proposed site

CLASSIFICATION

It was determined that there are no aquatic features within the property, and only three HGM units within the 500m radius study area, two riparian and a Unchannelled Valley Bottom Wetland. However, due to their position in the landscape relative to the development, no features are at risk of being directly or indirectly impacted (Plate 1).



Plate 1: Photographs of the site indicating that there are no aquatic features present within the development footprint or that will be impacted by the proposed application.

RISK SCREENING

While the entire property and surrounding 500m area was investigated, the actual development footprint relative to the identified aquatic features was also considered for sensitivity assessment. The property drains towards the coastline (Figure 10) and therefore there are no aquatic features at risk.

SITE SENSITIVITY BASED ON SPECIALIST ASSESSMENT:

Based on the DFFE Screening Tool, the site has Low Aquatic Biodiversity sensitivity. This sensitivity rating was confirmed following site verification. Provided a robust stormwater management plan is compiled, no natural or ecologically sensitive aquatic habitat will be impacted by the development.

MOTIVATION OF THE OUTCOMES OF THE SENSITIVITY MAP AND KEY CONCLUSIONS:

In conclusion, the DFFE Screening Tool resulted in a Low aquatic biodiversity sensitivity rating. Following site verification, this Low sensitivity rating for the study area is confirmed. There are no natural watercourses that will be impacted by the project. The proposal will not result in reduced aquatic biodiversity.

It is therefore recommended that the site sensitivity be regarded as 'Low' for the aquatic biodiversity theme and that a Compliance Statement be compiled and submitted with the EIA application.

APPENDIX A:

DECLARATION OF INDEPENDENCE

SPECIALIST REPORT DETAILS

This report has been prepared as per the requirements of the Environmental Impact Assessment Regulations and the National Environmental Management Act (Act 107 of 1998), any subsequent amendments and any relevant National and / or Provincial Policies related to biodiversity assessments. This also includes the minimum requirements as stipulated in the National Water Act (Act 36 of 1998), as amended in Water Use Licence Application and Appeals Regulations, 2017 Government Notice R267 in Government Gazette 40713 dated 24 March 2017, which includes the minimum requirements for an Aquatic Biodiversity Report.

Report prepared by: Debbie Fordham (Ecology 119102)

Expertise / Field of Study: Internationally certified Professional Wetland Scientist and registered SACNASP ecologist, with over 10 years of working experience, specialising in aquatic ecology. Debbie holds a M.Sc. degree in Environmental Science from Rhodes University, by thesis, entitled: The geomorphic origin and evolution of the Tierkloof Wetland, a peatland dominated by *Prionium serratum* in the Western Cape. She is a member of scientific organisations such as the Society of Wetland Scientists (SWS), the South African Wetland Society (SAWS), and the Southern African Association of Geomorphologists (SAAG).

I, **Debbie Fordham** declare that this report has been prepared independently of any influence or prejudice as may be specified by the National Department of Environmental Affairs Fisheries and Forestry and or Department of Water and Sanitation.

Signed:...  Date:...09 November 2025.....