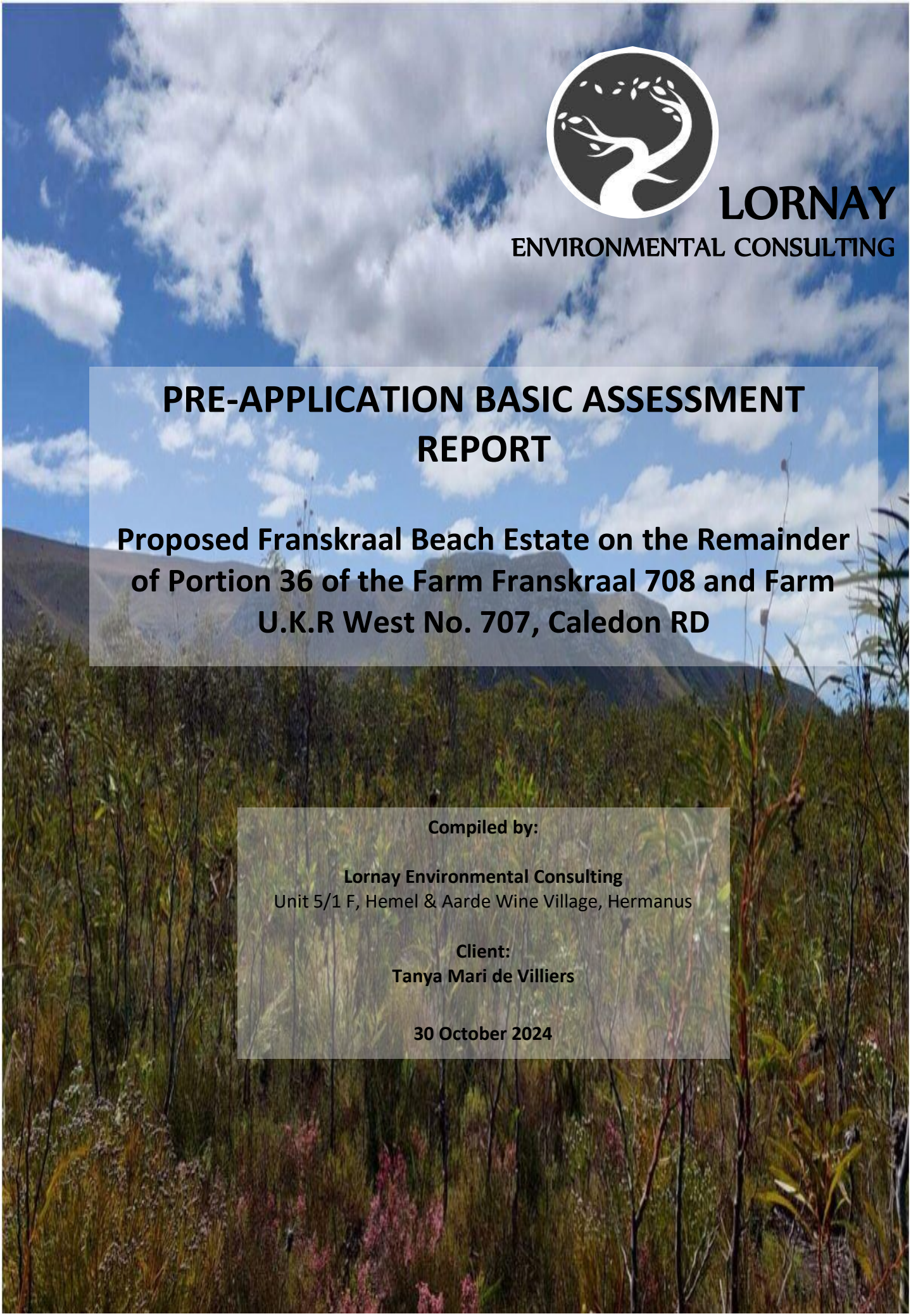


LORNAY
ENVIRONMENTAL CONSULTING

PRE-APPLICATION BASIC ASSESSMENT REPORT

Proposed Franskraal Beach Estate on the Remainder of Portion 36 of the Farm Franskraal 708 and Farm U.K.R West No. 707, Caledon RD

Compiled by:

Lornay Environmental Consulting
Unit 5/1 F, Hemel & Aarde Wine Village, Hermanus

Client:
Tanya Mari de Villiers

30 October 2024

DETAILS OF THE AUTHOR(S)

EAP ORGANISATION:	Lornay Environmental Consulting (Pty) Ltd
AUTHOR(S):	Michelle Naylor
EAP REG. NO.:	EAPASA (2019/698)
SACNASP REG. NO.:	Pr. Sci. Nat (400327/13)
EAP QUALIFICATIONS:	Bachelor of Science (Hons); Master of Science (Rhodes University), EAPASA., SACNASP., IAIASA., cand. APHP
AUTHOR(S):	Njabulo Magoswana (*Cand.EAP*)
EAP REG. NO.:	CAND. EAPASA 2021/3178
EAP QUALIFICATIONS:	BSc Hons., Environmental Geography

Western Cape Government

Department of Environmental Affairs and Development Planning

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

APRIL 2024

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

APRIL 2024

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

Proposed Franskraal Beach Estate on the Remainder of Portion 36 of the Farm Franskraal 708 and Farm U.K.R West No. 707

Lornay Environmental Consultant (Pty) Ltd has been appointed as the independent Environmental Assessment Practitioner (EAP) to conduct a Basic Environmental Assessment for the proposed Franskraal Beach Estate on Remainder of Portion 36 of the Farm Fransche Kraal No. 708 and Farm U.K.R West No. 707, in accordance with the National Environmental Management Act (NEMA) (Act 107 of 1998) and the Environmental Impact Assessment (EIA) Regulations of 2014 (as amended).

The Remainder of Portion 36 of the Farm Fransche Kraal No. 708, measuring 31.51 hectares, forms the primary area for the proposed development. This portion is bordered by the Elim Road on its northern boundary and is characterized by degraded undeveloped land with dense alien vegetation and some indigenous fynbos vegetation types. Adjacent to this is Farm U.K.R West No. 707, which spans 45.81 hectares. It stretches from the Uilenkraalsmond suburb, located on the western side of the R43 road, extending eastwards along the boundary of Remainder 36 of Farm 708 along the estuary. these two properties, herein referred to as the subject properties.

The development footprint will be largely confined to Remainder of Portion 36 of the Farm Fransche Kraal No. 708, with only limited infrastructure proposed on the state-owned Farm U.K.R West No. 707. This includes the construction

of a light weight timber boardwalk and jetty, designed to enhance access to the coastal areas and foster eco-friendly recreational activities.

The development footprint will cover approximately 6 hectares within these properties, with the primary bulk infrastructure located on the Remainder of Portion 36 of Farm 708. The proposal consists of 52 residential erven, internal access roads, and essential services such as water, energy, and greywater management systems. The estate is envisioned as a sustainable, low impact and eco-centred living environment, with an emphasis on minimising the ecological footprint while delivering high-quality residential amenities. The development will feature a clubhouse, a small business area to serve the needs of residents, and green spaces to integrate with the natural landscape.

The eco-estate is designed to cater to the growing demand for environmentally conscious living options in the Overstrand Municipality, particularly in areas like Franskraal, which offer a balance between natural beauty and accessibility to key services. This demand is driven by both local residents and buyers from nearby urban centres such as Cape Town and Hermanus, who are seeking tranquil living spaces with strong connections to nature, as well as those moving from other parts of the country

Need and Desirability

Over the last decade, the Overstrand Municipality has experienced increasing demand for residential development, particularly eco-friendly developments that align with sustainable living principles. This trend has been fuelled by the municipality's appeal as a lifestyle destination, with a blend of pristine natural environments, biodiversity hotspots, and well-established tourism infrastructure. Franskraal, in particular, is well-positioned to accommodate this growing demand. Its proximity to Gansbaai, renowned for its eco-tourism activities such as shark cage diving and whale watching, makes it a sought-after location for residents who value access to both coastal amenities and protected natural areas. The area's relatively lower density of existing developments further strengthens its suitability for an eco-residential estate that can meet the increasing need for sustainable housing.

The proposed project aligns with the Overstrand Municipality's Spatial Development Framework (SDF), which encourages responsible development that preserves the region's natural heritage while supporting economic growth. The integration of green infrastructure, the use of renewable energy solutions, and water-efficient technologies (such as greywater systems) all contribute to this vision. In line with sustainable development goals, the bulk of the proposed infrastructure will be located on Remainder of Portion 36 of the Farm Fransche Kraal No. 708. Essential services such as electricity, potable water supply, and wastewater management will be provided with a strong focus on resource efficiency. Solar energy will be implemented where possible, reducing the estate's reliance on the national grid and contributing to a reduced carbon footprint. The proposed greywater management system will ensure that water usage is optimized, recycling household water for use in landscaping and irrigation.

Internal access roads will be constructed using permeable materials to reduce stormwater runoff, while the boardwalk and jetty proposed on Farm U.K.R West No. 707 will be built using environmentally friendly materials to ensure minimal disturbance to coastal ecosystems.

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.

2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".

3. *Submission of documentation, reports and other correspondence:*

   The Department has adopted a digital format for corresponding with proponents/applicants or the general public. If there is a conflict between this approach and any provision in the legislation, then the provisions in the legislation prevail. If there is any uncertainty about the requirements or arrangements, the relevant Competent Authority must be consulted.

   The Directorate: Development Management has created generic e-mail addresses for the respective Regions, to centralise their administration. Please make use of the relevant general administration e-mail address below when submitting documents:

   DEADPEIAAdmin@westerncape.gov.za
   Directorate: Development Management (Region 1):
   City of Cape Town; West Coast District Municipal area;
   Cape Winelands District Municipal area and Overberg District Municipal area.

   DEADPEIAAdmin.George@westerncape.gov.za
   Directorate: Development Management (Region 3):
   Garden Route District Municipal area and Central Karoo District Municipal area

   General queries must be submitted via the general administration e-mail for EIA related queries. Where a case-officer of DEA&DP has been assigned, correspondence may be directed to such official and copied to the relevant general administration e-mail for record purposes.

   All correspondence, comments, requests and decisions in terms of applications, will be issued to either the applicant/requester in a digital format via email, with digital signatures, and copied to the Environmental Assessment Practitioner ("EAP") (where applicable).

4. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.

5. All applicable sections of this BAR must be completed.

6. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.

7. This BAR is current as of **April 2024**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at http://www.westerncape.gov.za to check for the latest version of this BAR.

8. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.

9. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.

10. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.

11. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.

12. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.

13. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.

14. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link https://screening.environment.gov.za/screeningtool to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

15. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA"), the submission of the Report must also be made as follows, for-
    Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

    Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS	
CAPE TOWN OFFICE: **DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 1)** (City of Cape Town, West Coast District, Cape Winelands District & Overberg District)	**GEORGE REGIONAL OFFICE:** **DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 3)** (Central Karoo District & Garden Route District)
The completed Form must be sent via electronic mail to: DEADPEIAAdmin@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 1) at: E-mail: DEADPEIAAdmin@westerncape.gov.za Tel: (021) 483-5829	The completed Form must be sent via electronic mail to: DEADPEIAAdmin.George@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 3) at: E-mail: DEADPEIAAdmin.George@westerncape.gov.za Tel: (044) 814-2006

Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1) Private Bag X 9086 Cape Town, 8000	Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following: • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken. Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following: • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development **must** be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): o Watercourses / Rivers / Wetlands o Flood lines (*i.e.,* 1:100 year, 1:50 year and 1:10 year where applicable); o Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): o Ridges; o Cultural and historical features/landscapes; o Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.

Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ **(**tick) or a **x** (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	See below
	Appendix A3:	**Map with the GPS co-ordinates for linear activities**	
Appendix B:	**Appendix B1:**	**Site development plan(s)**	✓
	Appendix B2	**A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on**	

		the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	
Appendix C:	**Photographs**		✓
Appendix D:	**Biodiversity overlay map**		✓
Appendix E:	**Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.**		
	Appendix E1:	**Final comment/ROD from HWC**	✓
	Appendix :	**Copy of comment from Cape Nature**	
	Appendix :	**Final Comment from the DWS**	
	Appendix:	**Comment from the DEA: Oceans and Coast**	
	Appendix:	**Comment from the DAFF**	
	Appendix :	**Comment from WCG: Transport and Public Works**	
	Appendix :	**Comment from WCG: DoA**	
	Appendix :	**Comment from WCG: DHS**	
	Appendix :	**Comment from WCG: DoH**	
	Appendix :	**Comment from DEA&DP: Pollution Management**	
	Appendix :	**Comment from DEA&DP: Waste Management**	
	Appendix:	**Comment from DEA&DP: Biodiversity**	
	Appendix :	**Comment from DEA&DP: Air Quality**	
	Appendix	**Comment from DEA&DP: Coastal Management**	
	Appendix E15:	**Comment from the local authority**	
	Appendix E16:	**Confirmation of all services (water, electricity, sewage, solid waste management)**	

	Appendix E17:	**Comment from the District Municipality**	
	Appendix E18:	**Copy of an exemption notice**	
	Appendix E19:	**Pre-approval for the reclamation of land**	
	Appendix E20:	**Proof of agreement/TOR of the specialist studies conducted.**	
	Appendix E21:	**Proof of land use rights**	
	Appendix E22:	**Proof of public participation agreement for linear activities**	
Appendix F:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		✓
Appendix G:	**Specialist Report(s)** **G1 Terrestrial Biodiversity Assessment** **G2 Aquatic Biodiversity Assessment** **G3 Terrestrial Animal Species Sensitivity and Assessment** **G4 Visual Impact Assessment** **G5 Agricultural Compliance Report** **G6a Heritage Impact Assessment** **G6b Palaeontological Impact Assessment**		✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening tool report**		✓
Appendix J:	**Biodiversity Offset Applicability Assessment**		✓
Appendix K:	**Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline**		
Appendix…..	**Any other attachments must be included as subsequent appendices**		

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE: REGION 1		GEORGE OFFICE: BEGION 3
	(City of Cape Town, West Coast District	(Cape Winelands District & Overberg District)	(Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	Tanya Mari de Villiers		
Name of contact person for Applicant/Proponent (if other):	As above		
Company/ Trading name/State Department/Organ of State:	-		
Company Registration Number:	-		
Postal address:	PO Box 1579 Vlaeberg		
		Postal code: 8018	
Telephone:	( )	Cell: 082 573 9120	
E-mail:	tanya@cndv.biz	Fax: ( )	
Company of EAP:	Lornay Environmental Consulting		
EAP name:	Michelle Naylor		
Postal address:	PO Box 1990		
	Hermanus	Postal code: 7200	
Telephone:	( )	Cell: 083 245 6556	
E-mail:	michelle@lornay.co.za	Fax: ( )	

Qualifications:	Master of Science (Rhodes University)	
EAP registration no:	EAPASA. 2019/698,., SACNASP., IAIASA	
Duplicate this section where there is more than one landowner Name of landowner:	N/A	
Name of contact person for landowner (if other):		
Postal address:		
		Postal code:
Telephone:	( )	Cell:
E-mail:		Fax: ( )
Name of Person in control of the land:	T.M de Villiers	
Name of contact person for person in control of the land:		
Postal address:	As above	
		Postal code:
Telephone:	( )	Cell:
E-mail:		Fax: ( )

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Overstrand Municipality	
Contact person:	Chester Arendse	
Postal address:	PO Box 26	
	Gansbaai	Postal code:
Telephone	028 384 8300	Cell:
E-mail:	gbenvironmental@overstrand.gov.za	Fax: ( )

EXECUTIVE SUMMARY

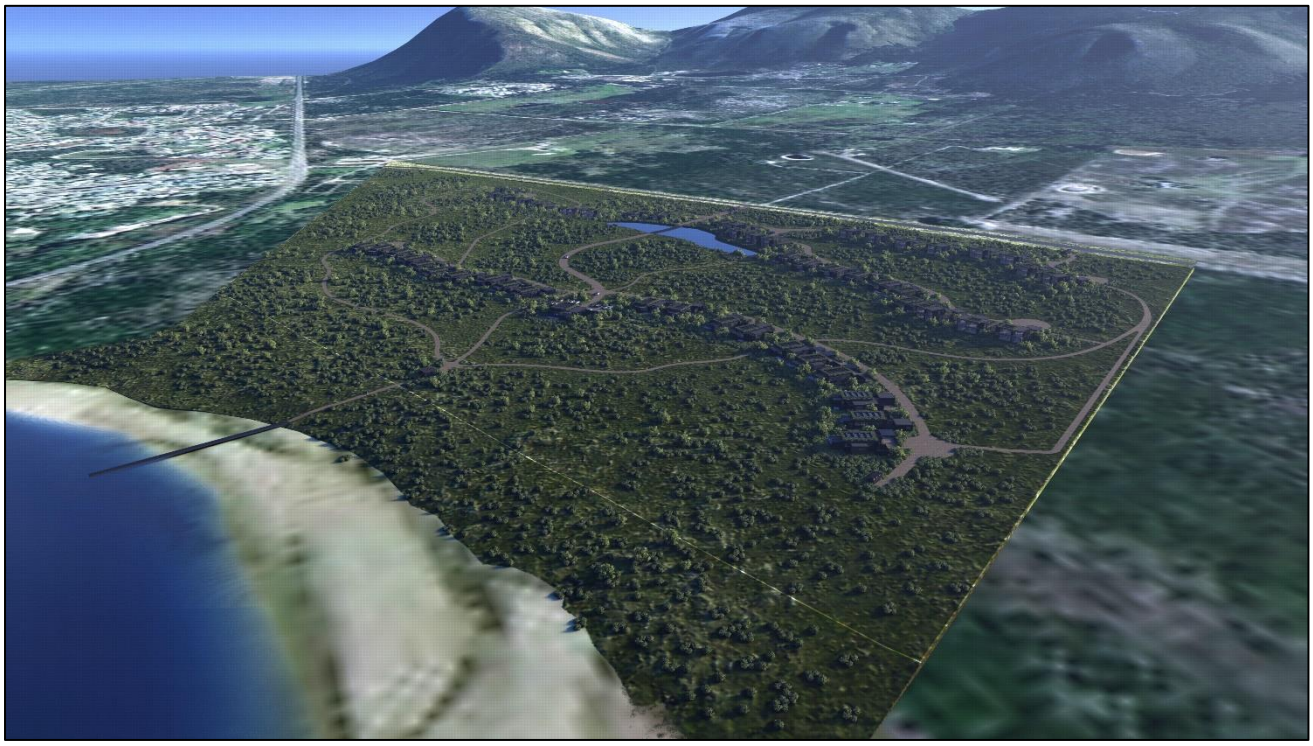
The proposed development of Frankraal Beach Estate is situated on the Remainder of Portion 36 of Farm Fransche Kraal 708 and Farm U.K.R West No. 707, located east of Franskraal within Gansbaai. Farm 707 is adjacent to the Uilkraals Estuary, and Ptn 36/708 is located beyond this. The surrounding environment is marked by both disturbed and ecologically sensitive areas. While the presence of invasive alien vegetation, particularly *Acacia saligna*, has degraded parts of the site, sensitive areas like the seep wetland and the Uilkraals Estuary emphasise the ecological importance of this location.

Image showing the subject properties. Green indicates the applicants property where the bulk of the development proposal is located, yellow indicates the extent of the Department of Public Works & Infrastructure (DPW&I) property, where, as circled in red, the proposed boardwalk and jetty will be located. The remainder of both sites will be included in the long term management and rehabilitation targets.

The eco-estate design incorporates significant green spaces through its proposed conservation zones and ecological corridors, which constitutes the majority of the development area. This open space will serve as an ecological corridor, facilitating the movement of local fauna and flora. The commitment to rehabilitate and conserve a substantial portion of the property underlines a dedication to maintaining biodiversity and protecting critical natural resources, in line with the need for sustainable development practices. The region's increasing popularity as a tourist, holiday, residential, and retirement destination necessitates a development that not only meets the housing needs of its growing population but also preserves its environmental integrity. This proposed eco estate of low-density residential character and careful site planning will be in harmony with the area's existing urban form and natural surroundings, enhancing both liveability and ecological balance.

Image showing the preferred alternative with the green open spaces and ecological corridors which link to the broader area wide drive to reinstate the mountain to sea connectivity.

Visual rendering as prepared by the appointed architect – birds eye view from the Elim Road



Visual renderings of the preferred alternative as prepared by the appointed architect – Birds eye view looking towards Gansbaai.

The area's municipal and service infrastructure will support the proposed development, with current road networks that are already available, municipal potable water supply, and stormwater management systems which are operating at acceptable levels. Waste will be transferred to the municipal disposal site. Sewage will be directed to a closed conservancy tank(s) which will be serviced and transferred to the municipal treatment works.

Need and Desirability

Strategic Location and Environmental Significance

The project site's strategic location near the Uilkraals Estuary makes it a desirable location for an eco-estate focused on sustainable, low-impact residential development. These natural features on and adjacent to the site, not only contribute to the site's appeal and present as a unique resources, but also offer essential ecosystem services, including water filtration and wildlife habitat, that warrant restoration, protection and enhancement through conservation-oriented land use. The project's positioning also aligns with regional conservation goals, as the Western Cape is known for its rich biodiversity, including unique fynbos vegetation and sensitive estuarine systems that require careful planning to avoid adverse ecological impacts.

Growth and Demand in the region

The region surrounding Franskraal has seen steady growth as a sought-after destination for tourism and residential living, appealing particularly to retirees and vacation homeowners. The proposed eco-estate addresses this demand by offering residential spaces that emphasize ecological sustainability and a high quality of life, thus contributing to the local economy while conserving the area's natural beauty. The development provides a responsible alternative to more conventional urban sprawl, supporting managed growth in Gansbaai and aligning with sustainable tourism and housing trends.

Environmental Management and Restoration

The property's current ecological condition is largely degraded due to the proliferation of invasive alien species, particularly *Acacia saligna*. However, the site's underlying ecological value remains high, with potential for restoration. The proposed removal of invasive species and reestablishment of indigenous vegetation will enhance habitat quality and improve ecological resilience, creating a conservation zone with natural habitat corridors to support wildlife. The eco-

estate's ecological design incorporates minimal-impact foundations (micro-piled) to reduce excavations and disturbance, while significant portions of the site will be restored to a near-natural state as part of the conservation efforts.

Infrastructure and Services

Access roads and infrastructure are already in place to support the eco-estate, providing convenient access without the need for extensive new road construction or large scale off site service installation. Internal roads are designed in line with the eco centred ethos of the proposal. Municipal potable water, power supply and stormwater management systems currently operate within acceptable levels in the broader area, and the municipality has confirmed sufficient capacity availability to service the proposed development.

Environmental and Ecological Sensitivities

Botanical and Aquatic Sensitivity

Initial assessments, including those by Botanical and Aquatic Specialists, identified the site as highly degraded but sensitive due to its biodiversity and connectivity functions within the ecosystem. The ecological connectivity provided by the seep wetland and its hydrological link to the Uilkraals Estuary underscores the site's role in supporting both terrestrial and aquatic biodiversity. In response, the development layout was revised to preserve these critical areas, incorporating ecological corridors along the property boundaries to maintain hydrological connectivity and biodiversity functions.

Ecological Corridors and Conservation Buffers

Layout Alternative 2 (the preferred alternative), supported by specialists, includes ecological corridors along the southern and northern boundaries of the property, with a minimum width of 50 meters and 40 meters, respectively. Additional north-south corridors across the site link with these boundary corridors to create a functional ecological network. The layout also maintains a buffer zone of more than 75 meters around the Uilkraals Estuary, as recommended, to protect estuarine systems from potential construction and operational impacts. This design promotes sustainable conservation efforts, creating a network of corridors that allow for wildlife movement and habitat continuity.

Alternative assessment

Three alternatives are assessed herein, with the preferred alternative having evolved in response to specialist findings and recommendations. The preferred alternative includes large, functional ecological corridors and buffers and avoidance of the largely intact seep wetland which was identified by the specialist. On site Wetland Offset will be applied. It is motivated that the Biodiversity Offset Regulations are not appropriate for the proposal and in lieu of this, large scale on site terrestrial restoration and long-term management is implemented.

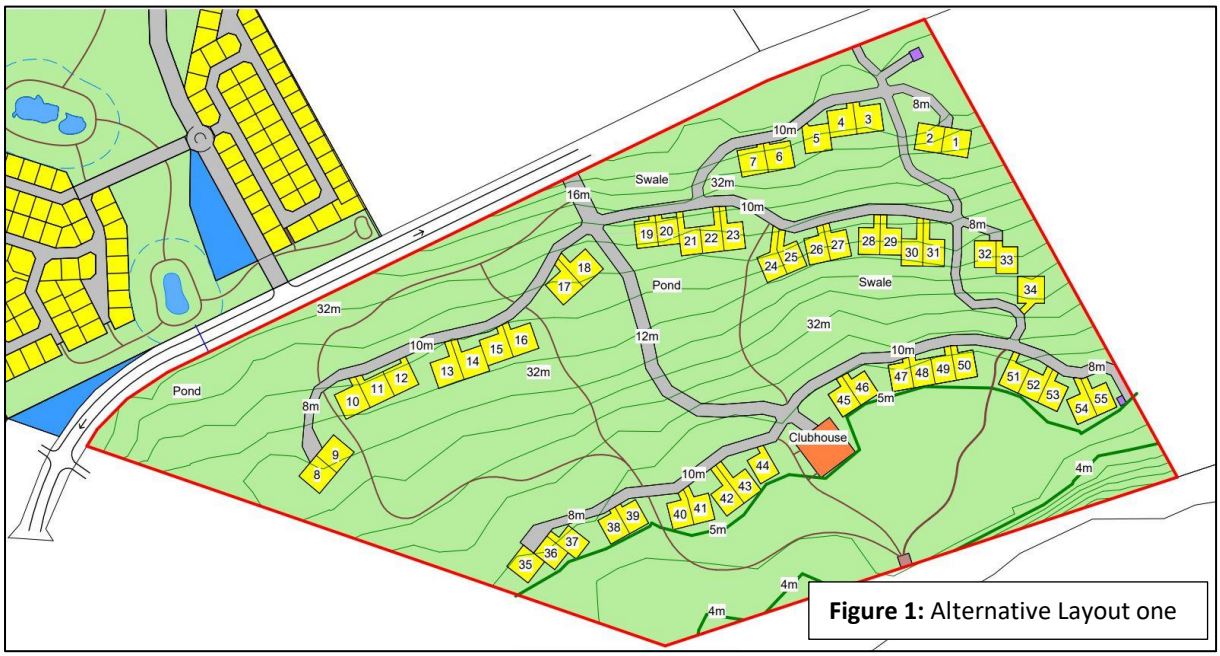


Figure 1: Alternative Layout one

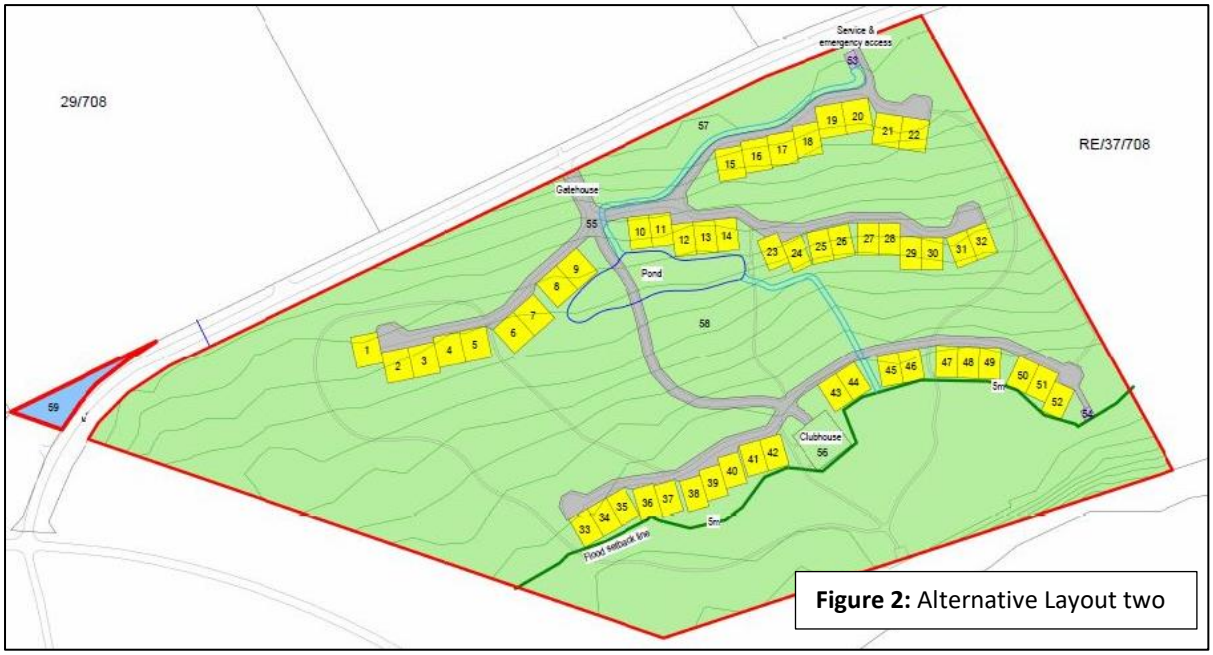


Figure 2: Alternative Layout two

Conclusion and Recommendations

Given the findings of the specialists and the evolution of the preferred alternatives, it is recommended that the proposal be authorised in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998). The authorisation must contain the list of mitigation measures provided by the EAP and specialist team and as outlined in this report and the EMPr.

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INCLUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New	**x**	Expansion	
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
The subject property is a greenfield site, it consists of natural vegetation, although in a highly degraded state and is undeveloped.					
~~3.~~	~~**For Linear activities or developments**~~				
~~3.1.~~	~~Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:~~				
~~3.2.~~	~~Development footprint of the proposed development for all alternatives.~~	~~m²~~			
~~3.3.~~	~~Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.~~				
~~3.4.~~	~~Indicate how access to the proposed routes will be obtained for all alternatives.~~				
~~3.5.~~	~~SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives~~				
~~3.6.~~	~~**Starting point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**Middle point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**End point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
~~**Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.**~~					
4.	**Other developments**				
4.1.	Property size(s) of all proposed site(s):	Property size of Remainder of Portion 36 of the Farm 708: **315500m²** **(31.55 ha)** Property size of Farm U.K.R West No. 707: **45.81 ha**			

4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	Remainder of Portion 36 of the Farm 708: **0 m²** Farm U.K.R West No. 707: **270 364.01m²** **(27.04 ha)**

4.3. Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:

Erven	Zoning	Land Use	Erven Sizes	Number of Erven	Area Totals	%
1-9 & 15-22	Residential Zone 1	Dwelling	750m²	17	33750m²	10.7%
10-14 & 23-52	Residential Zone 1	Dwelling	600m²	35		
53	Utility Zone	Grey water treatment	150m²	1	250m²	0.1%
54	Utility Zone	Grey water pump	100m²	1		
55	Transport Zone 2	Private Road	21482m²	1	21482m²	6.8%
56	Open Space Zone 3	Clubhouse	1618m²	1	258293m²	81.8%
57	Open Space Zone 3	Natural area	12257m²	1		
58	Open Space Zone 3	Natural area	244418m²	1		
59	Business Zone 3	Business	2085m²	1	2085m²	0.7%
Total				**59**	**315860m²**	**100%**

Figure 3: Proposed development with footprint sizes.

4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).

The proposed eco-residential estate development on the Remainder of Portion 36 of Farm Fransche Kraal No. 708 and Farm U.K.R West No. 707 features a design focused on sustainability and habitat restoration, rehabilitation and long-term preservation. The development prioritizes ecological balance through well-defined natural corridors and setbacks around residential units to support wildlife movement and habitat connectivity. Below are detailed descriptions of each component:

Residential Dwellings:

- → The residential area will cover 33750 m² (3.3 ha) and consist of both single-storey and double-storey units.
- → The units have height restrictions of 4.5 meters for single-storey and 6.5 meters for double-storey dwellings, with the residential structures occupying up to 30% of the total building footprint.
- → *Dwelling Composition:*
    - 35 single-storey units, each covering a footprint of 600 m².
    - 17 double-storey units, each covering a footprint of 750 m².
- → The dwellings will be constructed on steel frames with stilt-supported foundations, allowing for unobstructed movement of wildlife beneath the structures.
- → 5-meter-wide natural corridors will be maintained between the dwellings to facilitate ecological connectivity.

Roads, Access, and Pathways:

- → **Internal Roads**: Designed with a narrow and natural look, the roads will be paved with exposed aggregate to blend with the environment.
    - Main entrance road width: 6 m
    - Secondary roads: 4.7 to 5 m
    - A gatehouse will be situated at the main entrance for security and visitor management.
- → **Pathways**: Walking trails made from soft, natural materials such as gravel, will be established, along with timber boardwalks for traversing wetland areas and the estuary edge and swales to polish and protect sensitive areas.

Business Zone:

- → The 2085 m² business erf is located outside the residential estate, across Elim Road. It is envisioned as a potential coffee shop or farm stall.

Open Spaces (Conservation Area):

- → Ecological corridors with approximately 258293 m² (25.83 ha) and are designed to allow for natural ecosystem movement within the estate. These corridors form links to adjacent properties in line with the area wide drive to re-establish the mountain to sea, crest to coast ecological corridors.
- → Width of the corridors will be between 40m and 140m to support biodiversity conservation.

Clubhouse and Gazebo:

- → **Clubhouse**: Planned as a single-storey structure resembling the architectural style of the residential units, it will serve as a communal area for residents.
- → **Gazebo**: A lightweight gazebo, constructed from timber or steel and timber, will be installed near the estate's exit to the estuary, enhancing the recreational experience for residents.
- → Public access along the estuary edge will not be restricted.

Jetty and Boardwalk:

- → A timber boardwalk, including a floating jetty, is proposed along the estuary edge, allowing controlled access over sensitive vegetation to the lagoon edge. This will be beneficial for the protection of estuarine environment to avoid trampling on the estuarine sand.

→ Since the area designated for the boardwalk is state land, a lease agreement from the Department of Public Works and Infrastructure (DPWI) is required and is currently being negotiated. A letter of consent has been provided by DPWI to apply for Environmental Authorisation on this land.

Services (Water, Greywater, Sewage, and Electricity):

→ **Water**: Municipal supply will provide water for the estate, with a pending service confirmation report.
→ **Greywater Treatment**: Two on-site greywater treatment units will treat and recycle water for irrigation and potentially toilet flushing, pending regulatory approval.
→ **Sewage Management**:
  - Option to pump sewage to a nearby municipal sewage facility.
  - Alternatively, sewage will be pumped to a closed conservancy tank for regular removal and transport to municipal treatment facilities.

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.

There is an existing access road connected to the site.

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives: **PORTION 36 OF 708**	C	0	1	3	0	0	0	0	0	0	0	0	0	7	0	8	0	0	0	3
	FARM 707	C	0	1	3	0	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0

4.7.	Coordinates of the proposed site(s) for all alternatives:			
	Portion 36 of the Farm 708			
	Latitude (S)	34°	35‘	57.15“
	Longitude (E)	19°	24‘	53.52“
	Farm U.K.R 707			
	Latitude (S)	34°	36‘	4.63“
	Longitude (E)	19°	25‘	0.92“

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	YES	NO x

2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES x	NO
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1. A Notice of Intent to Develop has been submitted to Heritage Western Cape, and it was confirmed that Palaeontological Impact Assessment (PIA), Visual Impact Assessment (VIA) and Desktop Archaeological Impact Assessment (IAI) must be conducted for the site. See comment attached under Appendix E.	YES x	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES x	NO
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO x
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO x
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES x	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO x
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO x

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.
N/A

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
Western Cape Provincial Spatial Development Framework, 2014 (PSDF) The objective of the policy is to create an enabling policy environment which prioritises the creation of employment opportunities, social inclusion and improvement of the quality of life of the Western Cape inhabitants. The development principles in the PSDF are informed by other spatial planning policies which are aimed at creating a policy alignment between different spheres of government. *Consistency of the proposal with the policy* → The policy underscores that the area Overstrand is a leisure, lifestyle, holiday and economic centre. The approval and implementation of this proposal will contribute toward enhancing the role of the OM as a leisure, lifestyle, holiday and economic centre which is cited as an integral functionality role.

- → Safeguarding and celebrating the Western Cape's unique cultural, scenic resources, on which the tourism economy depends is cited as critical in the policy.
- → The integration of the Province's natural and built environments is cited as being of critical importance to the further development of tourism. This proposal entails a harmonious integration of the natural and built environments and illustrates the critical role in the further development of the tourism industry in the rural area.

Overstrand Municipality Spatial Development Framework, 2020 (SDF)

The broad policy objectives of the SDF include enhancing the image of the Overstrand as a liveable urban and rural area which provides a range of facilities as activities which tourists and residents can enjoy. Development proposals should also capitalise on the unique sense of place which rural areas in the Overstrand are renown for. The SDF promotes developments which enhance the visual quality and attraction of the built environments while preserving the social and cultural attributes which are valued by inhabitants.

Consistency of the proposal with the policy

- → The promotion of rural tourism development based on the ecological and heritage value of the region is encouraged. The eco residential will be highly dependent on the ecological value of surrounding natural systems as the subject property is located along the estuary which will add value to ecotourism. In addition to this, the residential aims to keep the ecological value of the area.
- → The maintenance of the dominance of the natural and agricultural environment is encouraged. This proposal is of a low intensity and will not interfere with the dominance of natural and agricultural environment which is prevalent on the subject farms.
- → Infilling within the built-up urban edge is also encouraged.

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.

The Public Participation Guideline in terms of National Environmental Management Act, 1998 Environmental Impact Assessment Regulations, 2014 as amended: Department of Environmental Affairs, 2017

This document was used to guide the Public Participation Process for the proposed application and ensure the stakeholder engagement process was inclusive. The aim was to communicate as early as possible, with as many people as possible, through as many different channels as possible.

The Guideline on Need and Desirability - Department of Environmental Affairs, 2017.

This Guideline was utilised in the formulation of the needs and desirability of the proposed development application.

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form

Agricultural Theme – High Sensitivity – A compliance statement was conducted for the site. The entire property is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations on its agricultural potential. The use of this land for non-agricultural purposes will cause zero loss of agricultural production potential in terms of national food security. The overall negative agricultural impact of the

development (loss of future agricultural production potential) is assessed as being of negligible significance and as acceptable. No mitigation measures are required for the protection of agricultural production potential on the site because the site is not and will not be utilised as agricultural production land.

Animal Species Theme – High Sensitivity – The proposed development is on a highly transformed site due to heavy infestation of invasive alien plant species, negatively affecting animal diversity, density and occurrence. If left unchanged, this degraded condition will persist. However, with responsible development, including post-development restoration and ongoing maintenance, the ecosystem can improve, benefiting animal diversity and density. The ecological corridor connecting various natural areas is crucial for ground-dwelling species. The current plan includes open spaces between building footprints, which helps preserve faunal connectivity, although the development still encroaches on sensitive areas. With proper mitigation in place, the faunal connectivity risk is considered "medium."

Aquatic Biodiversity Theme – Very High Sensitivity – The Aquatic Biodiversity Assessment was conducted by Delta Ecology. The study confirmed the presence of a seep wetland, which has been delineated. The wetland is in poor condition, exhibiting a high degree of transformation due to alien vegetation, adjacent land use changes (including existing road infrastructure), stormwater inundation, and infilling. The natural portion of the seep wetland will be rehabilitated and stormwater management will be designed to ensure the flow is maintained through consideration of specialists' mitigation measures. All permanent structures will be built on stilt foundations to facilitate the hydrological connectivity between the seep wetland and the Uilkraals estuary situated southwards of the site. In addition, All the permanent structures will be situated above the 5-meter contour line, thus avoiding the Estuarine Functional Zone.

Archaeological and Cultural Heritage Theme – Low sensitivity – In compliance with the requirements of the National Heritage Resources Act, a Notice of Intent to Develop was submitted to Heritage Western Cape as part of the Basic Assessment Report (BAR) process. The proposed development, located along the estuary, necessitates a Heritage Impact Assessment that includes a Visual Impact Assessment, desktop Archaeological Impact Assessment, and Palaeontological Impact Assessment conducted by appointed specialists.

Civil Aviation Theme – High sensitivity – the proposed development is located within the demarcated urban area and within close proximity to the built-up urban edge. The proposal will not impact or interfere with any aviation aspects. No further assessment required.

Defence Theme – Low. No impacts envisaged. No further assessment required

Palaeontology Theme – All Heritage assessments have been conducted in line with the Heritage Western Cape requirements in response to the NID submitted to their Department and in line with the requirements of the National Heritage Resources Act (Act 25 of 1999).

Plant Species Theme – Medium – Fynbos Ecoscape Botanical Consulting compiled a Botanical Assessment report which also covered the terrestrial biodiversity theme. The specialist assessment described the vegetation over much of the area being in a poor condition, owing to the invasion by *Acacia cyclops (rooikrans), Myoporum insulare (manatoka) and Cenchrus clandestinum (Kikuyu grass),* but has a high conservation value, based on the possibility of removing the invasive species and restoring the site to its near-natural state.

Terrestrial Biodiversity Theme – Very high – The WCBSP dataset indicates that the westerly area closest to the tar road is defined as Ecological Support Area (grey in Figure 3), while the middle area of the property is defined as terrestrial Critical Biodiversity Area (CBA, green in figure 3.) and the lower section bordering on the lagoon as aquatic CBA1 (estuary - blue in figure 3). The CBAs are based on high species diversity and high number of rare and endangered species in the Agulhas Sand Fynbos, as well as the buffer role that this area plays towards the estuarine habitat. The WCBSP also indicates an aquatic CBA 1 (river and estuary) surrounding the site to the south. A major threat to the biodiversity of the site is alien invasive species, mostly *Acacia saligna* (Port jackson). Other invasive

species recorded on the property included *Acacia cyclops* (rooikrans), *Myoporum insulare* (manatoka) and *Cenchrus clandestinum* (Kikuyu grass).

Specialist Assessment(s) identified by the Screening Tool:

Landscape/Visual Impact Assessment: A specialist assessment was conducted on site by Megan Anderson. The proposed development site is located very close to the Uilkraals Estuary, therefore the development in this area will have a moderate negative visual impact.

Archaeological and Cultural Heritage Impact Assessment: A Heritage Impact Assessment and an Archaeological Impact Assessment was conducted. No archaeological heritage resources were encountered during the field study. Indications are that a proposed Eco Type housing development on Portion 36 of Farm No. 708 Franskraal, in Uilenkraalsmond does not pose a significant threat to local Stone Age archaeological resources. Shell middens, stone tools and pottery, for example, may however be exposed during vegetation clearing operations. The proposed residential units will be raised off the ground, and subsurface excavations will be much less intrusive than conventional foundations. Services infrastructure for water, electricity and sewerage will be in conventional trenches about 1m deep along the road reserves and connected to the municipal network.

Palaeontological Impact Assessment: The possible presence of fossils in the subsurface does not have an a priori influence on the decision to proceed with the proposed development. The potential impact has a moderate influence upon the proposed project, consisting of implemented mitigation measures recommended by the specialis, to be followed during the Construction Phase.

Terrestrial Biodiversity Impacts Assessment: The specialist assessment has been undertaken and is attached dunder Appendix G1 of the BAR.

Aquatic Biodiversity Impact Assessment: The assessment has been undertaken and a transformed seep wetland was identified on site, however, a natural (depression) seep wetland was also confirmed on the western part of the property. The proposed development will avoid the natural seep wetland and rehabilitate the degraded areas on the subject property.

Socio-Economic Impact Assessment: The proposed development will contribute to positive social and economic impacts for the community.

Plant Species Assessment: The assessment is covered under the Terrestrial Biodiversity Impact Assessment attached under Appendix G.

Animal Species Assessment: The animal species assessment was conducted on site. The site's biodiversity is infested with alien vegetation, this has a range of implications for animal species occurrence, diversity and distribution on site. No animal species of concerns were identified.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
8	The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.	The farmstall/ coffee shop is proposed on the northwestern side of the property, the proposed development area is 2085m^2
9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	The proposal includes the construction of utilities for the transportation of water and / or stormwater. The extent of which, will be confirmed in due process.
10	The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where— (a) such infrastructure is for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or (b) where such development will occur within an urban area.	Internal reticulation of sewerage and water will be required. The extent of which will be confirmed in due process.
12	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs—(a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse:	The proposal involves the development of an eco-residential area where some of the erven will fall within the delineated wetland onsite and the proposed structures will have a physical footprint of more than 100 square metres.

15	The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding— (i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.	The development of the boardwalk and jetty will be constructed on the Department of Public Works and Infrastructure lease land.
17	Development— (i)in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv)in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) buildings of 50 square metres or more; or (f) infrastructure or structures with a development footprint of 50 square metres or more-	The proposal includes the development of a wooden boardwalk and a floating jetty
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from (i) a watercourse;	Some of the proposed development will fall within the delineated wetland areas
19A	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from - (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; - but excluding where such infilling, depositing, dredging, excavation, removal or moving – (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or	Parts of the proposal fall within 100 m of the high-water mark.

	harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies	
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation,	Approximately 6 ha of indigenous vegetation will be cleared. Some natural areas will remain, but this listed activity may be triggered during the construction phase.
28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	The proposed development area is currently zoned under Agricultural Zone 1: Agriculture.
45	The expansion of infrastructure for the bulk transportation of water or storm water where the existing infrastructure— (i) has an internal diameter of 0,36 metres or more; or (ii) has a peak throughput of 120 litres per second or more; and (a) where the facility or infrastructure is expanded by more than 1 000 metres in length; or (b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more; excluding where such expansion— (aa) relates to transportation of water or storm water within a road reserve or railway line reserve; or (bb) will occur within an urban area.	The proposed development will be connected to the existing water pipelines that will need to be extended to the development area.
46	The expansion and related operation of infrastructure for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes where the existing infrastructure— (i) has an internal diameter of 0,36 metres or more; or (ii) has a peak throughput of 120 litres per second or more; and (a) where the facility or infrastructure is expanded by more than 1 000 metres in length; or (b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more; excluding where such expansion— (aa) relates to the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes within a	Expansion of infrastructure for sewer connections might be required. In addition to this, onsite wastewater treatment will take place.

	road reserve or railway line reserve; or (bb) will occur within an urban area.	
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
4	The development of a road wider than 4 metres with a reserve less than 13,5 metres.	An internal road is proposed and will be 4-5m wide on the entrance.
12	The clearance of an area of 300 square metres or more of indigenous vegetation i. Western Cape i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004 ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	The site is characterised by Agulhas Sand Fynbos
14	The development of—(i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;	Some of the proposed development will fall within the delineated wetland areas on site.
Note: • The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted. • Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority.		

List the applicable waste management listed activities in terms of the NEM:WA

~~Activity No(s):~~	~~Provide the relevant **Basic Assessment Activity(ies)** as set out in **Category A**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

~~List the applicable listed activities in terms of the NEM:AQA~~

~~Activity No(s):~~	~~Provide the relevant **Listed Activity(ies)**~~	~~Describe the portion of the proposed development to which the applicable listed activity relates.~~

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

The proposed development involves the establishment of a low-density eco-residential estate on the Remainder of Portion 36 of Farm Fransche Kraal No. 708 and Farm U.K.R West No. 707, Franskraal. All the proposed bulk infrastructure such as housing infrastructure, internal roads, utilities, club house and farm stall will be situated on Remainder of Portion 36 of the Farm 708. The proposed boardwalk and jetty will be situated along the estuary edge on a public land, Farm 707, that will be leased.

The project design (Alternative 2) prioritises ecological sustainability, featuring multiple ecological corridors ranging from 40 to 140 m in width, as well as 5-m buffer areas around the residential units to support habitat preservation.

The development will consist of the following components:

Residential dwellings:

- → 52 Residential erven are proposed
  - Erf 1-9 & 15-22 of Single storey: 600m^2 each
  - Erf 10-14 & 23-52 of Double storey: 750m^2 each
- → The proposal is for a combination of single storey homes or double storey homes with a limited first floor (30%). Single storey homes are limited to 4.5m in height and double storey homes 6.5m in height.
- → The houses will be constructed on steel frame foundations that will be supported by stilts, allowing wildlife movement underneath.
- → Natural corridors of 5m between houses.

Roads, access and pathways:

- → Internal roads will be narrow as practical with a "natural" look such as exposed aggregate paving
  - 6 m on the main entrance
  - 4.7 to 5 mon the smaller roads
  - A gatehouse is proposed at the entrance
- → Pathways and walking trails are proposed and will be of a soft material, such as gravel, together with timber boardwalks over wetlands and swales.

Business Zone

- → The 2085m^2 business erf, outside the residential estate, on the other side of the Elim road, is envisaged as a coffee shop / farm stall, however, is proposed to be sold and will therefore be subject to the proposal of the new owner.

Open Spaces (Conservation area)

- → 3 Open Space erven reserved for ecological corridors to facilitate the movement of ecosystem on site.
- → 40-140 m wide ecological corridor.

Clubhouse and Gazebo

- → The clubhouse is proposed to be single storey and is proposed to be architecturally similar to the dwelling units.
- → A small gazebo structure is envisaged near the exit of the site to the estuary. This would be constructed on stilts and would be light weight timber or steel and timber construction.

Jetty and Boardwalk

A raised boardwalk leading from the waterside exit of the estate to the Uilkraals estuary, is proposed. A jetty is also proposed for the end of the board walk. The aim of this is to facilitate regulated, low impact assessment to the estuary edge and avoid informal paths and trampling. The land between portion 36 and the water edge is owned by the Department of Public Works and Infrastructure. A consent has been provided by DPWI to apply for Environmental Authorisation and a lease agreement is underway. An application in terms of the Sea Shore Act will also be submitted to Cape Nature for the jetty. General public access to and along the Uilkraals estuary, will not be restricted by the proposed development.

Services (Water, grey water, sewage and Electricity)

- → Water will be supplied from the municipal main supply. Although the municipality has confirmed sufficient capacity exists, the service confirmation is pending
- → 2 utilities proposed for grey water will be treated on site and re-used for irrigation purposes and possibly reused in e.g. toilet flushing, should this method be approved.

It is anticipated that sewerage will be either :

- → Sewage generated on site will be gravity fed to one central conservancy tank. It will then be pumped by an appointed contractor and transferred to the municipal treatment works. Electricity will be supplied from the ESKOM.

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.

The current land use of the property is zoned for Agricultural Zoning 1.

3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.

None that the EAP is aware of.

4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.

The Western Cape PSDF (2014)

The PSDF, built on three spatial themes, sets out the spatial priority investment areas in the province.
These spatial themes seek to ensure the:

→ sustainable use of the Western Cape's spatial assets;
→ opening-up of opportunities in the Provincial space-economy; and
→ development of integrated and sustainable settlements.

The proposed development is in line with the Western Cape SDF for sustainable use of the spatial assets which in this case will be development of the eco residential development on the proposed site. This development will offer integration of ecological conservation and residential housing.

4.2	The Integrated Development Plan of the local municipality.

The subject property is earmarked for future development and is within the existing urban edge. The proposed development is in line with the Overstrand Municipality IDP.

4.3.	The Spatial Development Framework of the local municipality.

i. Overstrand Municipality Spatial Development Framework 2020

The SDF is aimed at providing general direction to guide decision making on an ongoing basis, aiming at the creation of integrated, sustainable and habitable regions, cities, towns and residential areas.

In terms of the Birkenhead Status Quo Plan, the application area is within an Urban Development area, and partially within a Coastal Protection Zone and Coastal Management area.

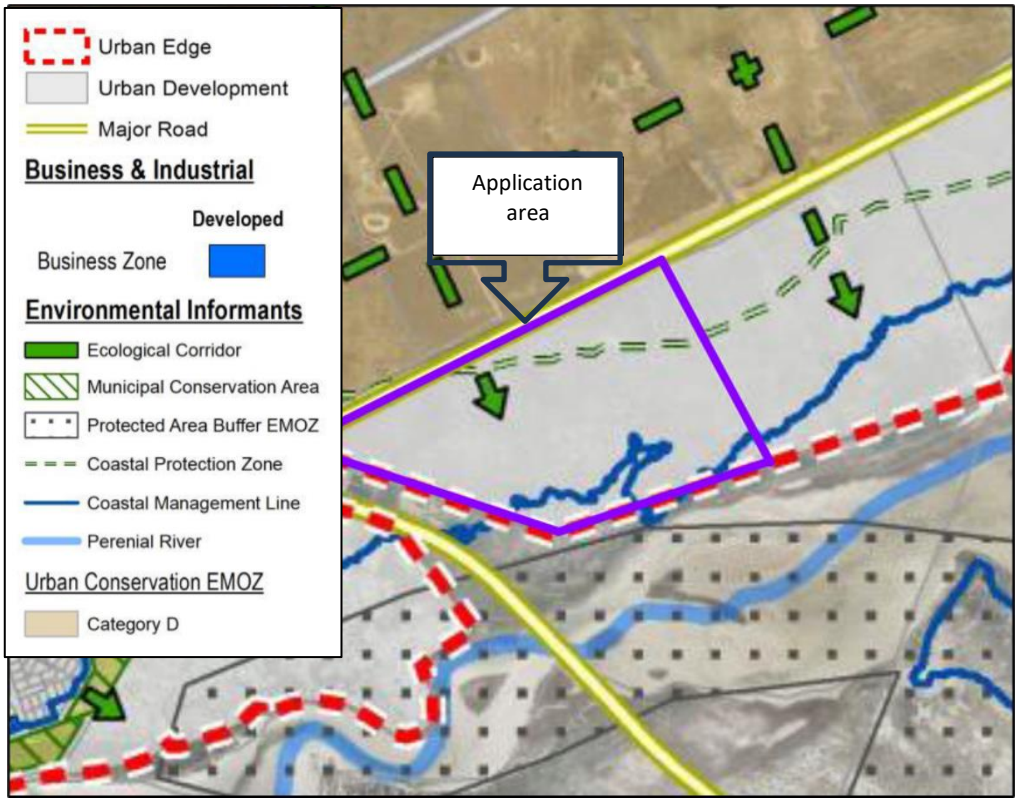


Figure 4: About 80% of the site falls within Coastal Protection Zone.

"5.10 GREATER GANSBAAI

5.10.1 2050 Vision

Key policies directing future management and development (refer Plan 63)

LO 3 (i) Progressively ensure housing provision for different lifestyle choices, income groups, life stages, household sizes, including adequate provision of affordable housing options and opportunities for the aging.

LO 7 (ii) Encourage the development of natural open space systems within urban and rural settlements.

LO 8 (ii) & MO 3 (ii) & ECO 1 (i) Ensure that environmentally sensitive areas, significant cultural landscapes and heritage sites are protected and enhanced.

EO 2 (ii) Ensure that development is confined within urban edges and growth is managed based on sustainable densification principles.

EO 3 (i) & MO 2 (ii) Encourage and support the development of networks of open space that sustain and enhance eco-system functioning, connect fragments of vegetation, protect waterways and regenerate the natural environment.

5.10.2 Greater Gansbaai 2020-2030 MSDF Spatial Proposal

5.10.2.1 Local Spatial Development and Growth Management Principles

i. Promote:

- *the role of the coastal villages as holiday resorts, retirement villages; and*
- *the provision of a balanced mix of residential housing stock to address the full range of socio-economic groupings from subsidized housing to housing options for the middle and upper income groups.*

iii. Maintain:

- *the unique character of the villages in formed by the provisions of the Draft HPOZs and EMOZs;*
- *the dominance of the natural environment and viewsheds as the visual backdrop to the villages informed by specifically Heritage Landscapes of Significance HPOZ as well as Draft EMOZs;*
- *the biodiversity open space corridors based on implementation of the Draft Urban Conservation EMOZs;"*

In terms of the Spatial Proposal Greater Gansbaai Plan, the application area is within the urban edge and consists of Urban Development area, CBA Terrestrial, CBA Aquatic and Open Space Linkages.

i. Overstrand Municipality Growth Management Strategy, 2010

The Overstrand Growth Management Strategy defines, explains, and uses densification as a growth management tool to positively redress and counteract the effects of urban sprawl to promote the longer-term sustainability of the Overstrand Municipality and its sub-regions environmental quality.

"Planning Unit 3

Planning Unit 7 consists of the area northeast of the existing Uilenskraalmond Resort site.

- *Residential Densification*
  - *No densification is proposed for this Planning Unit.*
- *Community Facilities*
  - *No additional community facilities are proposed for this Planning Unit.*
- *Civil Services*
  In order to facilitate any densification in this Planning Unit, the following civil services provision and/or upgrades will be required:
  - *The provision of a water network system,*
  - *The provision of a new reservoir,*
  - *The provision and linkage of a waste water treatment works and sewerage network system,*
  - *A local investigation to determine if the existing bulk supply and local electrical network can be extended to this Planning Unit to accommodate the proposed additional dwelling units,*
  - *The construction of a collector road system,*

- *The provision of a local road network."*

The application area is located within a "No densification zone", as well as Planning Unit 3.

The application is, with cognisance of these proposals, considered consistent with the Overstrand Municipality Growth Management Strategy, 2010.

iii. Franschekraal Precinct Plan 2019

In terms of the Franschekraal Precinct Plan 2019, the application area is predominantly within a "limited residential development clusters surrounded with an open space system" area. The southern part of the application area is an open space system with open space links and lagoon wetland edge. The western corner of the application area is earmarked for business.

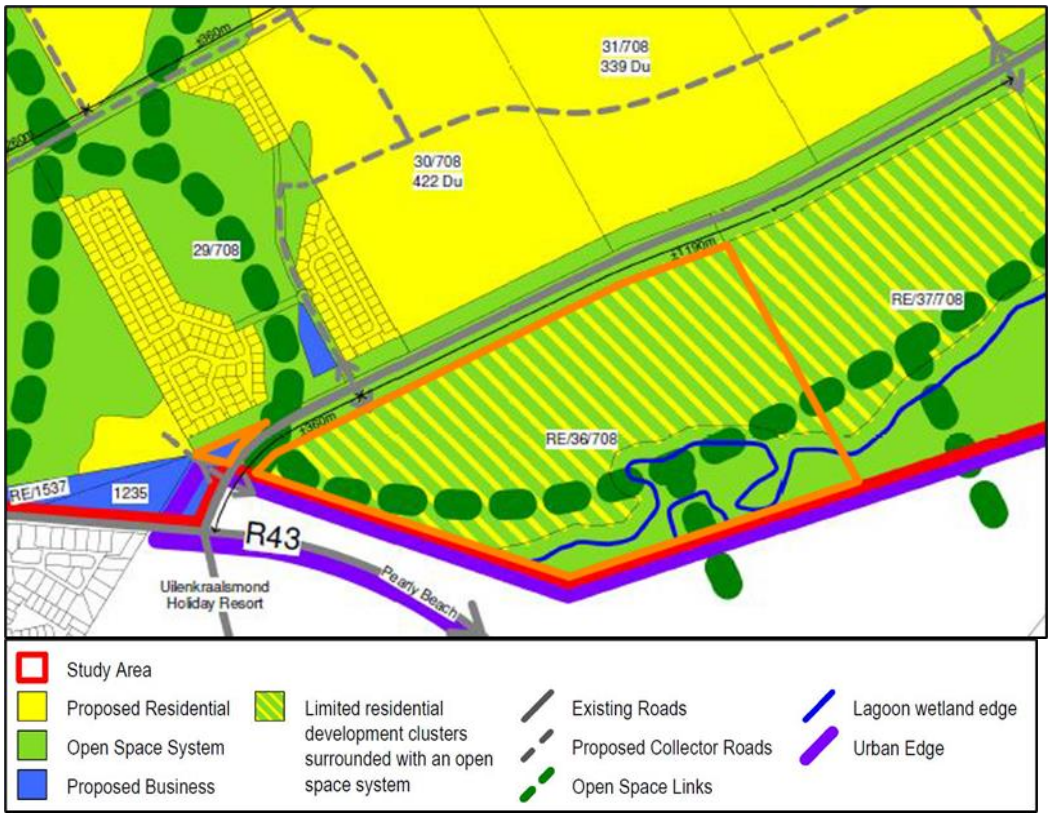


Figure 5: The proposed site is predominantly within a limited residential development cluster.

4.4.	The Environmental Management Framework applicable to the area.

The proposed development is in line with the Environmental Management Framework.

5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.

To be included after the first round of public participation process.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.

According to SANBI vegetation map (2019) the property is characterised by Agulhas Sand Fynbos which is critically endangered. The site also falls within Ecological Support Areas (ESA1) and Critical Biodiversity Areas (CBA 1&2). The WCBSP dataset indicates that the westerly area closest to the tar road is identified as Ecological Support Area (grey in **Figure 6**), while the middle area of the property is defined as terrestrial Critical Biodiversity Area (CBA, green in figure

3.) and the lower section bordering the lagoon as an aquatic CBA1 (estuary- blue in figure 3). The CBA's are based on high species diversity and high number of rare and endangered species in the Agulhas Sand Fynbos, as well as the buffer role that this area plays towards the estuarine habitat. The WCSBP also indicates an aquatic CBA1 (river and estuary) surrounding the site to the south.

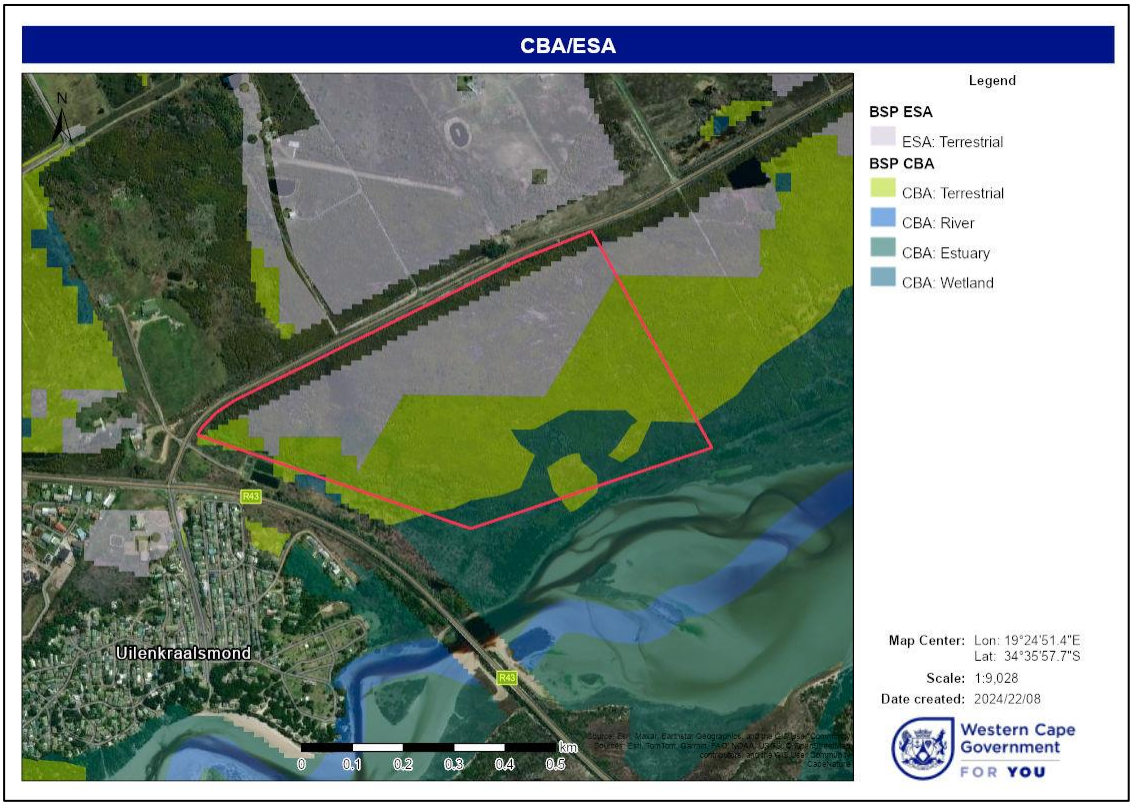


Figure 6: Mapped CBA and ESA on site.

The composition of the natural vegetation does not vary across the site as a result of differing drainage and soil moisture conditions- but all the vegetation, with the exception of the fringe along the estuary can be broadly defined as Agulhas Sand Fynbos. Diagnostic species in terms of defining the moisture gradients are *Leucadendron coniferum* and *Erica imbricata* in the better drained areas and *Leucadendron linifolium* and *Berzelia abrotanoides* in wetter area.

A major threat to the biodiversity of the site is alien invasive species, mostly *Acacia saligna* (Port Jackson). Other invasive species recorded on the property included *Acacia cyclops* (rooikrans), *Myoporum insulare* (manatoka) and *Cenchrus clandestinum* (Kikuyu grass). The major invasive species present on the property is *Acacia saligna*, which varies in density across the site from low infestations <5% to completely closed. The only other disturbance on the site is the access jeep track that runs through the property and a few small impacted by rubble near the tar road.

Plant species recorded on site

The most abundant species recorded on site were:

Shrubs and Herbs:

Anthospermum aethiopicum, Aspalathus microphylla, Asparagus asparagoides, Asparagus rubicundus, Berzelia abrotanoides, Cliffortia falcata, Clutia alaternoides, Edmondia sesamoides, Erica imbricata Erica plukenetii ssp. lineata, Erica sessiliflora, Euclea racemosa, Helichrysum dasyanthum, Hermannia joubertiana, ***Leucadendron coniferum****,* ***Leucadendron linifolium****, Leucadendron salignum,* ***Leucospermum prostratum****, Linum africanum, Metalasia brevifolia, Metalasia muricata, Mimetes cucullatus, Muraltia filiformis, Oedera imbricata, Olea exasperata, Otholobium bracteolatum, Passerina corymbosa, Passerina sp. Pelargonium capitatum, Pelargonium*

elegans, Schizaea pectinata, Searsia glauca, Searsia laevigata, Stoebe cf incana, Struthiola striata, Struthiola sp., Thesium fragile, Tricocephalus stipularis and *Ursinia anthemoides.*

Graminoids:
Briza maxima, Cynodon dactylon, Elegia tectorum, Ficinia ramossisima, Hellmuthia membranacea, Hypodiscus willdenowiana, Restio bifurcus, Restio triticeus, Staberoha distachyos, Stenotaphrum secundatum, Thamnochortus erectus, Thamnochortus fruticosus and *Tribolium uniolae.*

Geophytes:
Aristea glauca, Bobartia indica, Brunsvigia orientalis, Haemanthus sanguineus, Haemanthus coccineus, Disa bracteata, Drosera trinervia and *Wachendorfia paniculata.*

Owing to the time of year of the survey, most of the geophytes and annuals were dormant or not flowering and could not be identified. By adding autumn, winter and spring surveys significantly more geophyte and annual species would be recorded, including a high likelihood of species of conservation concern. However, owing to the time constraints of this project it was not feasible to survey the different seasons or post-fire stages.

Species of Conservation Concern

Three species of conservation concern; *Leucadendron coniferum* (vulnerable), *Leucadendron linifolium* (vulnerable) and *Leucospermum prostratum* (vulnerable), were identified during the survey.

Owing to the time of the survey (summer), there is a reasonable probability that some other species of conservation concern are present (particularly geophytes) but could not be identified during this survey.

The proposed development area is characterised by critically endangered Agulhas sand fynbos, invaded with *Acacia saligna*. The vegetation over much of the area is currently in poor condition, owing to the invasion by *Acacia saligna* but has a high conservation value, based on the possibility of removing the invasive species and restoring the site to its near-natural state.

The cumulative impact of all the proposed components of this application is the disturbance of 7,4 hectares (approximately 24 %) of Agulhas sand fynbos vegetation. Currently approximately 75% of this property is already impacted as a result of heavy alien plant infestation. This current alien invasive impact could however be reduced through a comprehensive (but expensive) alien vegetation clearing program. As a rough guideline at least 60 % of an area's natural vegetation should be left intact and in good condition to ensure maintenance of basic ecological processes such as pollination and seed dispersal, and to minimise fragmentation effects, such as the edge effect (De Villiers et al 2005).

Botanical impacts will occur at both the construction (site clearing) and operational phases, with the former being the source of most of the direct impacts, and the latter being the source of some indirect longer-term impacts.

Most construction phase impacts are direct impacts which involve loss of natural habitat and species as a result of clearing of vegetation and associated biota for the development. From a botanical impact perspective, the loss of 7,4 hectares of alien infested Agulhas sand fynbos will result in the total loss of plant species and associated biota from these areas.

Operational phase impacts are less obvious and more difficult to define but at this site would include potential secondary invasion by alien species including the introduction of new invasive species to the site, impact on pollination and dispersal, impact on faunal movement, fire suppression with associated negative long-term impact on fynbos regeneration and ecological functioning, impacts associated with residential activities such as the introduction of domestic animals to the site.

The impact of the proposed development is considered high and mostly irreversible over the medium to long term.

The following mitigation measures are proposed if the residential development is to be considered for approval

- → An initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing.
- → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property.
- → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas.
- → Roads should be kept to a minimum width.
- → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property.
- → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done.
- → Following vegetation clearing, all available top soil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings.
- → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.

The proposed eco-estate development and bulk infrastructures are situated above 5m metre contour and more than 100m of the High-Water Mark of the Uilkraals estuary. The development is situated at a higher elevation which would reduce the risk of flooding and potential impact from rising sea level. Therefore, it is in line with the intention of the relevant zones, that is promoting sustainable practices to mitigate the environmental risk. In addition, the development is more than 100 meters away from the high-water mark of the Uilkraals estuary to help in preserving the estuarine environment. This distance minimizes direct impacts on the estuary's delicate ecosystem, which aligns with the ICMA's focus on protecting coastal and estuarine environments.

8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.

The screening tool has not changed.

9.	Explain how the proposed development will optimise vacant land available within an urban area.

The proposed development will optimize the vacant land by constructing an eco-estate and beach resort, designed to provide high-quality coastal housing. This approach will transform underutilized urban land into a vibrant and sought-after destination, catering to individuals seeking leisure and recreational opportunities in a scenic coastal setting.

The eco-estate will not only utilize the land efficiently by creating a sustainable residential and recreational community, but it will also enhance the overall value of the area, attracting both residents and visitors. Through carefully planned design and development, this project will contribute to the area's economic growth, stimulate local tourism, and support environmentally sensitive land use within the urban edge.

10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.

→ The proposed internal road will be connected to the existing road infrastructure.

→ The proposed farm stall will be connected to existing municipal services.

11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).

Written approval pending, in principal agreement in place

12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.

The proposed eco estate on Remainder of Portion 36 of the Farm Fransche Kraal No. 708 in Franskraal presents a well-considered approach to addressing local housing demands while enhancing environmental stewardship. The development, comprising 52 residential erven, a clubhouse, internal roads, and an open space, has been designed with a clear intent to harmonize residential needs with ecological conservation. The strategic placement of residential units on elevated areas minimizes ground disturbance, thereby preserving the natural landscape and reducing the impact on sensitive vegetation and freshwater features.

Desirability

The proposal is considered desirable for the following reasons:

→ The proposed development is within the urban edge and in an area earmarked for development. The application proposal is consistent with the relevant policy and future planning documents for the area.

→ The development proposal will create additional housing, meeting the needs of the growing population and benefiting the local economy by growing the market base.

→ The application proposal is designed to be environmentally and visually sensitive to the surrounding natural area and will enable the rehabilitation of the natural area.

Planning Principles

The application has also been analysed for consistency with the planning principles prescribed by the Spatial Planning and Land Use Management Act, 2013 (SPLUMA) and also the Western Cape Land Use Planning Act, 2014 (LUPA) and the following conclusions were made:

→ **Spatial Justice** which refers to the need for redressing the past apartheid spatial development imbalances and aim for equity in the provision of access opportunities, facilities, services and land.

Possible results of the development

The application proposal will create housing which will be equitably available.

The application is consistent with the principle of spatial justice.

→ **Spatial Sustainability** which refers to the fact that a spatially sustainable settlement will be one which has an equitable land market, while ensuring the protection of valuable agricultural land, environmentally sensitive and biodiversity rich areas, as well as scenic and cultural landscapes and ultimately limits urban sprawl.

Possible results of the development

The property is within the urban edge and earmarked for limited development. The majority of the application area will be used for natural open space in order to protect sensitive biodiversity areas.

The application is consistent with the principle of spatial sustainability.

→ **Spatial Efficiency** which refers to the manner in which settlements themselves are designed to function in such a way that there will be a minimum need to travel long distances to access services, facilities and opportunities.

Possible results of the development

The proposed development has good access to major roads, thus reducing travel times.

The application is consistent with the efficiency principle.

→ **Spatial Resilience** which, in the context of land use planning, refers to spatial plans, policies and land use management systems which should enable communities to be able to resist, absorb and accommodate any economic and environmental shocks which might occur in a timely and efficient manner.

Possible results of the development

The application proposal includes fire breaks, access roads as well as stormwater management solutions to reduce the risk of potential shocks.

The application is consistent with the principle of spatial resilience.

→ **Good Administration** which, in the context of land use planning refers to the promotion of integrated, consultative planning practices in which all spheres of government and other role players ensure that a joint planning approach is pursued.

Possible results of the development

Consultative practices are being followed in this application as it is done in consultation with the Planning Department of the Municipality who will also advertise the application in such a manner as to enable the Government and the general public to participate in the eventual decision-making process.

The application is consistent with the principle of good administration.

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

N/A

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

To be included after PPP1

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

DEADP- Land use Overstrand Municipality Overberg District Municipality Cape Nature Department of Public Works and Infrastructure (access to waterfront) Department of Agriculture BOCMA DEADP – Coastal Management Unit

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

N/A

5. if any of the State Departments and Organs of State did not respond, indicate which.

Pending

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

To be added

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that *"Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority."*

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
    - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
    - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
    - if a facsimile was sent, a copy of the facsimile Report;
    - if an electronic mail was sent, a copy of the electronic mail sent; and
    - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	YES x	NO
1.2.	Provide the name and or company who conducted the specialist study.		
N/A – see below re Aquatic Assessment			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
N/A			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		
N/A			

2. Surface water

2.1.	Was a specialist study conducted?	YES X	NO
2.2.	Provide the name and/or company who conducted the specialist study.		
Delta Ecology- Kimberly van Zyl			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		

Aquatic Biodiversity Assessment

Regional Analysis

The proposed eco-estate development site is located to the northeast of Franskraal, within the Overberg Municipality, Western Cape Province. It falls within the Breede-Gouritz Water Management Area, quaternary catchment G40M. Franskraal and the R43 borders the site to the west and southwest, an unnamed road and farmland is located to the north, the Boesmans River / Uilkraals estuary to the south and southeast, while dense Port Jackson forests surround the site to the east.

According to the NWM5 and NFEPA, the majority of the site is located within the estuarine functional zone of the Uilkraals estuary (SANBI, 2018; CSIR, 2011) (Figure 4-1 of the aquatic biodiversity assessment). The NWM5 also indicates the presence of a floodplain wetland within the site (SANBI, 2018). The perennial Boesmans River is located approximately 30 m to the south and southeast of the site, according to the DRDLR NGI river line vector data. Additional watercourses within the 500 m regulated proximity include two NWM5 and NFEPA Channelled Valley Bottom (CVB) wetlands to the north of the site and three NGI non-perennial streams.

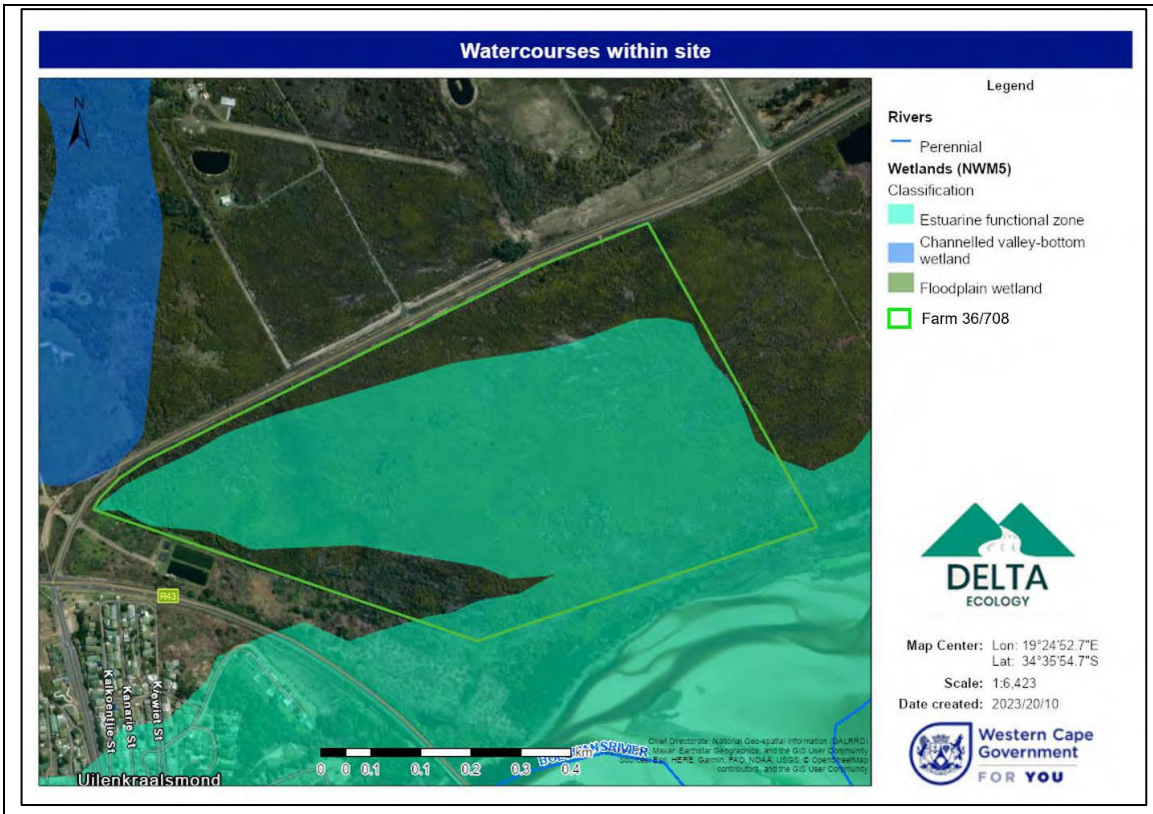


Figure 7: Watercourses indicated by desktop resources (NWM5) (Source: van Zyl & Morton, 2024).

The Western Cape Biodiversity Spatial Plan (WCBSP) dataset illustrates areas of biodiversity that are significant throughout the Western Cape, which includes Protected Areas (PAs), Critical Biodiversity Areas (CBA1 and CBA2), Ecological Support Areas (ESA1 and ESA2), and Other Natural Areas (ONAs). The WCBSP dataset indicates the presence of an aquatic CBA 1 (estuary) located within the study area. The WCBSP also identifies aquatic CBA 1 (river and estuary) surrounding the site to the south and a Protected Area (PA) (Uilkraalsmond Nature Reserve) within the 500 m regulated proximity. This is indicative that the site is of high biological value for conserving biodiversity and maintaining ecosystem functioning.

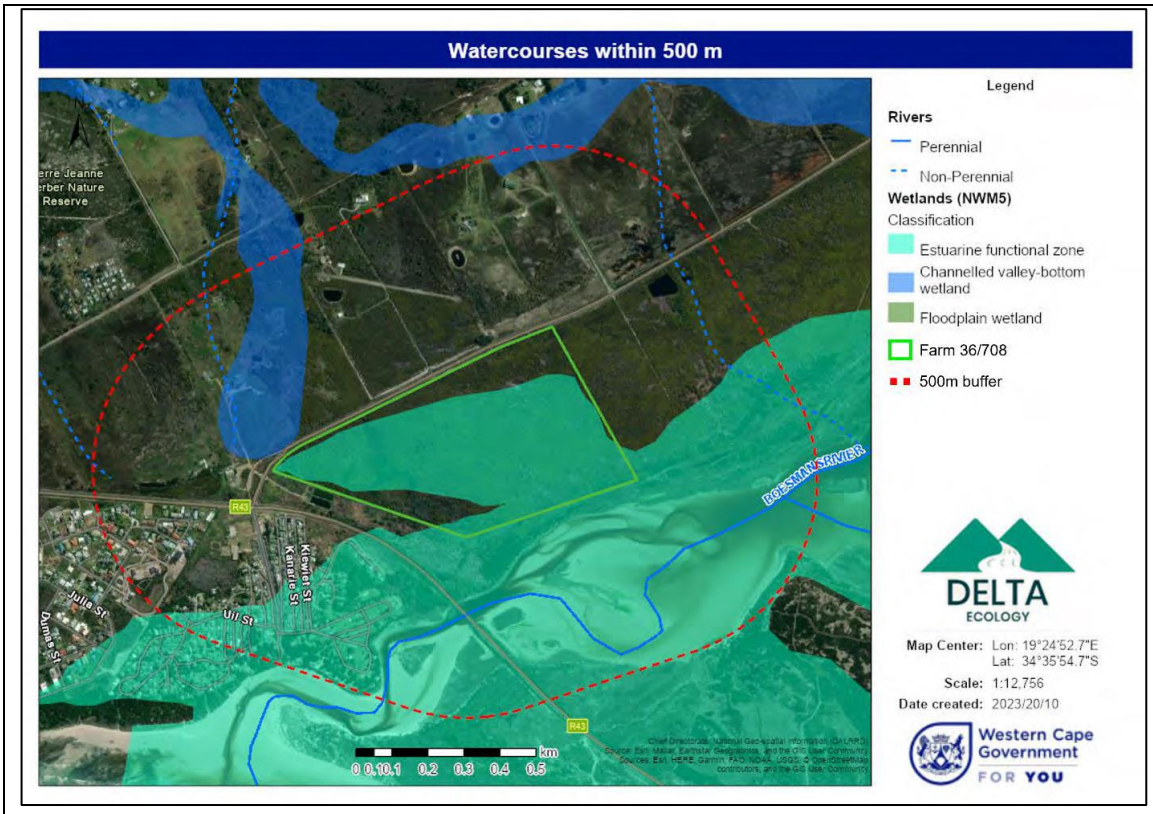


Figure 8: Watercourses indicated within 500m of the site (NWM5) (SANBI, 2018) (**Source**: van Zyl & Morton, 2024).

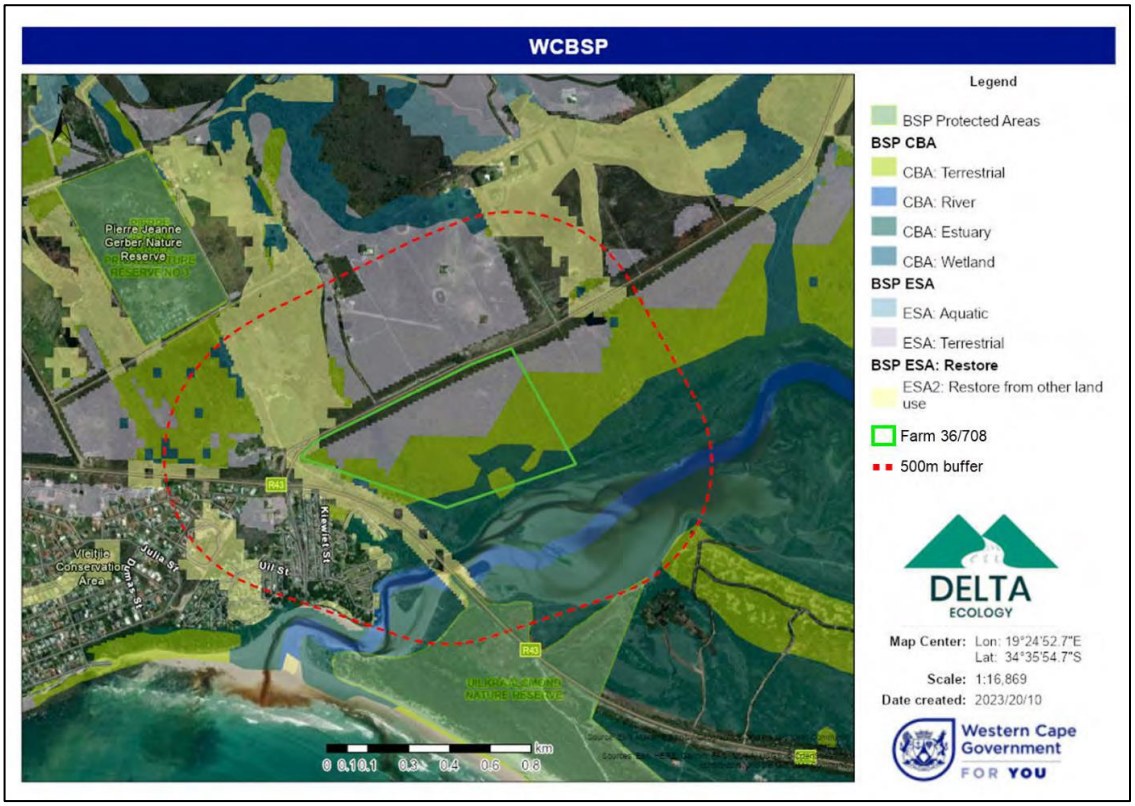


Figure 9: Western Cape Biodiversity Spatial Plan (WCBSP, 2017) (**Source:** van Zyl & Morton, 2024).

Seep Wetland delineation

Following an aquatic biodiversity assessment of the proposed site conducted on the 10th of October 2023, a seep wetland and the estuarine functional zone of the Uilkraals Estuary was confirmed and delineated onsite. The wetland in

question does not contain peat, though the soils present do contain high amounts of carbon. The wetland is however degraded in nature and is therefore unlikely to contribute significantly towards climatic-change resilience. Construction within the wetland is unlikely to lead to a significant release of carbon into the atmosphere. No further assessment of potential climate impact is necessary.

The majority of the site is considered to be highly degraded, consisting of dense stands of alien invasive *Acacia saligna* (Port Jackson) which competes with and replaces indigenous vegetation (**Figure 10**). Indigenous wetland vegetation was therefore lacking across much of the site. The alien plant *Myoporum insulare* (Common Boobialla) and *Cenchrus clandestinum* (Kikuyu grass) was also noted onsite (**Figure 15**).

Located in the west of the site is a slight depressional area where vegetation consists of indigenous wetland obligate / facultative plant species including *Hellmuthia membranaceae* (Helmet Sedge), *Elegia tectorum* (Cape Thatching Reed), *Typha capensis* (Cape Bulrush) and *Schoenus nigrica* (Black Bog-Rush)(**Figure 13** and **Figure 14**).

Hydrology was clearly evident onsite, with various instances of open water including small channels, shallow streams, shallow and deep pools likely formed as a result of Stormwater (SW) flow from the surrounding roads and associated SW infrastructure (**Figure 14 and Figure 17**).

Hydromorphic soil indicators were used to determine wetland extent. These indicators included mottling, gleying, soil saturation, leaching and organic streaking, all within the upper 50 cm (**Figure 18 and 19**), along with the presence of hydrophytic vegetation communities.

The majority of the site exhibited wetland indicators, and was subsequently classified as a seep wetland, apart from a small terrestrial portion in the north of the site (**Figure 21a**). The Uilkraals Estuary and associated estuarine functional zone borders the site to the south - southeast (**Figure 20 and Figure 21a).**

Figure 10: Dense stands of alien invasive *Acacia saligna*

Figure 11: Dense stands of alien invasive *Acacia saligna*, along with standing water.

Figure 12: Indigenous wetland plant species interspersed by *Acacia saligna* in the west of the site /seep wetland.

Figure 13: Wetland obligate *Typha capensis* present in the west of the site / seep wetland.

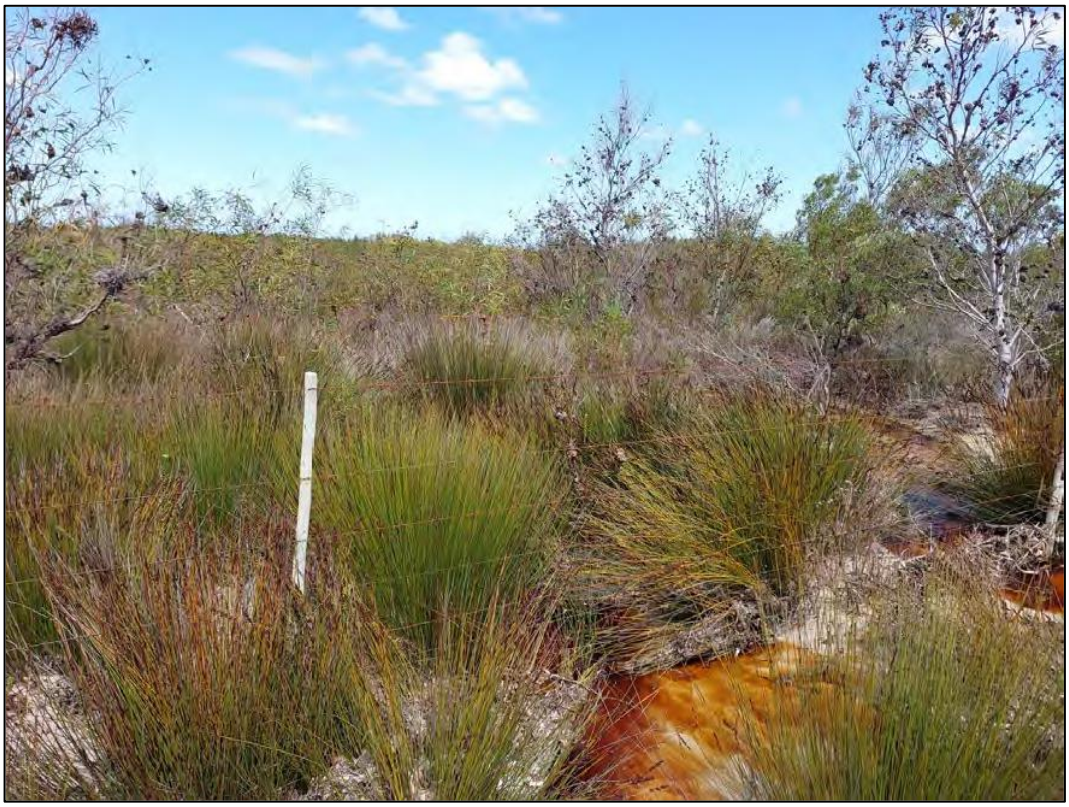


Figure 14: SW flowing into the onsite seep wetland. Wetland plant species *Elegia tectorum* present.

Figure 15: Open water surrounded by *Acacia saligna* and *Myoporum insulare*.

Figure 16: small channel of water with *Acacia saligna* in the background.

Figure 17: Culvert and stormwater flowing through the site

Figure 18: soil sample illustrating organic surface layers & gleying typical of the permanent/ seasonal wetland zone.

Figure 19: soil sample with organic streaking

Figure 20: Uikraals Estuary and associated estuarine functional zone.

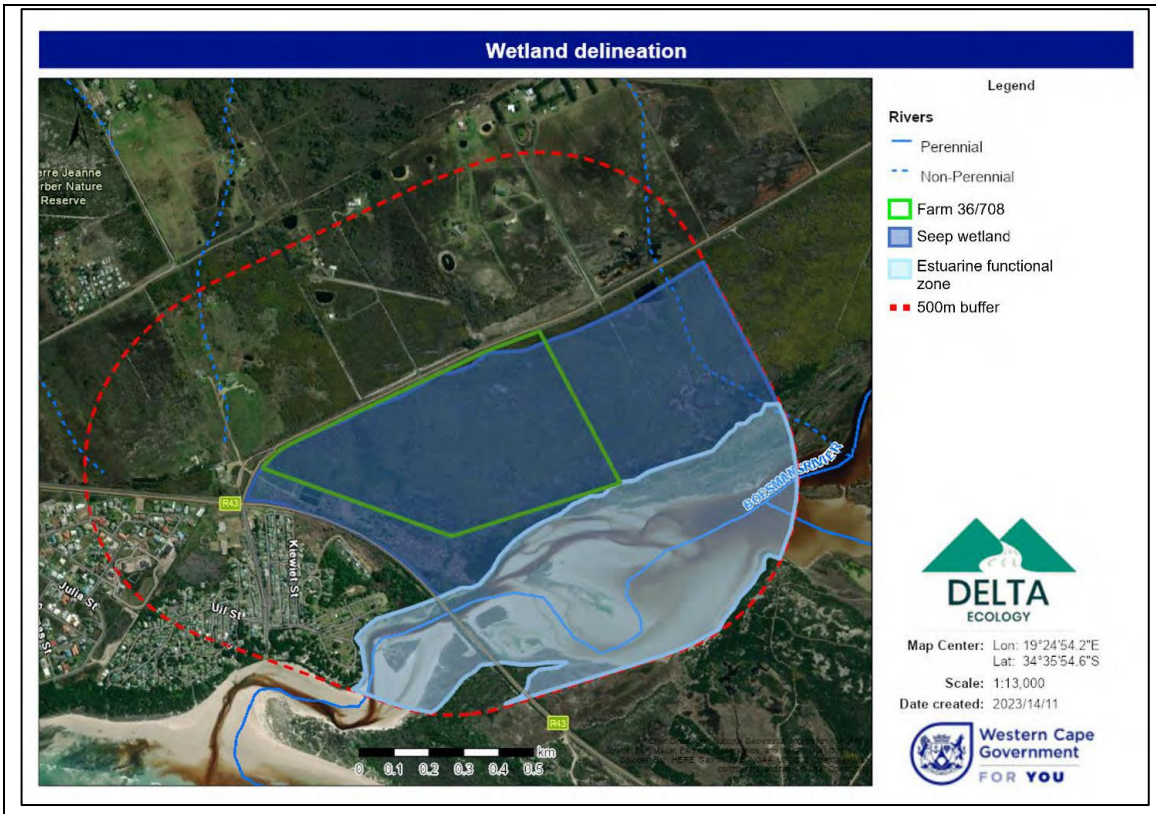


Figure 21a: Wetland delineation of seep wetland and Uilkraals Estuarine Functional Zone (source: Van Zyl & Morton, 2024)

Present Ecological State (PES) assessment

The present ecological state (PES) of a wetland / wetland health is defined as a measure of the similarity of a wetland to a natural or reference condition and is determined through use of the WET-Health Assessment tool (Macfarlane et al. 2007). The Present Ecological State (PES) of the seep wetland was assessed using the Macfarlane et al. (2020) WET-Health Version 2.0 method which includes four assessment units, namely hydrology, geomorphology, water quality, and vegetation.

The Macfarlane et al. (2020) WET-Health Version 2.0 assessment produced an overall Present Ecological State (PES) score within category E (**Table 1**). This indicates that the wetland was in a seriously modified condition at the time of the assessment. The assessment results for the wetland are presented in **Table 1** and the definitions of the ecological categories are presented in **Table 2**. The key factors that influenced the scoring are summarised below.

Hydrology

- The delineated wetland area is fed primarily by rainfall and interflow. However, the road above the wetland (upslope) intercepts flow, and the associated SW infrastructure concentrates flow thereby altering the natural flow regime of the seep. Several dirt tracks within the wetland area similarly intercept and concentrate flow, although to a lesser extent than the road and SW infrastructure. The SW infrastructure associated with the R43 and unnamed road to the north of the seep wetland result in peak flows during storm events which inundates the wetland area (particularly in the western portion of the wetland).
- The presence of dense stands of invasive species particularly the Port Jackson seen onsite, leads to altered flow regimes in the wetland.

Vegetation

- Several indigenous hydrophytic species were noted onsite, particularly in the west of the site. However, the majority of the vegetation within the seep wetland consisted of dense stands of woody alien Port Jackson. The alien plant

Myoporum insulare (Common Boobialla) and *Cenchrus clandestinum* (Kikuyu grass) was also noted onsite. No species of conservation concern were noted.

Geomorphology

- The geomorphology of the delineated wetland area was largely intact. Located in the western portion of the wetland is a slight depressional area which may have been created artificially

Water Quality

- It is likely that runoff entering the wetland through the R43 stormwater infrastructure is polluted by the surrounding catchment area for example, runoff from roads is likely to contain contaminants such as laterite, oil, fuel, rubber from car tires and other pollutants.

Table 1: Outcome of the WET-Health Assessment

PES Assessment	Hydrology	Geomorphology	Water Quality	Vegetation
Impact Score	6.2	3.2	6.4	8.0
PES Score (%)	38%	68%	36%	20%
Ecological Category	**E**	**C**	**E**	**E**
Trajectory of change	↓	↓	↓	↓
Confidence (revised results)	Not rated	Not rated	Not rated	Not rated
Combined Impact Score	6.1			
Combined PES Score (%)	39%			
Combined Ecological Category	**E**			
Hectare Equivalents	11.8 Ha			

Table 2: Descriptions and definitions of the impact scores

ECOLOGICAL CATEGORY	DESCRIPTION	IMPACT SCORE*	PES SCORE (%)*
A	Unmodified, natural.	0-0.9	90-00
B	Largely natural with few modifications. A slight change in ecosystem processes is discernible and a small loss of natural habitats and biota may have taken place.	1-1.9	80-89
C	Moderately modified. A moderate change in ecosystem processes and loss of natural habitats has taken place but the natural habitat remains predominantly intact	2-3.9	60-79
D	Largely modified. A large change in ecosystem processes and loss of natural habitat and biota and has occurred.	4-5.9	40-59
E	Seriously modified. The change in ecosystem processes and loss of natural habitat and biota is great but some remaining natural habitat features are still recognizable.	6-7.9	20-39
F	Critically modified. Modifications have reached a critical level and the ecosystem processes have been modified completely with an almost complete loss of natural habitat and biota.	8-10	0-19

Ecosystem Services

The wetland's contribution to ecosystem services was assessed using the WET-Health Version 2 methodology. The method includes the assessment of sixteen potential ecosystem services including both direct and indirect human benefits.

Importance scores were within the 'Very Low' – 'moderately Low' category for the wetland indicating negligible – moderately low contribution to ecosystem services apart from toxicant assimilation and biodiversity maintenance which fell within 'Moderate' importance scores.

The assessment results are summarised in **Table 3** below. The score categories and their descriptions are provided in **Table 2.** The reasoning behind the ecosystem services scores is summarised below:

- → The seep wetland receives a moderate amount of stormwater, however considering the location of the seep topographically on a hillslope and the presence of dense stands of Port Jackson with negligible understorey, it does not provide significant flood attenuation services.
- → Although seep wetlands can provide moderate levels of streamflow regulation such as low flow augmentation / maintenance, the seep wetland is disturbed as a result of a road construction upstream and the presence of dense alien invasive vegetation. It does not therefore provide streamflow regulation services.
- → The seep wetland provides a limited amount of sediment trapping services. The potential effectiveness is however limited by the sparse wetland vegetation community. The sediment supply is moderate from the surrounding catchment area.
- → The wetland provides a moderately low amount of erosion control due to its location within a relatively steep slope, and the propensity for runoff from the upslope catchment. However, as the surrounding catchment area is near natural / slightly disturbed with no intensive agricultural activities (or similar land use activities), the demand for erosion control is low.
- → The seep wetland fails to provide high levels of phosphate and nitrate assimilation services given the lack of dense hydrophytic vegetation.
- → The demand for toxicant assimilation within the seep is high as a result of the SW input from the surrounding roads. The supply of this service is limited in the wetland due to the invasion of alien invasive vegetation which has limited the presence of indigenous wetland species.
- → The wetland received a score within the 'Low' importance range for Carbon Storage supply. There is a global demand for storage of carbon, thereby reducing total atmospheric greenhouse gas concentrations. There is however minimal organic sediment present in the wetland indicating the inability to supply this service, and this depressed the importance score.
- → The wetland received a 'moderate' score for maintenance of biodiversity. The demand for this service is moderately high given the link to a downslope NFEPA estuary, and the historical Endangered (EN) wetland vegetation type. The provision of this service is limited by the present seriously modified ecological condition, and lack of SCC found within the wetland area.
- → No direct human use of the water from the wetland was observed during the site visit. The seasonal nature and poor water quality of the wetland indicates that it is unlikely that there is direct use/dependence on the wetland.
- → The wetland can provide high amounts of firewood due to the Port Jackson forests present, however, there is a limited demand for this service as the site is privately owned and is not used for this purpose. There is limited restios/grasses present which could be palatable for livestock, and although the wetland area could be used for cultivation, given the wetlands location – the importance for this ecosystem services is negligible.
- → The wetland does not provide any cultural ecosystem services as it is highly degraded and located in an area with security concerns (potential abalone poaching area). As such the demand and supply of cultural services is negligible.

Table 3: The outcome of the ecosystem services assessment for the delineated seep wetland (van Zyl & Morton, 2024).

		Present State			
ECOSYSTEM SERVICE		Supply	Demand	Importance Score	Importance
REGULATING AND SUPPORTING SERVICES	Flood attenuation	0.2	0.4	0.0	Very Low
	Stream flow regulation	2.7	0.0	1.2	Low
	Sediment trapping	1.7	2.0	1.2	Low
	Erosion control	1.5	0.4	0.2	Very Low
	Phosphate assimilation	1.1	2.0	0.6	Very Low
	Nitrate assimilation	1.8	2.0	1.3	Low
	Toxicant assimilation	1.8	3.0	1.8	Moderate
	Carbon storage	1.4	2.7	1.3	Low
	Biodiversity maintenance	2.0	2.5	1.8	Moderate
PROVISIONING SERVICES	Water for human use	1.0	0.0	0.0	Very Low
	Harvestable resources	3.0	0.3	1.7	Moderately Low
	Food for livestock	0.8	0.0	0.0	Very Low
	Cultivated foods	2.5	0.0	1.0	Low
CULTURAL SERVICES	Tourism and Recreation	0.0	0.0	0.0	Very Low
	Education and Research	0.0	0.0	0.0	Very Low
	Cultural and Spiritual	0.0	0.0	0.0	Very Low

Ecological Importance and Sensitivity

The EIS method used to assess the wetland was based on the Rountree et al. 2013 method. Hydro-functional importance and direct human benefits were assessed using the updated and more detailed 2020 WET-EcoServices method and these sections were therefore omitted from the EIS assessment.
The wetland achieved a median score of 1.4 which falls within the "Moderate" category. The results of the assessment and the reasoning behind the scores are presented in **Table 4** below.

Table 4: Results of the EIS assessment (van Zyl & Morton, 2024)

Ecological Importance and Sensitivity	Seep Wetland	Reason
Biodiversity Support (Median)	**0.33**	
Presence and status of Red Data species:	0	None noted. Unlikely given the degree of disturbance. Could however be rehabilitated given the EN wetland type.
Populations of unique species/uncommonly large populations of wetland species:	0	None noted.

Migration/breeding/feeding sites: (Importance of the unit for migration, breeding sites and/or feeding):	1	Possibility to be a breeding site for hardy amphibians.	
Landscape Scale (Median)	**1.4**		
Protection status of the wetland: (National (4), Provincial/Private (3), municipal (1 or 2), public area (0 or 1)	4	Although the wetland is located on private land which is not protected, the wetland is connected to an NFEPA designated estuary (Uilkraals Estuary). It is noted that the Uilkraals Estuary has been identified by CapeNature as a priority estuary in need of improved conservation and protection (CapeNature, 2021).	
Protection status of the vegetation type: (SANBI guidance on the protection status of the surrounding vegetation)	2	Historically the wetland vegetation consists of South Coast Sand Fynbos (EN - PP); however, at present the dominant vegetation within the wetland is Port Jackson.	
Regional context of the ecological integrity: (Assessment of the PES (habitat integrity), especially in light of regional utilisation)	1	PES – D for the remnant floodplain wetland.	
Size and rarity of the wetland type/s present: (Identification and rarity assessment of wetland types)	0	EN status indicates slight rarity, but degraded status (particularly hydrology, water quality, and vegetation) has left only common, tolerant elements of the ecosystem intact.	
Diversity of habitat types: (Assessment of the variety of wetland types present within a site)	0	One wetland type present in a seriously modified ecological condition.	

Sensitivity of the Wetland (Median)	**1.0**	
Sensitivity to changes in floods: (Floodplains at 4; valley bottoms 2 or 3; pans and seeps 0 or 1)	1	This wetland is located on a hillslope and has a relatively large catchment. It is marginally susceptible to flooding.
Sensitivity to changes in low flows/dry season: (Unchanneled VB's probably most sensitive)	1	Wetland is fed by interflow and surface runoff.
Sensitivity to changes in water quality: (Especially natural low nutrient waters – lower nutrients likely to be more sensitive)	1	The modified water quality within the seep at present indicates that the wetland is not highly sensitive to changes in water quality.
Ecological Importance and Sensitivity Score	**1.4**	
Ecological Importance and Sensitivity Category	**Moderate**	

Recommended Ecological Category

According to the Rountree et al. (2013) method for determining REC, the management objective for any wetland within PES Categories E or F are considered unsuitable and always require rehabilitation to a PES Category D.

The REC category for the wetland within the site is therefore set at D. Any planned rehabilitation should therefore target this category.

Uilkraals Estuary

The proposed Portion 36 of Farm Franskraal No. 708 site is situated adjacent to the Uilkraal estuary on the southern direction of the subject property. The system is one of the 54 estuares in the Western Cape and one of 289 functional estuaries in South Africa (Turpie 2004, Turpie et al. 2010), covers an area of 105 ha and is important in terms of its conservation value. According to the National Biodiversity Assessment (2018) out of 54 systems in South Africa, Uilkraals estuary is ranked as the 27th important complex system. It has been identified as an important bird area (Barnes 1996) and a desired protected area in two national conservation planning assessments (Turpie & Clark 2007, Turpie et al. 2010).

The Uilkraals River estuary is important in terms of its conservation value. Based on an index which takes size, estuary type, rarity and biodiversity (plants, invertebrates, fish, birds) into account, the estuary was ranked 34th overall in terms of conservation importance in South Africa (Turpie et al., 2002).

Present Ecological State & Ecological Importance

The Present Ecological State (PES) of the Uilkraals Estuary was classified from the most recent comprehensive assessment of the estuarine system, the National Biodiversity Assessment, 2019 (Van Niekerk *et al.,* 2019). The Uilkraals Estuary was determined to have a PES of D, indicating a Largely Modified system (**Table 5-1** of the aquatic biodiversity assessment).

The Uilkraals estuary's tidal regime, salinity gradient, mixing process, and connectivity has been compromised as a result of land use changes in the surrounding catchment area (Van Niekerk *et al.,* 2019). This estuary, which was once predominantly open, has closed as a result of excessive flow modifications (such as abstraction and the presence of dams upstream) (Van Niekerk *et al.,* 2019).

The National Biodiversity Assessment (NBA) (Van Niekerk *et al.,* 2019) notes the following: "The Uilkraals Estuary requires restoration of its baseflows to ensure the mouth remains permanently open. Recently accumulated sediment in this system may need to be removed to restore tidal flows to pre-2010 conditions and ensure a permanent connection to the sea."

Table 5: Outcome of the Estuary Condition & Biodiversity (Conservation) Priorities (Van Niekerk et al., 2019).

Estuary Name	Biogeographical Region	Natural Estuary Type	Present Transformed Functional Estuary Type	PES	REC	Biological Importance Rating	DAFF Important Fish Nurseries
Uilkraals Estuary	Cool Temperate	Predominantly Open	Large Temporarily Closed	D	D	Important	Medium

Aquatic Impact Identification

The proposed development will likely impact the hydrology, water quality, geomorphology and wetland vegetation of the seep wetland present on the site. Additionally, the NFEPA designated Uilkraals Estuary located approximately 75 m downstream of the proposed development may be impacted.

Construction Phase

1. 7.4 Ha of wetland loss in the delineated seep wetland.
2. Alteration of the flow regime of the remnant seep wetland and Uilkraals Estuary during construction of the beach resort.
3. Water quality impairment due to increased sediment input, potential spillage, or release of potentially contaminated runoff into the remnant seep wetland and Uilkraals Estuary during construction of the beach resort.

Operational Phase

4. Alteration of the flow regime of the remnant seep wetland and Uilkraals Estuary.
5. Water quality impairment of the remnant seep wetland and Uilkraals Estuary due to the release of potentially contaminated stormwater (hydrocarbons).

Risk Assessment

The Risk Assessment Matrix prescribed by GN 509 of 2016 was applied to the preliminary layout with the following outcomes:

- → The risks associated with Impacts 2-5 were all found to fall within the Low-Risk category. The key factors included: The impacts pertain to the remnant seep wetland, which has been severely impacted historically.
- → The buffer area of 75 m surrounding the Uilkraals Estuary - limits the risk of significant impacts to this estuary system particularly with the implementation of the recommended mitigation measures.
- → The risk associated with Impact 1 (wetland loss), was found to be within the Moderate Risk category. The delineated wetland within the proposed site has a PES score in the E category (Seriously Modified), exhibits Moderate EIS and offers Moderate ecosystem services.
- → The historical wetland vegetation type is EN, but there is no significant wetland vegetation community, so the historical vegetation type is no longer represented.
- → The seep wetland is connected to the Uilkraals Estuary and therefore the recommended mitigation and management measures are essential to ensure the estuary is not impacted.

The completed Risk Assessment Matrix is attached as **Annexure 3** of the Aquatic Biodiversity Assessment.

Wetland Offset Application Assessment (Draft)

Below is a preliminary draft of the wetland offset calculations prepared for the proposed development by the specialist. The calculations have been compiled solely to assess the feasibility of achieving the required wetland offset on-site.

Due to the wetland's degraded condition and its moderate ecological sensitivity, a wetland offset is proposed within the site boundary. This onsite offset will focus on enhancing and rehabilitating wetland functions to restore essential ecosystem services. These actions are in response to findings from the Aquatic Biodiversity Assessment, which highlighted the moderate compromise of ecosystem services due to invasive species presence and altered hydrology.

The offset area will undergo active rehabilitation and ongoing management, focusing on the following objectives:

- → Alien Invasive Species control
- → Hydrological and Ecosystem services restoration

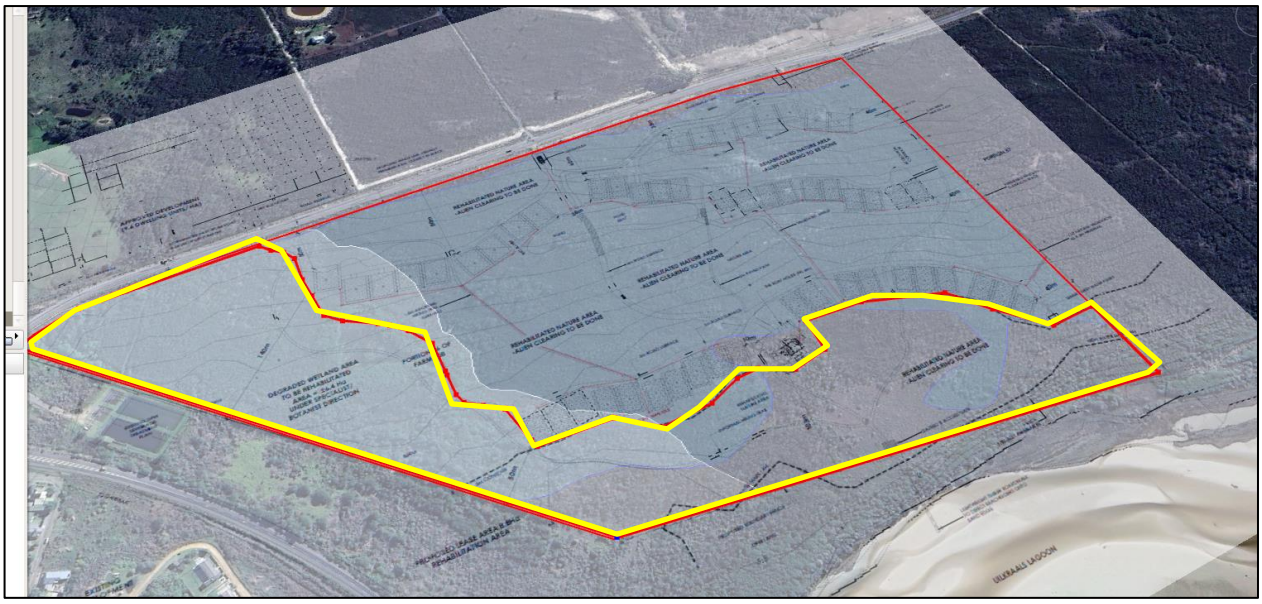


Figure 21b: The area highlighted in yellow will be offset

To quantify the offset, the Macfarlane et al. (2016) wetland offset guidelines and calculator were applied to assess the functional and habitat value of the wetland loss in Hectare Equivalents (HE). Further evaluations identified the potential for maximum offset gains within the site through enhanced establishment, rehabilitation, and management efforts. The calculations reflect a total wetland loss valued at 2.1840 HE of function and 3.4650 HE of habitat. As a result, potential gains through proposed on-site offset activities were calculated at 2.3760 HE of function and 14.2200 HE of habitat, resulting in a surplus of 0.1920 HE of wetland function and 10.7550 HE of wetland habitat.

The positive balance indicates that the functional and habitat offset requirements will be not only met but likely exceeded through the implementation of this plan. Table i below contains the summary of the offset feasibility study results, indicating a net positive balance:

Table i: Offset balance table indicating net results of the onsite offset feasibility study.

Offset Balance Table						
Wetland Name	**Area (ha)**		**Function (HE)**		**Habitat (HE)**	
	Losses	**Gains**	**Losses**	**Gains**	**Losses**	**Gains**
Seep Wetland (portion lost)	-5,6000	0,0000	-2,1840	0,0000	-3,4650	0,0000
Depression Wetland (remaining - rehabilitated)	0	9,0000	0,0000	2,3760	0,0000	14,2200
Subtotal (HE)	-5,6000	9,0000	-2,1840	2,3760	-3,4650	14,2200
Balance (HE)	**3,4000**		**0,1920**		**10,7550**	

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO x
3.2.	Provide the name and/or company who conducted the specialist study.		
The proposed development will be located above the 5m contour and a buffer of approximately 75 m is implemented.			
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		

Section 63 emphasises the need to manage coastal activities in a way that minimizes environmental impact, preserves coastal resources, and ensures resilience to the effects of climate change, such as sea-level rise and coastal erosion. Approximately 80% of the site falls within the Coastal Protection Zone (CPZ), as illustrated in **Figure 22**. To comply with ICMA requirements, the preferred layout alternative situates all bulk infrastructure and permanent structures, including residential erven, internal roads, utilities, etc, above the 5 m contour line and more than 100 meters from the High-Water Mark of the estuary. This is essential for safeguarding sensitive coastal ecosystems, reducing erosion risks, and protecting the development from potential climate-related impacts, such as rising sea levels and extreme weather events.

The only infrastructure which will fall below 5m contour is semipermanent jetty and boardwalk to provide controlled access to the water's edge. This infrastructure is designed to be minimally invasive, allowing for recreational activities while preserving the natural state of the coastal zone. The construction of these structures will also assist to minimize the physical disruptions to the shoreline and maintains the natural flow of water and sediment. This ensures that visitors can enjoy the coastal area without trampling or causing significant harm to the estuary environment.

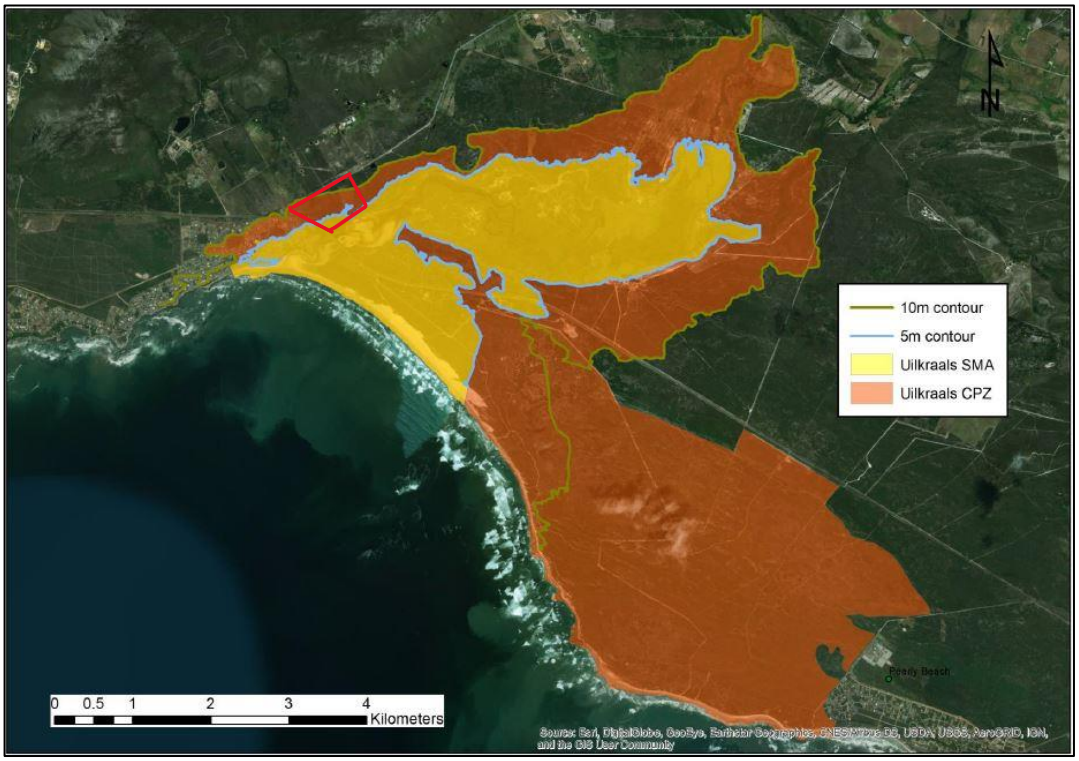


Figure 22: Estuary zoning plan, **source**: *(Uilkraals River Estuarine Management Plan, 2018*)

3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.

Uilkraals River Estuarine Management Plan, 2018 identify the key management objectives for the Uikraals River estuary which should be reinforced in the Uikraals Estuary.

"*Targets established for conservation of estuarine biodiversity in South Africa require the establishment of a protected area that provides a sanctuary for at least 50% of all biota in the Uilkraals River estuary (Turpie & Clark 2007, Turpie et al. 2010). Zonation of the estuary will support biodiversity conservation objectives as well as assisting in the management of increasing access to recreational users.*

Economic objectives and opportunities for ecotourism growth will have to be subject to coastal management lines and guidelines that safeguard the sense of place of the estuary. These guidelines will need to be integrated into regional and local development plans. Ecotourism growth will require improved access and attractive visitor facilities that draw people to the area and will also depend on future developments being sensitive to biodiversity and the sense of place.

Conservation of biodiversity will also require restoration and maintenance of ecosystem health through the provision of environmental flows, as well as rehabilitation of habitats that have been damaged, e.g. by invasive alien trees. An environmental flow assessment is needed to fully understand water use within the catchment. Improving ecosystem health will also require the adoption of agriculture best practices (sustainable agriculture) to alleviate poor water quality, habitat destruction and other disturbance to the riparian edge of the estuary. This in turn will require public awareness and harmony amongst farmers and managers of the estuary.

Biodiversity conservation will also be facilitated if public awareness is improved, which in turn will require the provision of educational material and signage. The management and monitoring of the estuary area, the freshwater inflows and development in the surrounding area will require cooperative governance among the responsible management authority, catchment management agency, conservation agencies, and local and national government. This in turn will require an Estuary Advisory Forum (EAF) that has representation amongst all relevant authorities, organisations and stakeholder groups.

According to the Uilkraals River Estuarine Management Plan, 2018 the 1:50 and 1:100-year flood lines have not yet been delineated for the Uilkraals River estuary, however It is recommended that no further development be permitted within the 1:100-year flood line surrounding the Uilkraals River estuary. "

The Uilkraals River estuary is important in terms of its conservation value. Based on an index which takes size, estuary type, rarity and biodiversity (plants, invertebrates, fish, birds) into account, the estuary was ranked 34th overall in terms of conservation importance in South Africa (Turpie et al., 2002). The Uilkraals River estuary is ranked as the 34th estuary in the country in terms of conservation importance and is significant in terms of macrophyte abundance and diversity. Protection of the biodiversity and ecological functioning of the Uilkraals River estuary is needed in order to meet the country's biodiversity conservation targets (Turpie & Clark 2007; Turpie et al. 2010) as well as well as meeting policy decisions enshrined in the National Protected Area Expansion Strategy for South Africa (DEA, 2010), to increase the area under formal protection.

The proposed eco-estate development is in line with the above Uilkraals Estuary Management objectives because all other bulk infrastructure such as permanent structures, roads and utilities will be located above the 5-meter contour line of the Estuarine Functional Zone (**Figure 23**). Specifically, the boardwalk and jetty, which are part of the development proposal, will be situated within this area. It is important to note that the boardwalk and jetty are designed to prevent trampling on the banks of the estuary, thereby protecting the estuary environment.

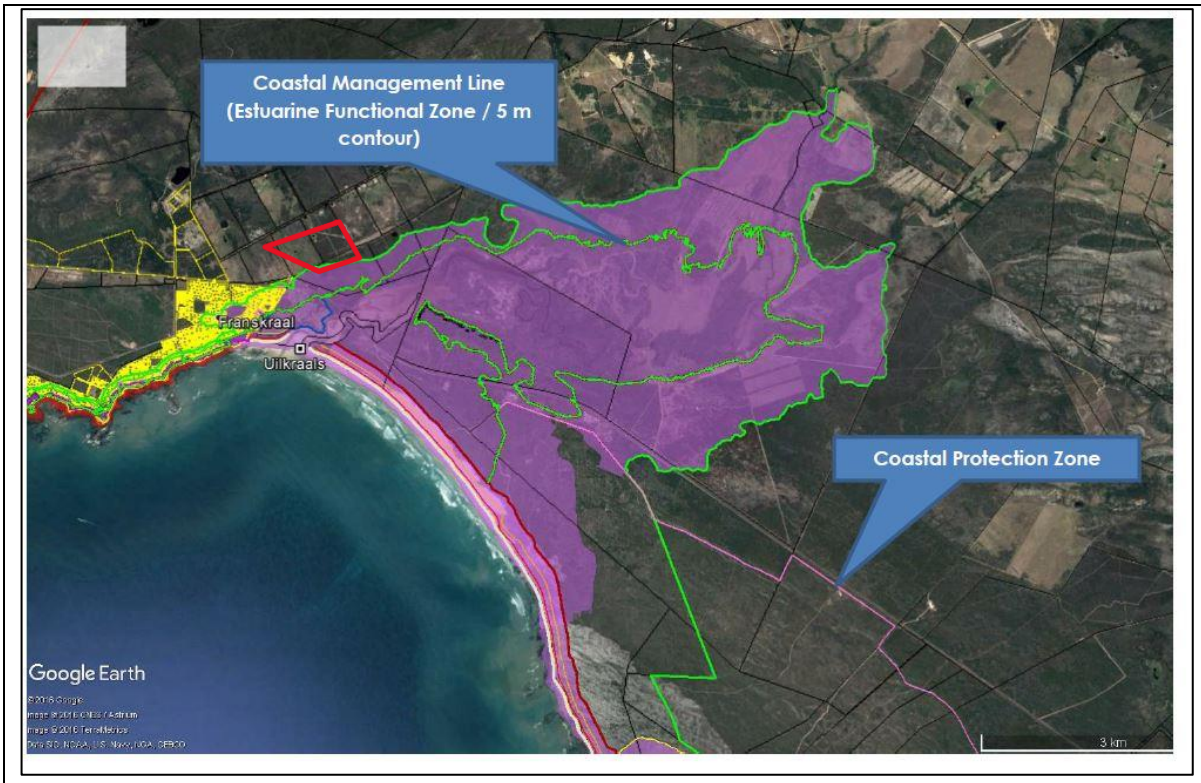


Figure 23: *(Uilkraals River Estuarine Management Plan, 2018*)

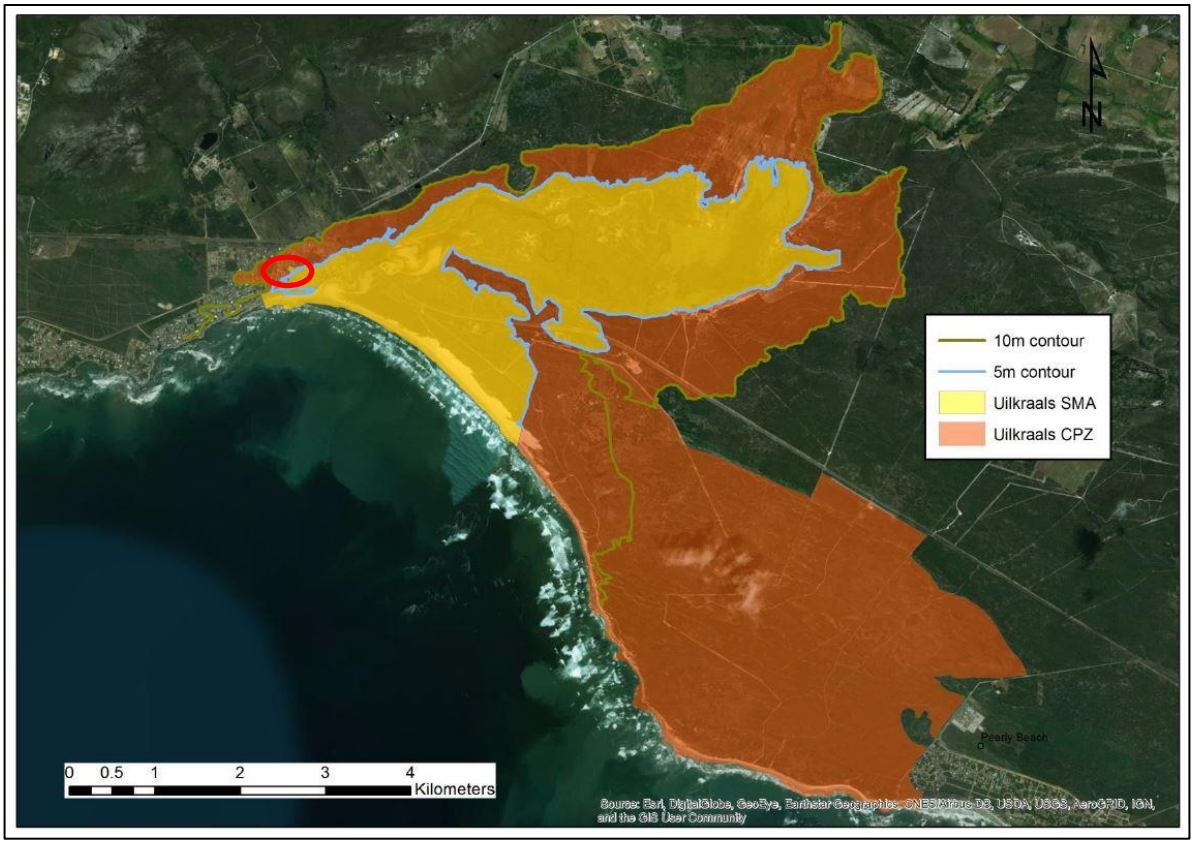


Figure 24: Uilkraals SMA and CPZ

3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.

Extract from Uilkraal River Estuary Management Plan, 2018:

"The Uilkraals River estuary is ranked as the 34th estuary in the country in terms of conservation importance and is significant in terms of macrophyte abundance and diversity. Protection of the biodiversity and ecological functioning of the Uilkraals River estuary is needed in order to meet the country's biodiversity conservation targets (Turpie & Clark 2007; Turpie et al. 2010) as well as well as meeting policy decisions enshrined in the National Protected Area Expansion Strategy for South Africa (DEA, 2010), to increase the area under formal protection.

The Uilkraals River estuary is acknowledged as being an important estuary in South Africa from a conservation perspective. It provides habitat and food resources for a large population of resident and migrants water birds. The expansive floodplain marshes surrounding the estuary are unique along the southern Cape coast and the estuary has high macrophyte diversity. It is also relatively important as a nursery habitat for juvenile fish species.

Moreover, the Uilkraals River estuary is identified as a core estuary in the CAPE estuary conservation plan (Turpie & Clark, 2007) and in the National Estuary Biodiversity Conservation Plan (Turpie et al., 2012), which recommends that 50% of its biota is protected and 75% of the estuary margin remains undeveloped. For these reasons, it is evident that a significant portion of the estuary should be set aside for biodiversity conservation through the enactment of appropriate legislation.

The Uilkraals River estuary is important in terms of its conservation value. It has unique macrophyte diversity and is a very important birding site. It was included within a set of estuaries in the country identified as requiring protection in order to achieve national biodiversity protection targets. The establishment of a protected area on the Uilkraals River estuary is highly recommended and is considered highly feasible. The Uilkraals River estuary has also been identified as one in which there is a need for rehabilitation. Key management interventions identified in this respect include the restoration of the quantity of freshwater inflows; the restoration of water quality; removing significant obstructions to flow; and the removal of alien vegetation. The degree to which these factors should be managed to restore the health of the system depends largely on the vision that is developed for the estuary, and on its future protection status.

The biophysical characteristics as well as the aesthetic appeal of the Uilkraals River estuary denotes potential opportunities for local socio-economic development. Tourist development, such as accommodation, retail businesses and provision of eco-tourism activities, is likely to provide the greatest number of opportunities. However, this is an area of conflict as unsustainable development and recreational activities will lead to large-scale disturbance and transformation of the environment, overexploitation by recreational fishers, and impact on its wilderness character, for which it is highly valued. Employment opportunities can be generated from estuary rehabilitation initiatives, education programmes, and compliance and enforcement."

The proposed development takes cognisance of the coastal risk zones; littoral zones, esturine functional zone as demarcated by the 5 m contour. By situating the development above the 5-meter contour and more than 100 meters from the high-water mark, it aligns with the conservation goals outlined in the Uilkraal River Estuary Management Plan. The development respects the ecological importance of the estuary, avoids high-risk areas, and incorporates sustainable practices, ensuring the protection of biodiversity while also providing socio-economic benefits.

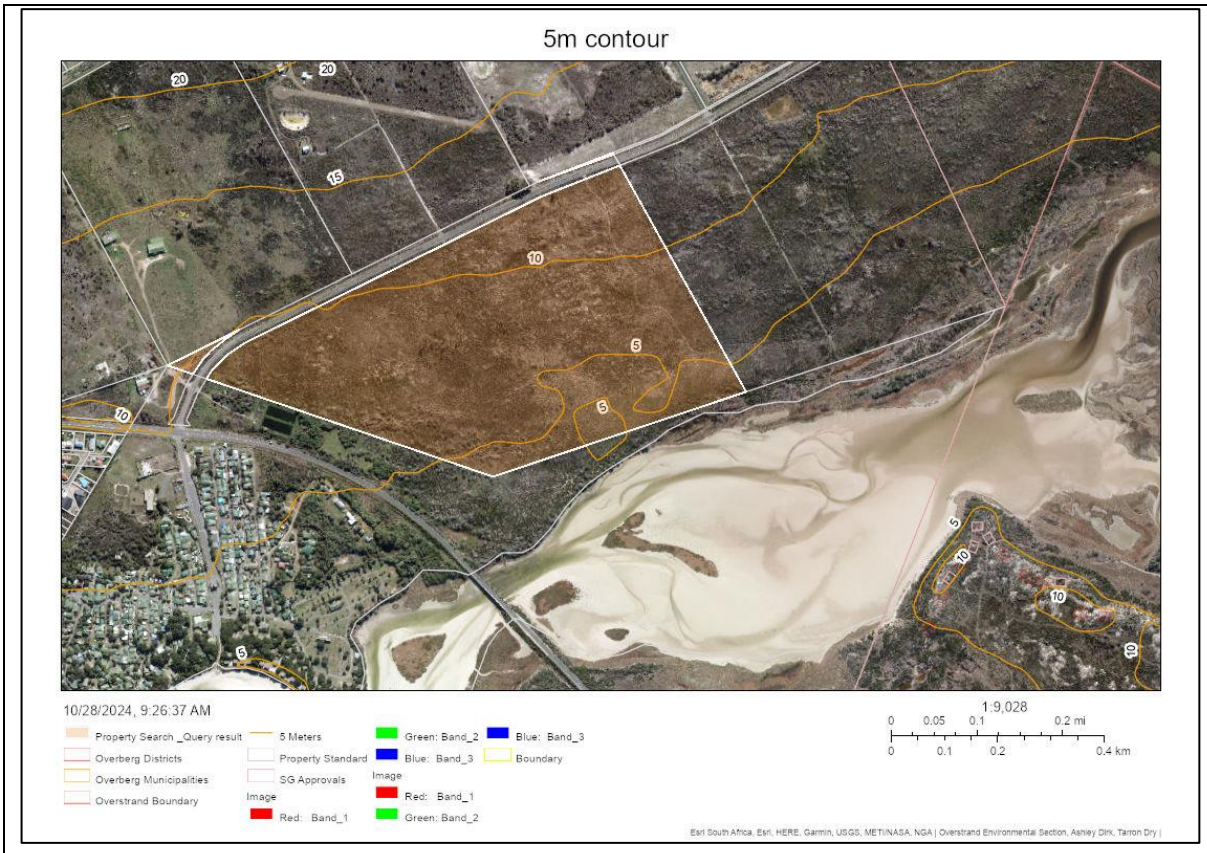


Figure 25: 5m contour relative to subject property

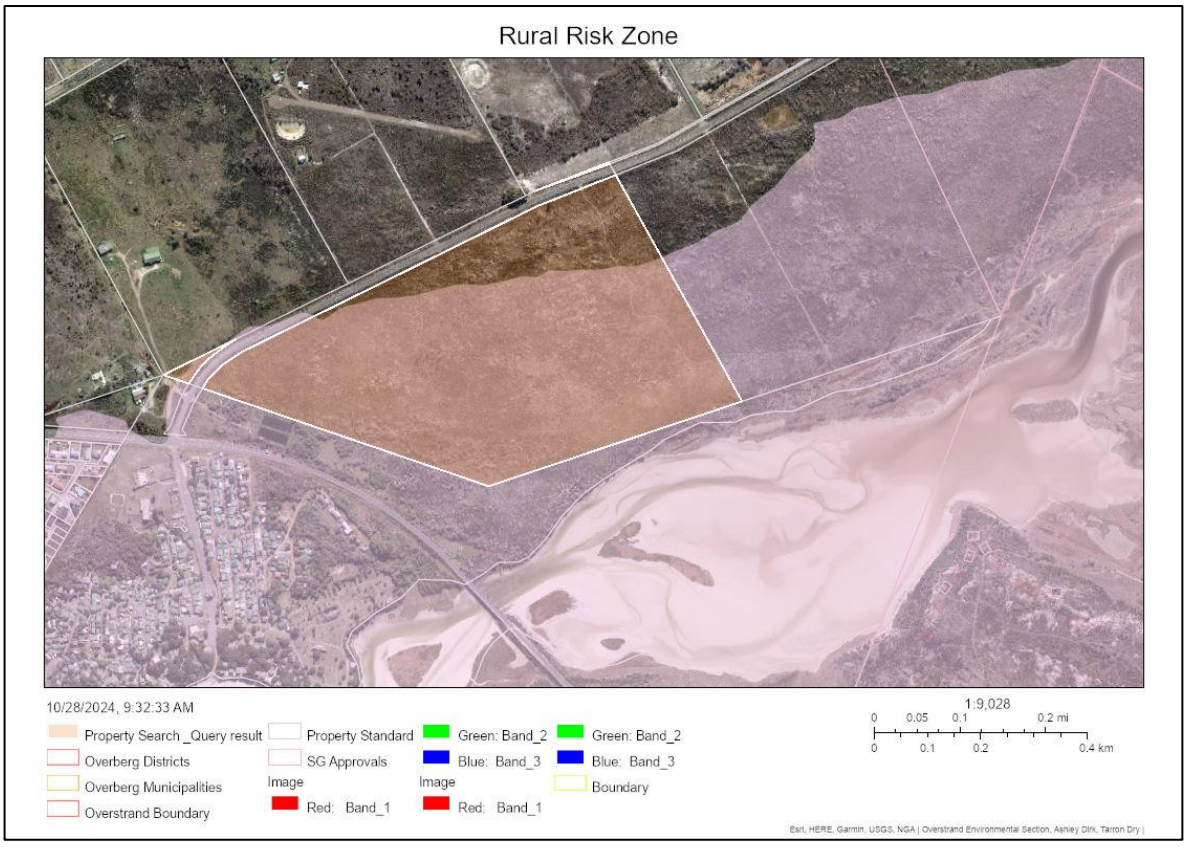


Figure 26: Rural risk zone. Although the site falls partially within the rural risk zone, all fixed infrastructure is located above the 5m contour line and a buffer of 75m is provided from estuary high water mark to proposed development.

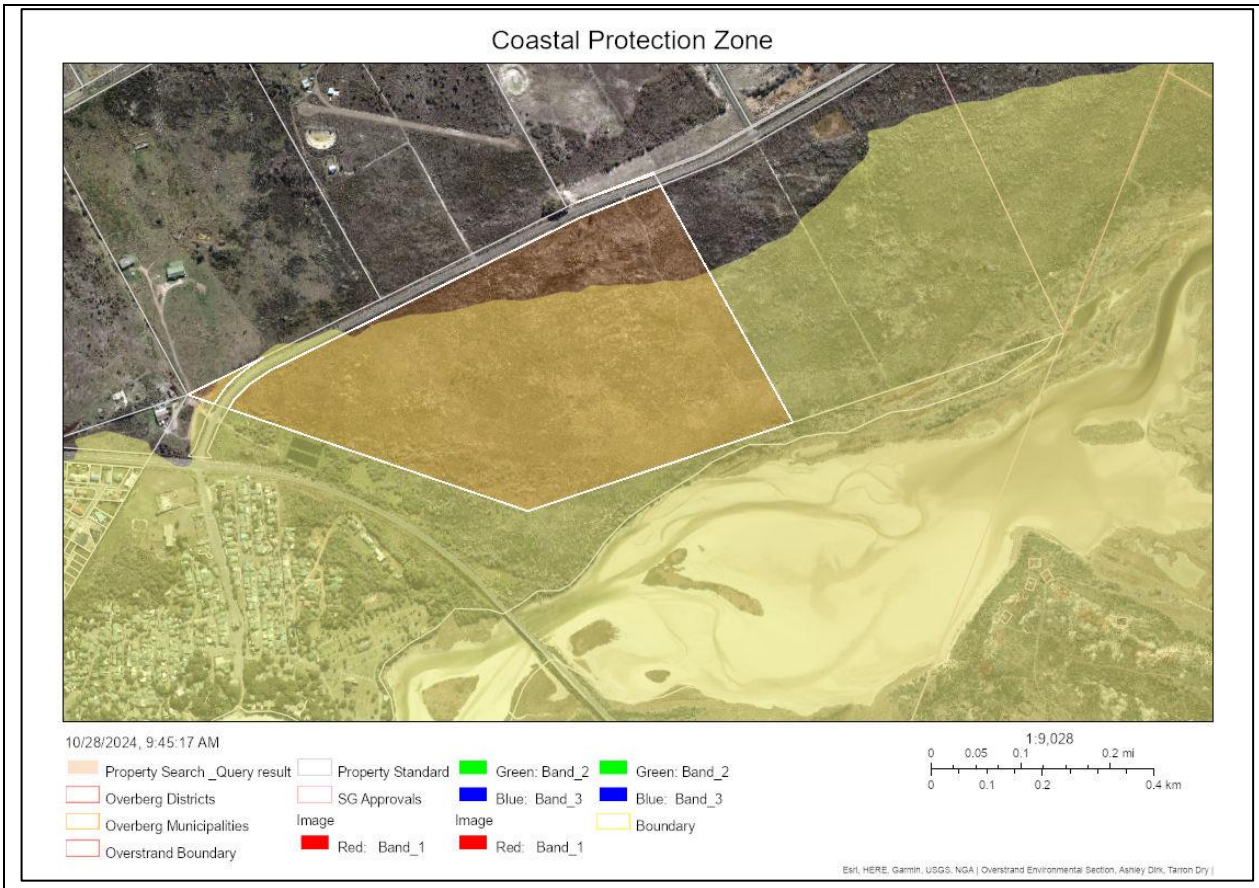


Figure 27: Coastal Protection Zone

4. Biodiversity

4.1.	Were specialist studies conducted?	YES x	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		

Sean Privett- Fynbos Ecoscapes Botanical Consulting (Terrestrial Biodiversity Assessment)

Jan A Venter &Rudi Swart- Wildlife Conservation Decision Support (Faunal Assessment)

4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.

Terrestrial Biodiversity and Botanical Assessment:

According to the SANB vegetation map (2018), the majority of the property is characterised by Agulhas sand fynbos (Figure 2) in the botanical specialist report.

According to the NFEPA (Anonymous 2011) spatial dataset, this area corresponds to the South Coast Sand Fynbos wetland vegetation type, where floodplain wetlands are present, is listed as Endangered (EN) and Poorly Protection (PP) and where seep wetlands are present, also listed as Critically Endangered (CR) and with Zero Protection (ZP).

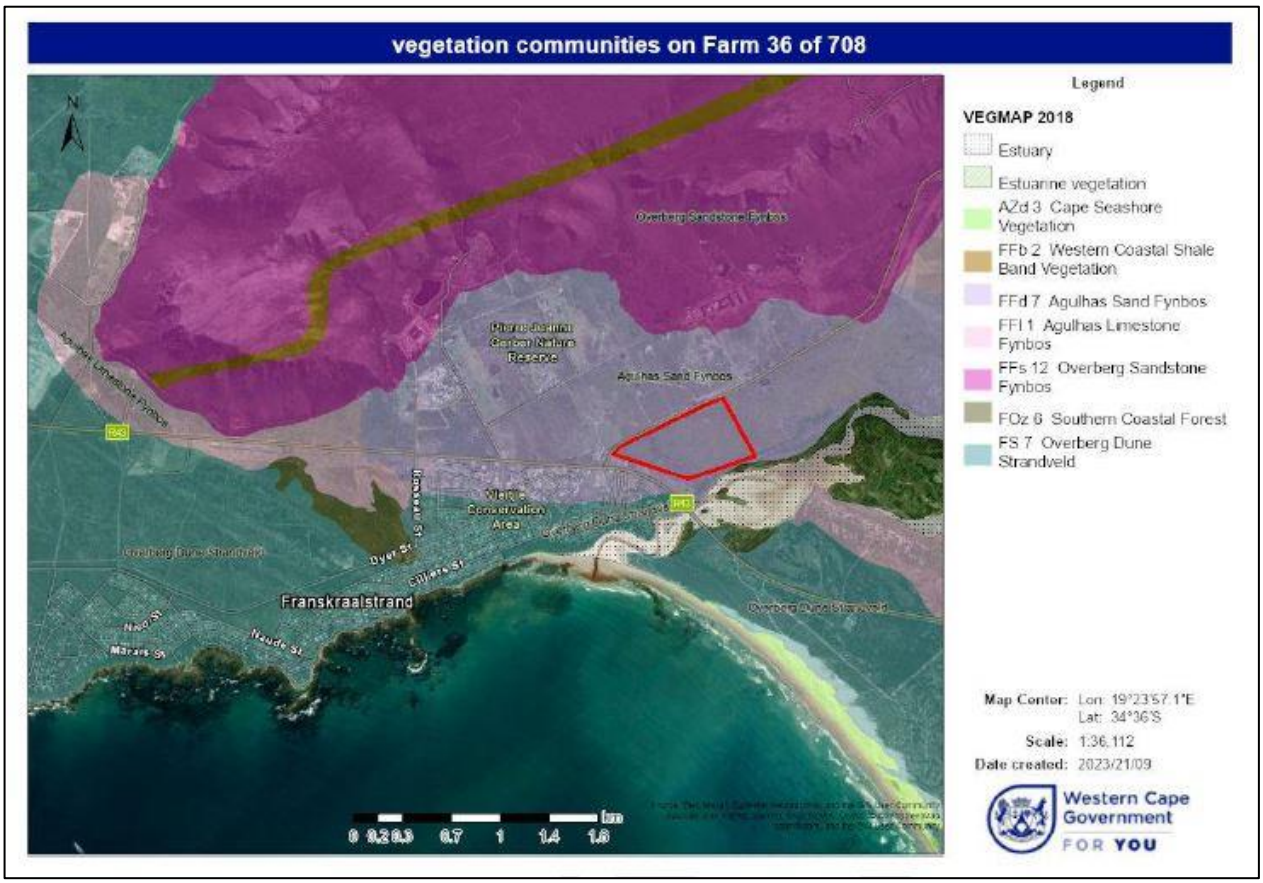


Figure 28: Vegetation on Remainder 36 of Farm 708 is characterised as Agulhas Sand Fynbos.

Agulhas Sand Fynbos

This vegetation unit has a very fragmented distribution on the Agulhas forelands from around the lower Uilkraalsrivier near Gansbaai (this study site), Hagelkraal, flats west of the Soetanysberg, small patches east of Elim to the largest patch northwest of Struisbaai, west of Arniston and south of Bredasdorp, with unmapped patches to Hermanus in the west, and De Hoop Vlei in the east. It occurs in an altitude range from 2–100 m on low-lying coastal plains that support dense moderately tall, ericoid shrubland or tall, medium dense shrubland, with some emergent tall shrubs. Communities of this

fynbos unit are structurally defined either as restioid or proteoid fynbos. It occurs on older Pleistocene sands immediately inland of the strandveld, where the neutral to acid sands are mostly weathered yellow to reddish brown. The older sands supporting sand fynbos are neutral to acidic, more weathered, finer-grained, more water retentive and less fertile than the strandveld sands. This is a consequence of nutrients leaching from these older sediments. The sand fynbos vegetation on Rem 36 of 708 is dominated by *Leucadendron coniferum* (dune conebush), *Leucadendron linifolium*, *Erica plukenetii subsp. lineata* (cats tail erica), *Thamnochortus erectus* (wyfieriet) and *Phylica dodii* (edelweiss hardleaf).

Conservation value

Agulhas Sand Fynbos has been classified as critically endangered (Anonymous 2021) and moderately protected. Agulhas Sand Fynbos is narrowly distributed with evidence of ongoing biotic disruption from invasive species and agricultural expansion. The conservation target for this vegetation unit is 32%, however only about 7% is statutorily conserved in the Agulhas National Park, with a further 1% found in private conservation areas such as Walker Bay Protected Environment, Brandfontein, Groot Hagelkraal, Heunings River and Andrewsfield. About 27 % is transformed, mainly for cultivation, but alien plants (*Acacia cyclops, A. saligna* and *Leptospermum laevigatum*) have caused a much larger transformed area.
According to the NFEPA (CSIR, 2011) spatial dataset, this area corresponds to the South Coast Sand Fynbos wetland vegetation type, where floodplain wetlands are present and is listed as Endangered (EN) and Poorly Protection (PP) and where seep wetlands are present is also listed as Critically Endangered (CR) and with Zero Protection (ZP) (Anonymous 2011).

The conservation value of the vegetation in the study area is high in local (Gansbaai) and regional (Agulhas plain) terms

Ecological drivers and process

Spatial components and ecological drivers are seen as important components of good conservation planning (De Villiers et al. 2005). Fragmentation of natural vegetation should be avoided at all costs. Although little information is available on minimum patch sizes and the degree of connectivity required to retain species richness in fynbos vegetation, it is generally agreed that small fragments (<100 hectares) are likely to be vulnerable to a loss of species due to altered ecological processes e.g., loss of pollinators, edge effects and alien invasions. One concern of this project from a botanical and ecological perspective is that the proposed development will fragment the site and potentially cut off islands of natural vegetation from surrounding natural landscapes. Another concern is that once the housing infrastructure is constructed, fire will be excluded impacting on the long-term structural integrity and viability of natural flora and fauna on the property.

Critical Biodiversity Area

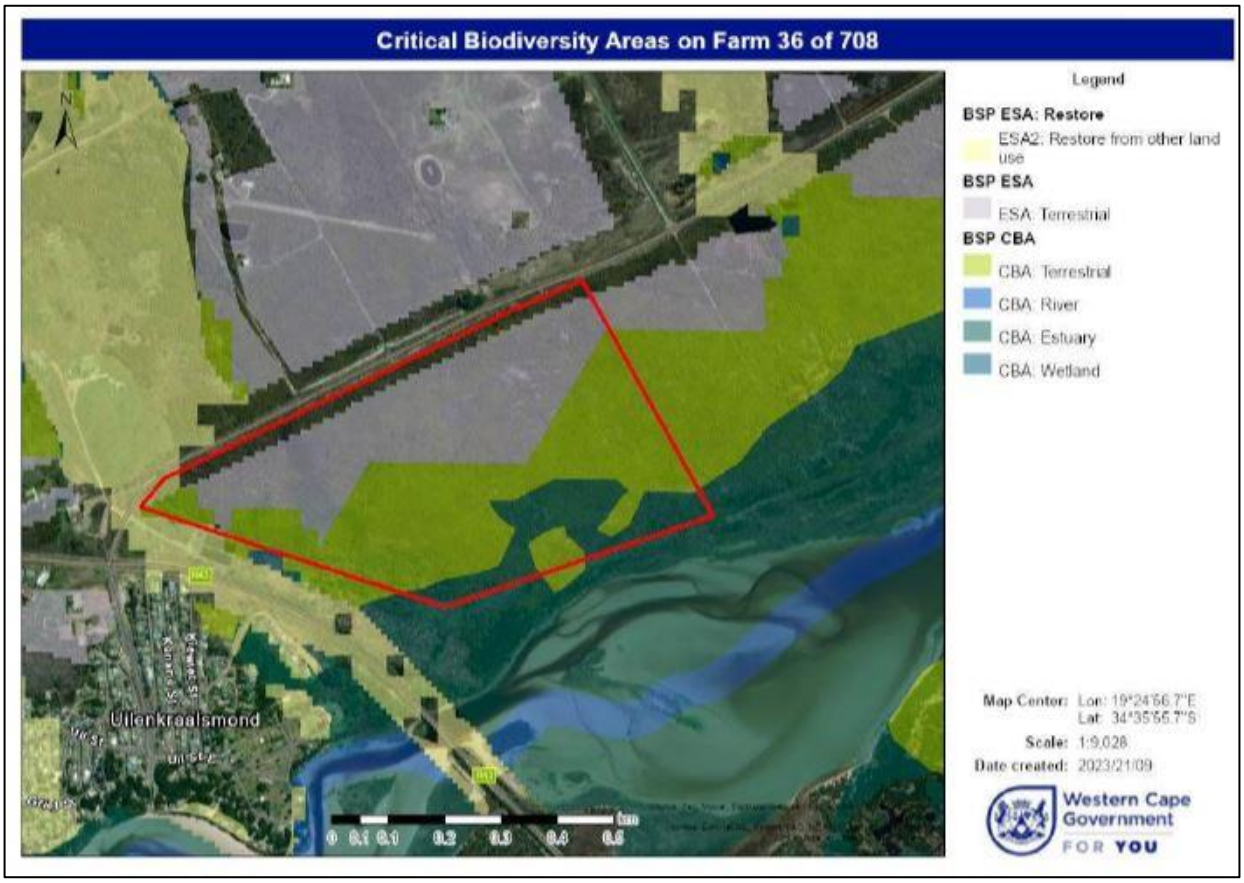


Figure 29: The property includes areas defined as terrestrial and estuary Critical Biodiversity areas as well as ecological support areas.

The WCBSP dataset indicates that the westerly area closest to the tar road is defined as Ecological Support Area (grey in Figure 3), while the middle area of the property is defined as terrestrial Critical Biodiversity Area (CBA, green in figure 3.) and the lower section bordering on the lagoon as aquatic CBA1 (estuary - blue in figure 3). The CBA's are based on high species diversity and high number of rare and endangered species in the Agulhas Sand Fynbos, as well as the buffer role that this area plays towards the estuarine habitat. The WCBSP also indicates an aquatic CBA 1 (river and estuary) surrounding the site to the south. There is also a Protected Area (the Cape Nature managed Uilkraalsmond Nature Reserve) within the 500 m regulated proximity. These all indicate that the site is of high value in terms of conserving biodiversity and maintaining ecosystem functioning.

Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment

The Faunal Specialist utilised iNaturalist and Global Biodiversity Information Framework (GBIF) as well as other relevant document in order to determine the faunal species present in the area, especially the Species of Conservation Concern (SCC) which were listed in the screening tool.

According to the faunal specialist, the surveys consisted of meandering visual, acoustic surveys and point surveys performed at and between the various proposed development sites (**Figure 30**). The sites visits were performed on the 9th, 11th and 23rd August 2024 and the conditions were cold, wet and windy. This is generally a limiting factor for observations of birds, mammals and reptiles, (Venter, 2024). However, during the site visit on 23rd the conditions were warm and windy and therefore better for conducting site surveys.

The investigation incorporated a buffer around the project area of influence (POIA) by highlighting the main species of Conservation Concern which may be present on or close to the development area, this is shown in **Figure 31 and Table 6** below.

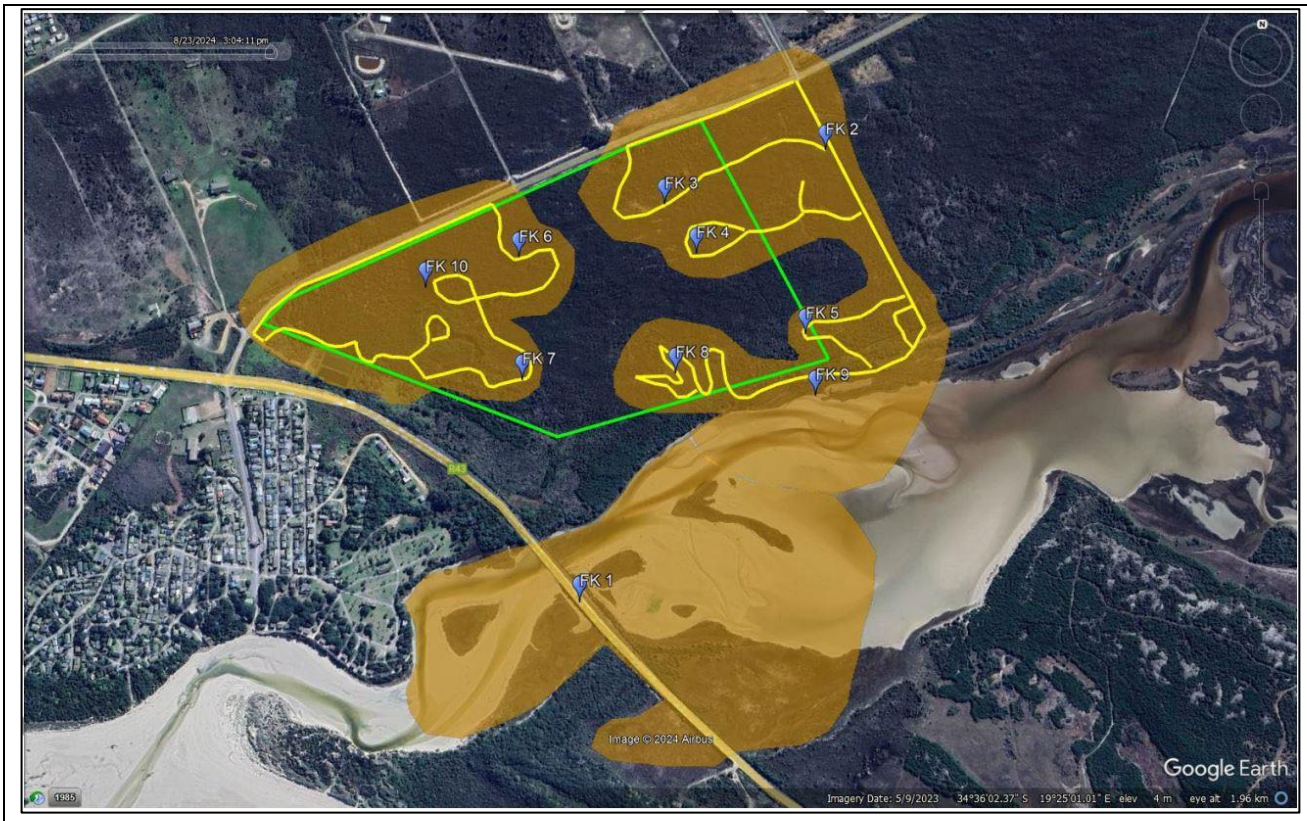


Figure 30: A map indicating the areas within the property visited during the site visit. Yellow lines indicate routes walked and the orange polygon the area which were visible to the observer and/or exposed to call ups (Venter, 2024).

Table 6: The PAOI was set considering main SCC we think are present on or close to the development footprint (Venter, 2024).

Species/ Group	PAOI Buffer size	Notes
Raptors and Birds general	300 m	Foraging and resting areas
Waterbirds (includes jetty)	300 m	Foraging and resting areas
Nocturnal insects	250 m	Influence of artificial light
Diurnal insects and herpetofauna	100 m	Foraging and breeding habitat

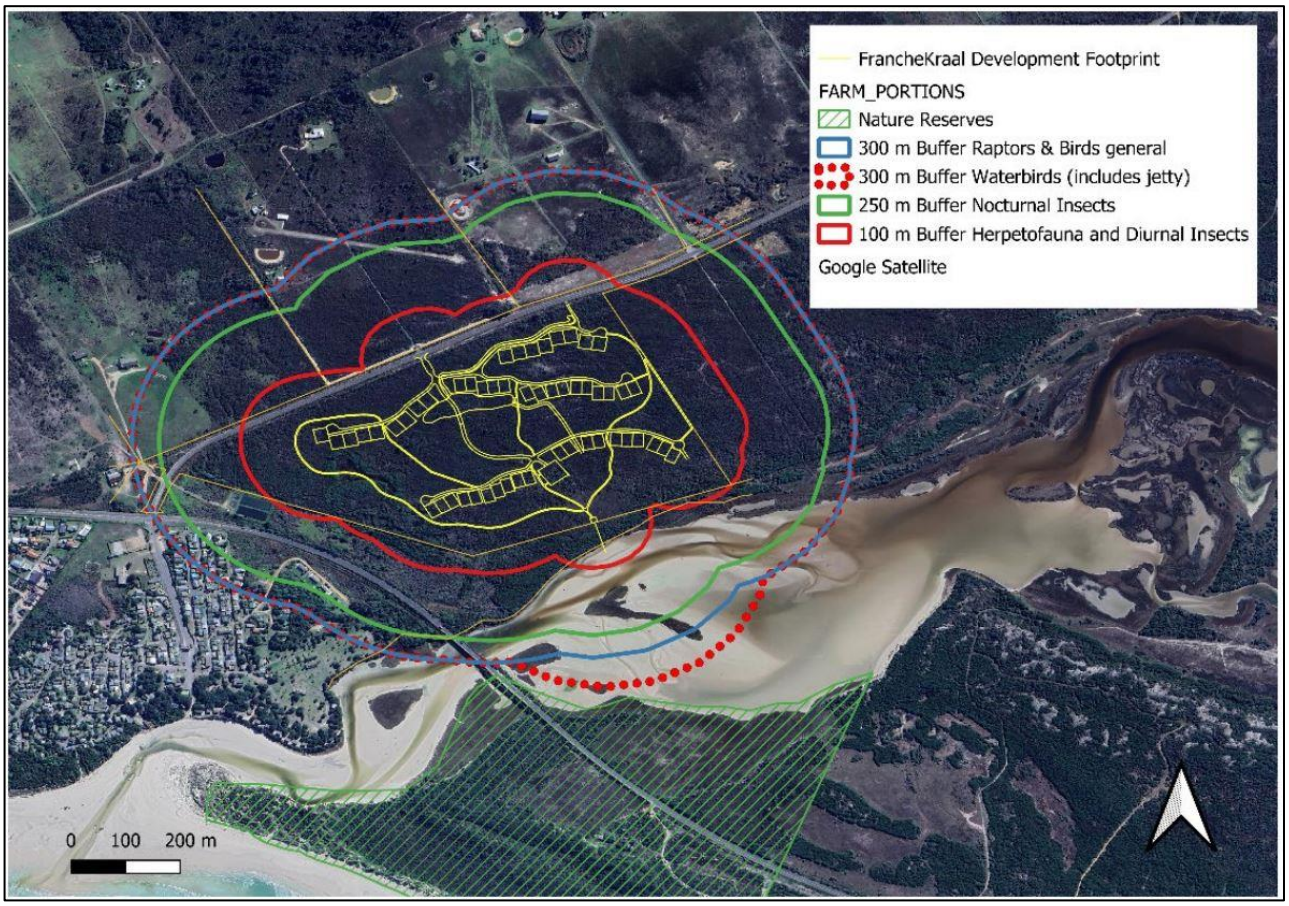


Figure 31: The PAOI was set considering main SCC present on or close to the development footprint (Venter, 2024).

Large numbers of marine birds were found congregated on the sand banks and islands (**Table 7**). The vegetation on the northern banks, directly adjacent to the property, provides forage areas and habitat for a number of mammal species (**Table 6** and **Figure 32**).

Table 7 : Animal species observed at site *FK1* and *FK9*

Group	Species	Notes	Status
Birds	Eurasian Whimbrel *Numenius phaeopus*	Foraging on islands and sand banks	Least concern
	African Oystercatcher *Haematopus moquini*	Foraging on islands and sand banks	Least Concern
	Grey-headed Gull *Chroicocephalus cirrocephalus* Kelp gull *Larus dominicanus*	Resting on sand banks	Least Concern

	Egyptian Goose *Alopochen aegyptiaca*	Foraging on islands	Least Concern
	Pied Kingfisher *Ceryle rudis*	Hunting on edges	Least Concern
	Greater Crested Tern *Thalasseus bergii*	Resting on sand banks	Least Concern
	White-breasted Cormorant *Phalacrocorax lucidus*	Resting on sand banks	Least Concern
	Cape cormorant *Phalacrocorax capensis*	Resting on island	Least Concern
	Reed cormorant *Phalacrocorax africanus*	Foraging in open water	Least Concern
	Yellow-billed Duck *Anas undulata*	Swimming in open water	Least Concern
	Little egret *Egretta garzetta*	Foraging in salt marsh	Least Concern
	Malachite sunbird *Nectarina famosa*	Foraging in salt marsh	Least Concern
Mammals	Porcupine *Hystrix africaeaustralis*	Dung/scat observed	Least Concern
	Cape grysbok *Raphicerus melanotis*	Among sedges on edge of estuary	Least Concern
	Cape dune molerat *Bathyergus suillus*	Fossorial activity	Least Concern
Invertebrates	*Xerocystis capensis*	Observed in the sedges on banks of estuary	N/A

Figure 32: The vegetation on the northern banks, directly adjacent to the property, provides forage areas and habitat for a number of mammal species (**source**: Venter, 2024).

The dense stands of alien vegetation on the property seem to have a devastating impacts on the indigenous vegetation as well as animal diversity, distribution and density (Venter, 2024). This has resulted to only few birds and some mammal activities found during site survey, see **Table 8** below.

Table 8: Animal species observed at sites FK2, 3,4, 5,6,7 and 10

Group	Species	Notes	Status
Birds:	Southern Boubou	Site FK2	Least Concern
	Cape bulbul	Site FK2, 3, 6	Least Concern
	Forked tailed drongo	Site FK7	
	Greater Double-collared Sunbird *Cinnyris afer*	FK2, 4	Least Concern
	Hadeda ibis, *Bostrychia hagedash*	Flying, FK5	Least Concern

	Cape turtle dove, *Streptopelia capicola*	FK4 (vocalized)	Least Concern
	Karoo Prinia *Prinia maculosa*	FK 7 and 10	Least Concern
	Streaky-headed Seedeater *Crithagra gularis*	FK 7 and 10	Least Concern
	Southern Double-collared Sunbird *Cinnyris chalybeus*	FK 2,4, 7	Least Concern
	Malachite Sunbird *Nectarinia famosa*	FK10	Least Concern
	Bokmakierie *Telophorus zeylonus*	FK7	Least Concern
Amphibians	Southern caco, *Cacosternum australis*	Calling on site FK2,7	Least Concern
	Clicking stream frog, *Strongylopus grayii*	Calling on site	Least Concern
	Cape river frog, *Amietia fuscigula*	Observed (tadpoles)	Least concern
Mammals	Cape porcupine, *Hystrix africaeastrali*	Scat observed	Least Concern
	Cape dune mole-rat, Bathyergus suillus	Fossorial activity	Least Concern

Table 9: Animal species observed at site FK8

Group	Species	Notes	Status
Birds	Southern Boubou *Laniarius ferrugineus*	On site	Least Concern
	Cape bulbul *Pycnonotus capensis*	On site	Least Concern
	Karoo Prinia *Prinia maculosa*	On site	Least Concern
	Greater Double-collared Sunbird *Cinnyris afer*	On site	Least Concern
	Bokmakierie *Telophorus zeylonus*	On site	Least Concern
Insects:	Chrysomelinae sp.	In natural Agulhas Sand Fynbos – sweep netting	N/A
	Thericlesiella meridionalis	In natural Agulhas Sand Fynbos – sweep netting	Leas Concern
	Sphaerocoris testudogrisea	In natural Agulhas Sand Fynbos – sweep netting	Least Concern
	Sphenoptera sp.	In natural Agulhas Sand Fynbos – sweep netting	N/A

Animal Species of Concern

According to the faunal specialist, the property, in its current condition, has been significantly altered due to a severe infestation of alien plants, primarily *Acacia saligna* (Privett, 2024). This poses negative consequences for the presence, diversity, and abundance of wildlife. If left as is, this situation will persist, as there is little motivation to restore the area to a more natural state. The specialist also suggested that, if the development is carried out responsibly—including post-development restoration and ongoing maintenance—there is potential for system improvement, leading to positive outcomes for wildlife occurrence, diversity, and density. This consideration was factored into the faunal assessment of the development's impact and risk to animal species.

Connectivity for animal species

The conservation planning map of the Western Cape Biodiversity Plan (Pool-Stanvliet et al. 2017) highlights the presence of ESA1, ESA2 (Ecological Support Areas), and CBA1 (Critical Biodiversity Area) (Figure 13). These areas are crucial for maintaining connectivity across landscapes for wetland, estuarine, and terrestrial species.

In terms of faunal connectivity, the existence of an ecological corridor that supports the movement of ground-dwelling species between the Uilkraalmond Nature Reserve, Uilenkraals estuary, Boesmansriver, and Dynefontein Mountains is vital. The allocation of open spaces between building footprints in the current development plan is therefore beneficial. However, the development footprint still encroaches on ESA1 and CBA1 within the PAOI. From a faunal connectivity standpoint, the proposed development is assessed as having a 'medium' risk, assuming necessary mitigation measures are implemented to support animal movement.

Black harrier *Circus maurus*

Data from GBIF and iNaturalist indicate that the Black Harrier has been recorded in the region surrounding the property. As such, there is a reasonable likelihood that the species may forage on the property, although no individuals were observed during the field assessment. The limited footprint of the proposed development, coupled with the provision and rehabilitation of 'private open space', will ensure that adequate foraging habitat remains available for the Black Harrier. The species ranges widely, and the minimal loss of foraging habitat as a result of the development is likely to be tolerated. Furthermore, rehabilitation efforts, including the removal of alien vegetation and the restoration of natural Fynbos, will improve the quality of both the habitat and the availability of prey. The proposed development does not pose a significant threat to potential breeding sites of the Black Harrier, and the overall impact on the species is anticipated to be low.

African marsh harrier *Circus ranivorous*

Data from both GBIF and iNaturalist indicate that the species has been recorded near the project area, suggesting a reasonable likelihood of its presence for foraging purposes. However, the species was not observed during our field survey. The development's relatively small footprint, alongside the preservation and rehabilitation of the 'private open space,' is expected to support foraging activities for the marsh harrier. Given that this species has a wide range, the minor reduction in available forage habitat is likely to be tolerated. Moreover, the planned rehabilitation efforts, particularly the removal of alien vegetation and restoration of natural Fynbos, will enhance the habitat for the marsh harrier and its prey.

As the development site does not significantly affect potential breeding sites, the impact on the African marsh harrier is considered low, and the species is unlikely to be significantly impacted by the proposed activities.

Caspian tern *Hydroprogne caspia*

According to the faunal assessment conducted this species was not observed during the field survey, but it is likely to frequent the Uilenkraal Estuary for foraging and resting. The proposed building footprints are situated at a distance from the estuary and are not considered a significant threat. However, the construction of a jetty and increased human activity, including the presence of pets near the estuary, could disturb fauna, particularly the Caspian Tern, which uses sandbanks and mudflats for feeding and resting. As a result, potential impacts on the species due to human presence and jetty construction are considered low.

Great white pelican *Pelecanus onocrotalus*

No records of this species have been observed in the Uilenkraals estuary, and it appears that the area is not critical to the pelican's habitat. As the species was not seen during the field survey, the anticipated impact of the development on Great White Pelicans is considered to be 'very low'.

Southern black korhaan *Afrotis afra*

According to iNaturalist and GBIF data, there are several recorded sightings of this species in open Renosterveld plains within the Overberg region, more than 50 km east of the proposed development site. However, no Southern Black Korhaan were observed during site visit. Additionally, the habitat present on the development site is not conducive to

supporting the species, as it is too densely vegetated. Therefore, the potential impact of the proposed development on the Southern Black Korhaan is assessed as 'very low'.

Denham's bustard *Neotis denhami*

Based on the specialist findings, iNaturalist and GBIF records show observations to the east of the site and in open agricultural fields in the Overberg, however, the development site lacks suitable habitat. This species was not observed during the field survey, and as such, the impact of the proposed development on Denham's bustard is expected to be 'very low'.

Hottentot Buttonquail *Turnix hottentottus*

No species were observed on-site, and the dense wetland vegetation within the development area is unsuitable for this species. The likelihood of occurrence is low, with a 'very low' impact from the proposed development.

Striped Flufftail *Sarothrura affinis*

Playback surveys conducted at the site yielded no response, indicating a low likelihood of occurrence. Therefore, the impact on the Striped Flufftail is assessed as 'very low.'

Southern Adder *Bitis armata*

The specialist did not encounter this species during the field survey, the dry areas on-site are considered marginally suitable for its habitat. There is a moderate likelihood of the Southern Adder occurring on the property, but the development is expected to have a 'low' impact on this species.

Cape Dwarf Chameleon *Bradypodion pumilum*

Records from iNaturalist and GBIF suggest that the species is likely present within the development site. Though we did not observe it during the field survey, the habitat is considered suitable for breeding and foraging. Restoration of the site would enhance its suitability. While some habitat loss is expected, and construction disturbance will have negative impacts, the open spaces within the site and adjacent properties provide refuge for the species. The overall impact on the Cape Dwarf Chameleon is classified as 'low'.

Western Leopard Toad *Sclerophrys pantherine*

A stronghold for this species exists at Uilenkraal, approximately 5 km west of the property (Doucette-Riise, 2012; Casola, 2017), as confirmed by iNaturalist and GBIF records (Venter, 2024). Wetland areas at the site, particularly FK7 and FK10, could serve as marginal breeding sites. While the species was not observed during field surveys, the property likely provides suitable terrestrial foraging habitat. Rehabilitation efforts on the property could have a positive effect. Despite some permanent habitat loss and construction-related disturbances, the open spaces in and around the site offer opportunities for the species to persist. The potential impact on the Western Leopard Toad is rated as 'medium'.

Yellow-winged Agile Grasshoper *Aneuryphymus montanus*

Although the host plant(s) for A. montanus are not identified, dense stands of Acacia longifolia were noted across most of the site. Extensive sweep netting in the remnants of Agulhas Sand Fynbos, amidst significant invasive species, revealed vegetation such as *Osteospermum moniliferum, Metalasia muricata, Babiana sp., Searsia laevigata, Restio spp., Muraltia sp*., *Haemanthus sanguineus, Erica sp*., *Osyris compressa*, and Sideroxylon inerme. No A. montanus specimens were observed during the field visit. The site's distance from mountainous areas, proximity to an estuary, and lack of rocky substrate contribute to the low likelihood of A. montanus presence.

The proposed developments are assessed as having a 'very low' impact on *A. montanus* due to the following factors: 1) low elevation, 2) absence of species data for this area, 3) lack of host plant records linking current vegetation to potential insect presence, 4) no direct evidence of the species, and 5) extensive invasion by A. longifolia and A. cyclops that is unsuitable for A. montanus.

Mute Winter Katydid *Brinckiella aptera*

The proposed developments are considered to have a low impact on B. aptera due to 1) lack of host plant records linking present vegetation to the species, 2) no direct evidence of occurrence after extensive netting, and 3) significant site invasion by *A. longifolia and A. cyclops*. However, as a nocturnal species, *B. aptera* may return if the site is rehabilitated to support its historic habitat.

4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.

The objectives and management guidelines of the Biodiversity Spatial Plan have played a crucial role in shaping the approach to the proposed development. All specialist's assessment on the report, with the use of the WCBSP, have played a significant role in addressing the situation of the site. According to the WCBSP dataset, the property is situated within areas of high ecological importance, including Ecological Support Areas (ESAs) and Critical Biodiversity Areas (CBAs). The westerly section of the site is identified as an ESA, which highlights its role in supporting ecological functions and connectivity. The central part of the property is classified as a terrestrial CBA, reflecting its high species diversity and the presence of rare and endangered species within the Agulhas sand fynbos. Additionally, the lower section bordering the lagoon is designated as an aquatic CBA1, emphasising its importance to estuarine ecosystems. This classification underscores the site's significant role in conserving biodiversity and maintaining ecological balance.

Terrestrial Biodiversity Assessment

The vegetation on site is Agulhas Sand Fynbos with variations influenced by drainage and soil moisture conditions. Despite the invasion of alien species such as *Acacia saligna*, the site retains a rich diversity of native flora, including several species listed as vulnerable, such as *Leucadendron coniferum*, *Leucadendron linifolium*, and *Leucospermum prostratum*. The assessment emphasized that the fragmentation of this vegetation type should be strictly avoided as. A key ecological concern relates to potential fragmentation and the isolation of natural vegetation patches due to the development. The exclusion of fire, an essential ecological process, may also impact the long-term integrity of the natural flora and fauna. However, to addressing these concerns, the preferred design layout (Alternative 2) incorporates broader ecological corridors ranging from 40 to 140 meters between development areas. This design minimizes habitat fragmentation and allows for greater ecological connectivity across the site.

Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment

The Faunal / Animal Species Assessment highlighted the critical role of an ecological corridor that facilitates the movement of ground-dwelling species between the Uilkraalmond Nature Reserve, Uilenkraals estuary, Boesmansriver, and Dynefontein Mountains. Although the property is currently highly transformed due to alien vegetation (A. saligna), the inclusion of open spaces between the development footprint in Alternative 2 is favourable for maintaining animal movement and biodiversity. However, it is acknowledged that parts of the development will still infringe upon ESA1 and CBA1 areas.

4.5.	Explain what impact the proposed development will have on the site-specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

Site specific functions:

Vegetation

Despite the heavily invaded and subsequently degraded state of the subject properties, as well as surrounding properties, there is currently good connectivity through the property from the lagoon to the mountains to the northwest. The properties across the tar road are already partly forming barriers to connectivity with high levels of transformation and high alien vegetation densities. There has been a development proposal for the property to the north-west (Portion 29 of 708) which, if granted, will also result in fragmentation and impact on connectivity in this area. Fynbos Ecoscapes was involved in the biodiversity study of this site and proposed an ecological corridor through the property for improved connectivity which will work well with the corridors proposed in this application. The status of this development is not currently known. Portion 30 of 708, is a small holding with largely intact vegetation, although heavily infested with alien invasive species, most notably *Acacia saligna* (Port jackson).

Natural ecological and evolutionary processes at the landscape scale are still functional and planning around this development has taken connectivity and natural corridors into account. Ultimately, however, the retention of natural corridors from crest to coast, will require participation and buy-in from surrounding property owners.

The proposed development area is characterised by critically endangered Agulhas sand fynbos, invaded with *Acacia saligna*. The Gazebo and boardwalk to the water's edge would impact on the estuarine edge flora, however the raised boardwalk will help to reduce impacts associated with trampling and adhoc development of footpaths. The vegetation over much of the area is currently in poor condition, owing to the invasion by *Acacia saligna* but has a high conservation value, based on the possibility of removing the invasive species and restoring the site to its near-natural state. The impact of vegetation loss is unavoidable on the development areas, a loss of approximately 6 ha of vegetation will be lost, however, mitigation measures are provided for and the restoration which comes as a result of the proposal should be considered as a positive impact.

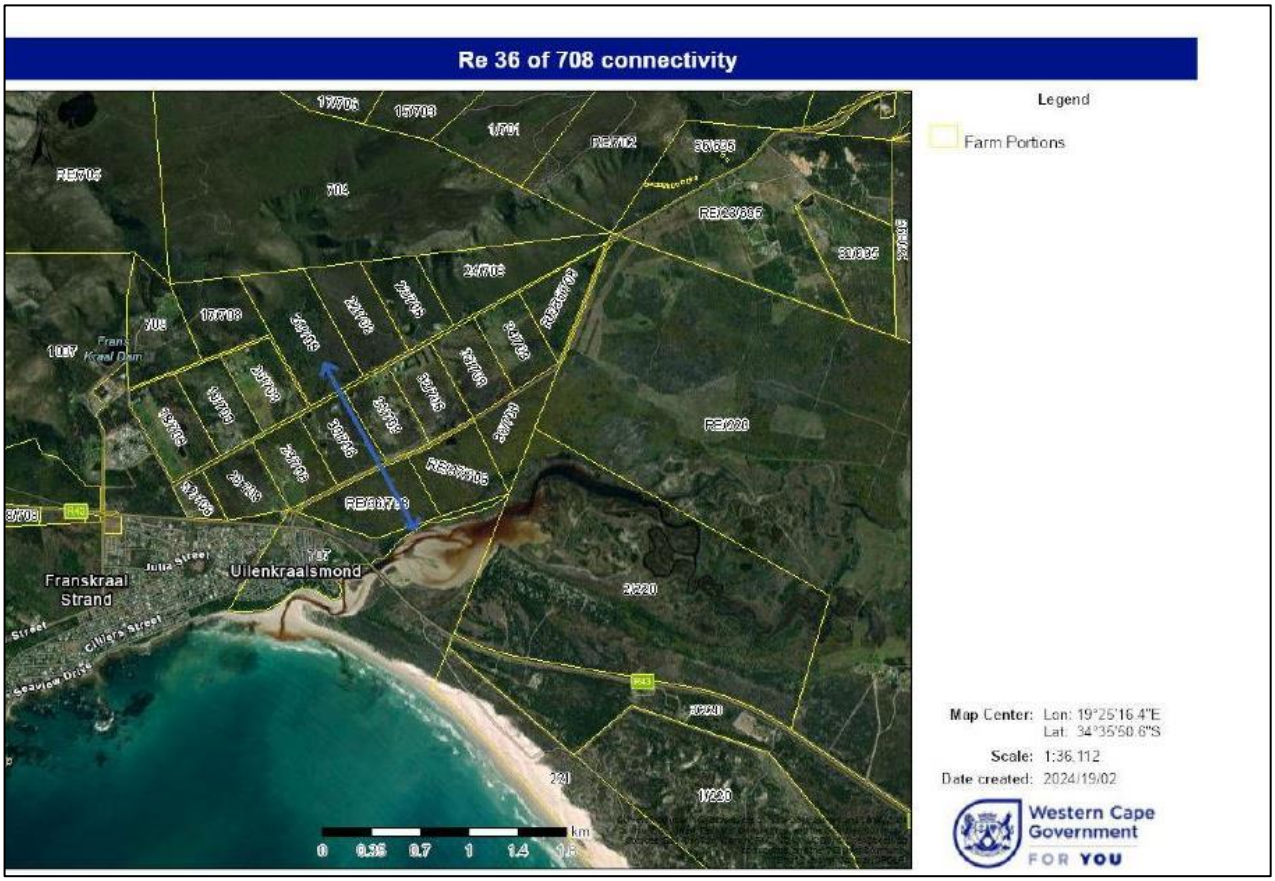


Figure 33: Locality of portion 36 of 708 (red polygon), northeast of the village of Franskraal in the Overberg region of the Western Cape (Pivett, 2024).

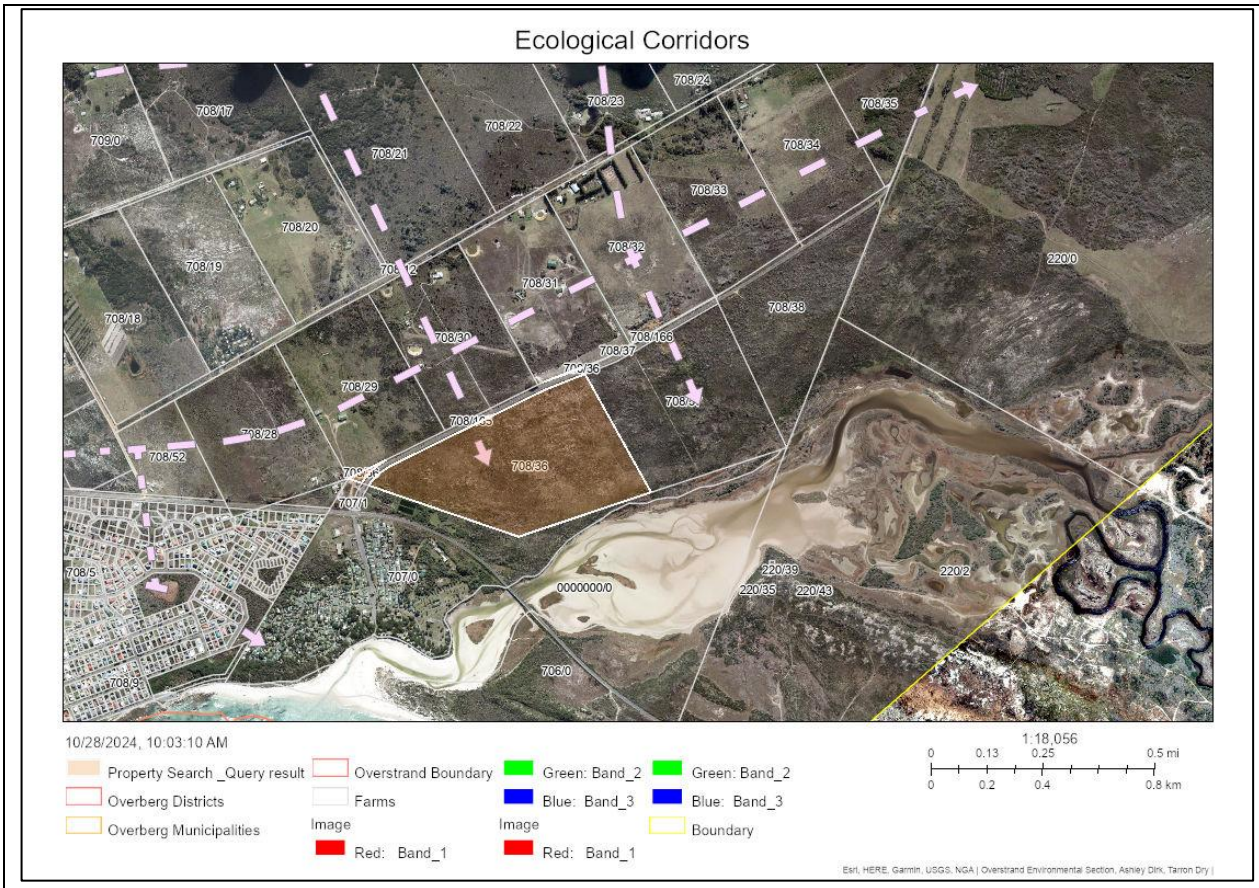


Figure 34: Ecological corridors as per the Overstrand Municipal GIS mapping. These align with the corridors as proposed as part of the development.

Ecological Connectivity

The proposed estate development will impact on connectivity between the lagoon and Franskraal mountains. However, the preferred alternative and layout ensures that this connectivity is maintained by incorporation of larger ecological corridors which align with the corridors in the larger area.

Restoration and Rehabilitation

The development of the site allows for the restoration and rehabilitation of the site through vegetation management and wetland rehabilitation. The proposal allows secures fixed ecological corridors which align with the vision for the broader area.

4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.
N/A	
4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

The faunal assessment study was conducted for the site, and it has been highlighted that dominant habitat of animal species, including large numbers of bird species were found congregated within the sandbanks and estuary islands shown in **Figure 35** below . The assessment highlights the presence of vegetation on the northern banks of the estuary, adjacent to the property that it provides forage areas and habitat for a number of mammal species.

Figure 35: The Uilenkraals estuary during high tide (**source**: Venter, 2024)

The degraded state of indigenous vegetation on the property due to alien vegetation infestation has a negative implication for animal occurrence. However, the presence of an ecological corridor facilitating movement of ground-dwelling species between the Uilkraalmond Nature Reserve, the Uilenkraal estuary, the Boesmansriver and Dynefontein Mountains is important and essential. The provision of the open spaces between the building footprints in the current development plan is therefore desirable (Figure 3 of the animal species assessment). The development footprint does still infringe on the ESA1 and CBA 1 areas in the PAOI. From the faunal specialist, if the development is done in a manner (which includes post development restoration and system maintenance) it has the potential to improve the system with spin offs.

The inclusion of ecological corridors in the layout design aligns with the vision for reinstatement of the crest to coast ecological corridors for the broader area.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.
The proposed development will involve clearance of alien vegetation to allow development of the eco-estate. It is important to note that no major excavation will take place, the housing structures will be placed on micro piled foundations to minimise the impacts on wetlands and subsurface flow.

6. Heritage Resources

6.1.	Was a specialist study conducted?	YES x	NO
6.2.	Provide the name and/or company who conducted the specialist study.		

Jonathan Kaplan – Archaeological Impact Assessment and Integrated Heritage Impact Assessment

Megan Anderson - Landscape Architect - Visual Impact Assessment

John Pether – Palaeontological Impact Assessment

6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.

Visual Impact Assessment

The proposed site sits on the gently undulating coastal plain close to the Uilkraals River and Lagoon.

The Landscape Features include:

- → Mountain ridges which are the dominant features of the landscape particularly in relation to their juxtaposition with the coastline, together with the visual importance and sensitivity of the skyline, such as in the Kogelberg.
- → Mountain cliffs and steep slopes, which can be seen as buttresses in the landscape, forming an impressive scenic backdrop for the coastal landscape, and which at the same time tend to be visually sensitive.
- → The coastal estuaries and lagoons, being water bodies with exceptional ecological, scenic and recreational value, and which are visually sensitive because of their open nature. These include the Kleinmond Bot River.
- → Coastal dunes and dune fields form interesting landscape features, particularly in the scenic and recreational

Scenic Resources

Besides natural landscape features, there are a range of factors which add to the cultural significance of the resources, including the following:

- → Areas of scenic value, where the juxtaposition and combination of the natural features in relation to each other increases their scenic and natural heritage significance. context of the Overstrand coastline.
- → Nature reserves, which because of their protected status, increase the significance of the natural and scenic resources of those areas. These include Walker Bay and Duinefontein Nature Reserves and some terrestrial and aquatic CBA's.

Figure 36a: Local Nature Reserves - Duinefontein and Walker Bay

Figure 36b: View northwest across the site (position approximately indicated by red dotted area), from the bridge of the R43 crossing the Uilenkraals River and Lagoon towards the Franskraal mountains.

Figure 36c: 3-D view of the proposed development as seen across the Uilkraal River lagoon (Megan, 2024)

Scenic corridors occur along scenic routes and have particular significance where these interface with areas of high scenic value. The routes tend to have regional or local significance, and include the R43, also known as the Whale Route. Towns and settlements contribute to the heritage value of the area at a more local scale. Settlements tend to have started as small nodes but in some cases are coalescing in ribbon-type developments.

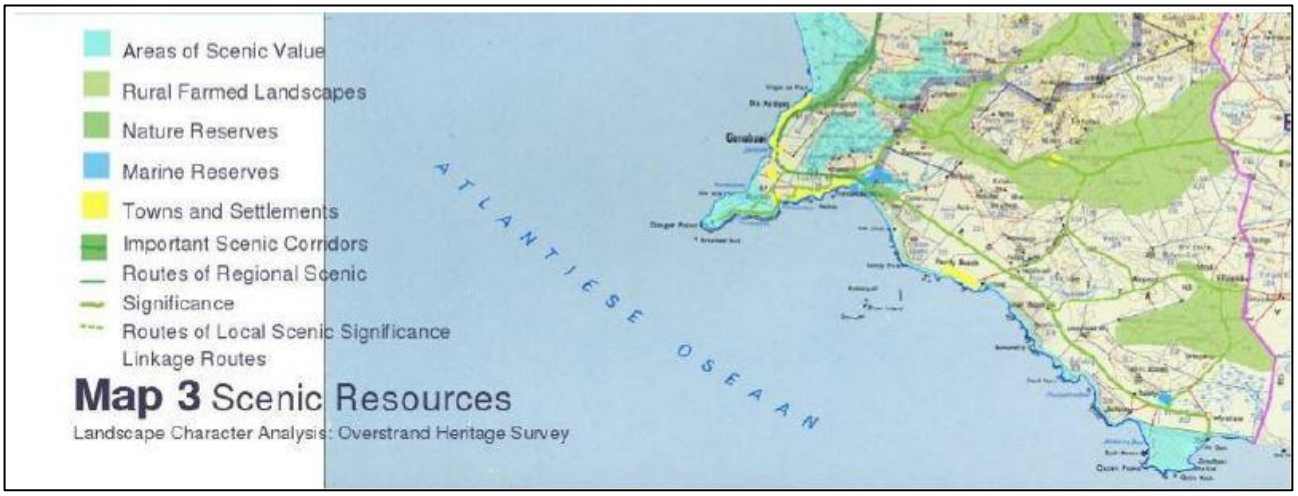


Figure 36d: Scenic Resources of study area (Source: BOLA Landscape Character Analysis, Overstrand Heritage Survey)

Scenic Resources of the Site and Surrounds

The proposed site sits on the gently undulating coastal plain close to the Uilkraals River and Lagoon. To the northwest and east the landscape is predominantly rural and natural up till the range of mountains.

The site itself is north of the R43 and west of the Uilenkraals River, within the Urban Edge Line, on a gently undulating site currently covered by invasive alien vegetation, although remnants of the original fynbos is well evident on closer inspection. The site slopes gently from the west to the Uilenkraals River in the east.

Figure 36e: View southeast from mountains towards coastline with Uilenkraal Estuary in centre and approximate position of site indicated by red dotted line.

The R43 Scenic Route, known as the Whale Route, runs along the coast between Rooiels in the west and Die Dam in the east, and is a much used tourist route. It currently divides the residential and urban development of Franskraal to its south, from the rural and natural landscapes to its north. While tourist need to leave this road to see the coastline along Franskraal, the massive mountains and rural landscape is clearly visible to the north from the road.

The Uilenkraals river is the eastern extent of Franskraal and urban development with the Uilkraalmond Resort being adjacent to the river, south of the R43. This development is well concealed from the river side and R43, particularly when travelling west. A band of natural vegetation screens the development successfully.

Wedged between the site and R43 to the south, is a narrow strip of land that has what seems to be the local Wastewater Treatment Works.

Figure 36f: Looking north, from the R43, across the ponds of the Waste Water Treatment Works to the site covered by invasive alien vegetation.

The **Scenic resources** of the area site and its surrounds can be described as natural (undeveloped coastal plain (much heavily infested with alien vegetation), the Uillenskraals river/lagoon/estuary, Franskraal se Berge and nature reserves), rural landscape north of the R43 and residential (Franskraal). These are **Highly to Moderately** (recent urban development) rated.

Zone of Visual Influence

Local features such as vegetation and landforms, and distance will reduce the extent of the area from which the proposed site and development will be seen, to an area known as the Zone of Visual Influence (ZVI) of the site.

The ZVI of the site will be between 3 kms to the northwest and 2 kms to the north, from higher lying areas than the site itself. To the east the site is seen from areas that are clear of tall vegetation and approximately 1,5 to 3kms from the R43, travelling west.

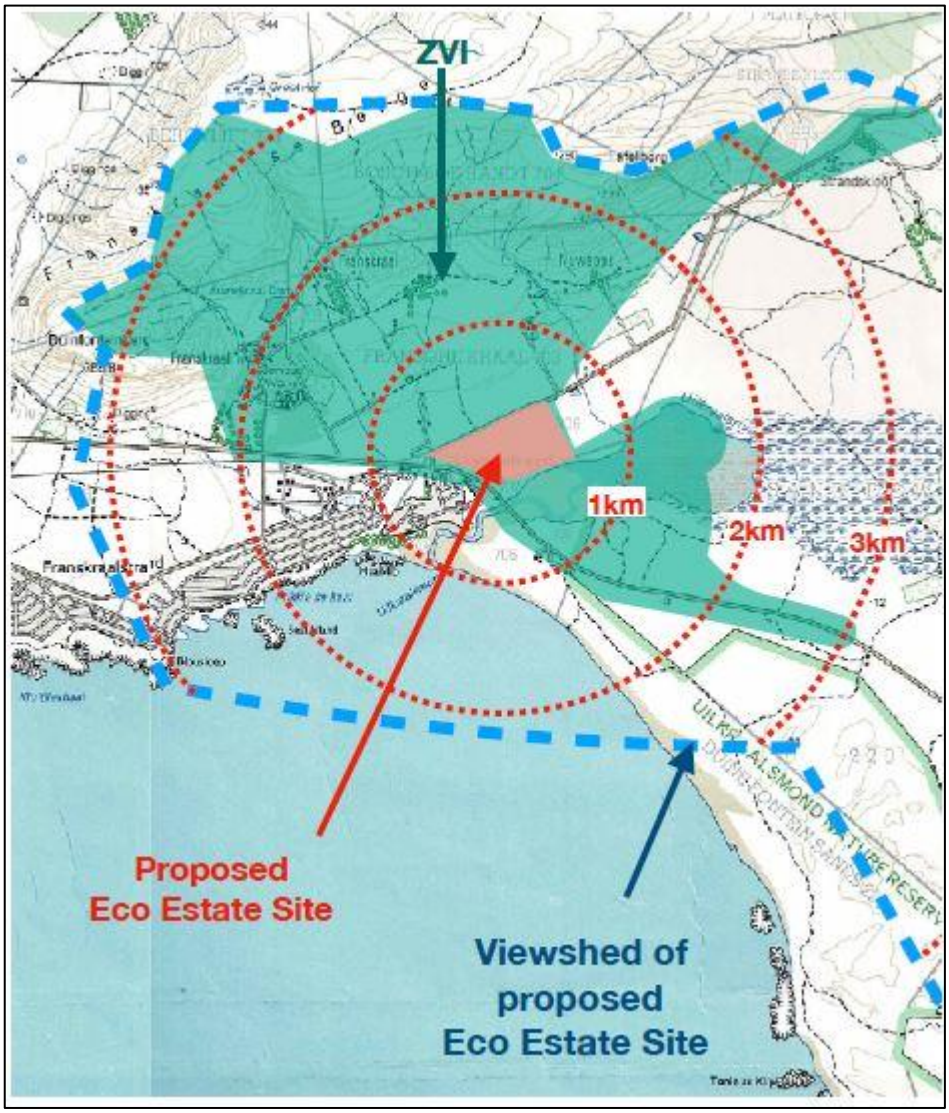


Figure 36g: Zone of Visual Influence of the Site shaded in green (radii from approximate centre of site)

Receptors

The following receptors have been found in the ZVI area of the proposed site of development:

Highly sensitive receptors include:

→ Uilenskraalmond Nature Reserve;
→ Combined Heritage Protection and Environmental Management Overlay Zones;
→ R43 Scenic Drive and Corridor.

Moderately sensitive receptors include:

→ Surrounding rural area

The sensitivity of receptors within the ZVI are inclusive of those rated High, as defined and identified above and moderate - balance of area in ZVI. These are indicated on the Figure below.

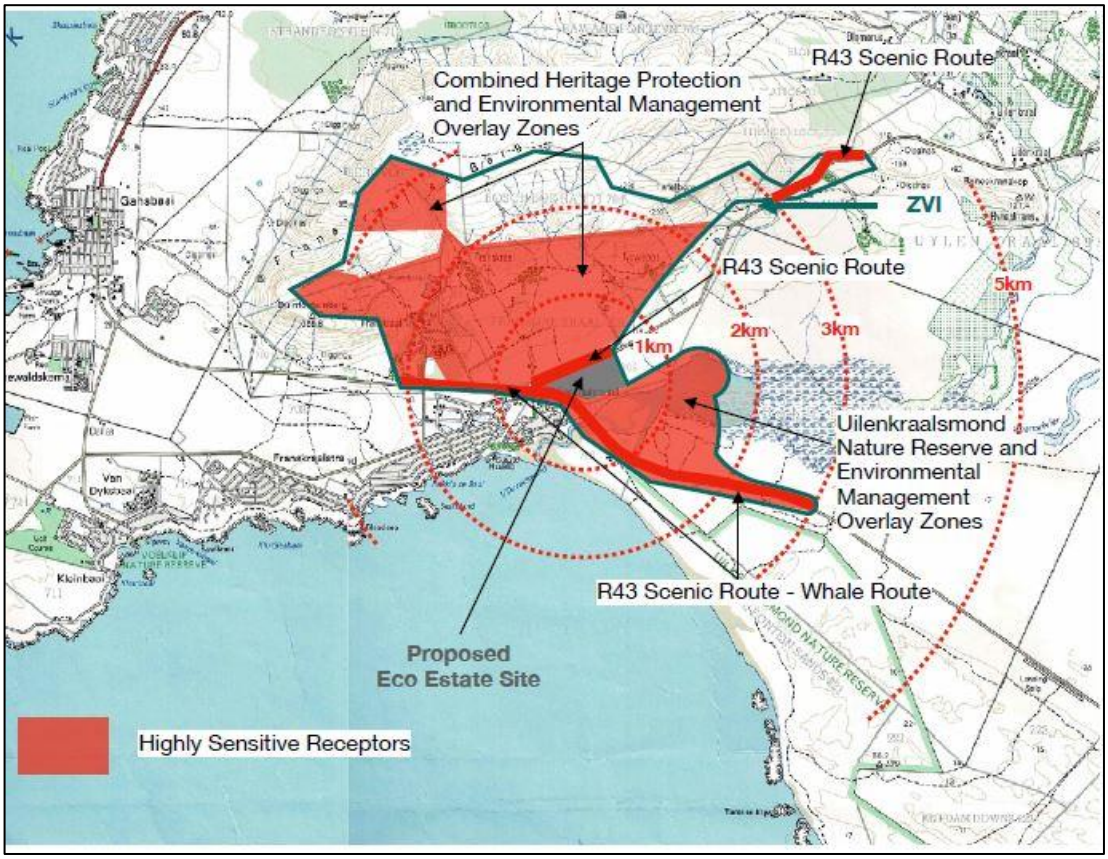


Figure 36h: Receptors of the proposed site of development

Visual Sensitivity of the site

The inherent visibility of the sites' landscape is usually determined by a combination of topography, slope grades, landform, vegetation cover and surrounding landuse. This translates into visual sensitivity.

High visual sensitivity – highly visible and potentially sensitive areas in the landscape, Moderate visual sensitivity – moderately visible areas in the landscape, Low visual sensitivity – minimally visible areas in the landscape

These aspects include:

- Topography - relatively low lying resulting in the site having a Low Visual Sensitivity
- Landforms - flat - gently undulating coastal plain resulting in Low Visual Sensitivity
- Slope Gradient - less than 1:20 resulting in Low Visual Sensitivity
- Landuses - wilderness, rural and residential - High Visual Sensitivity,
- Special Features - R43 Scenic Route, UilkraaL Estuary/Lagoon

All these aspects are combined to produce a composite visual sensitivity map of the site which is then overlaid on the proposed site plan. Areas of the development that will have a High, Moderate - High, Moderate or Low Visual Impact are identified, as seen on the **Figure 37** below.

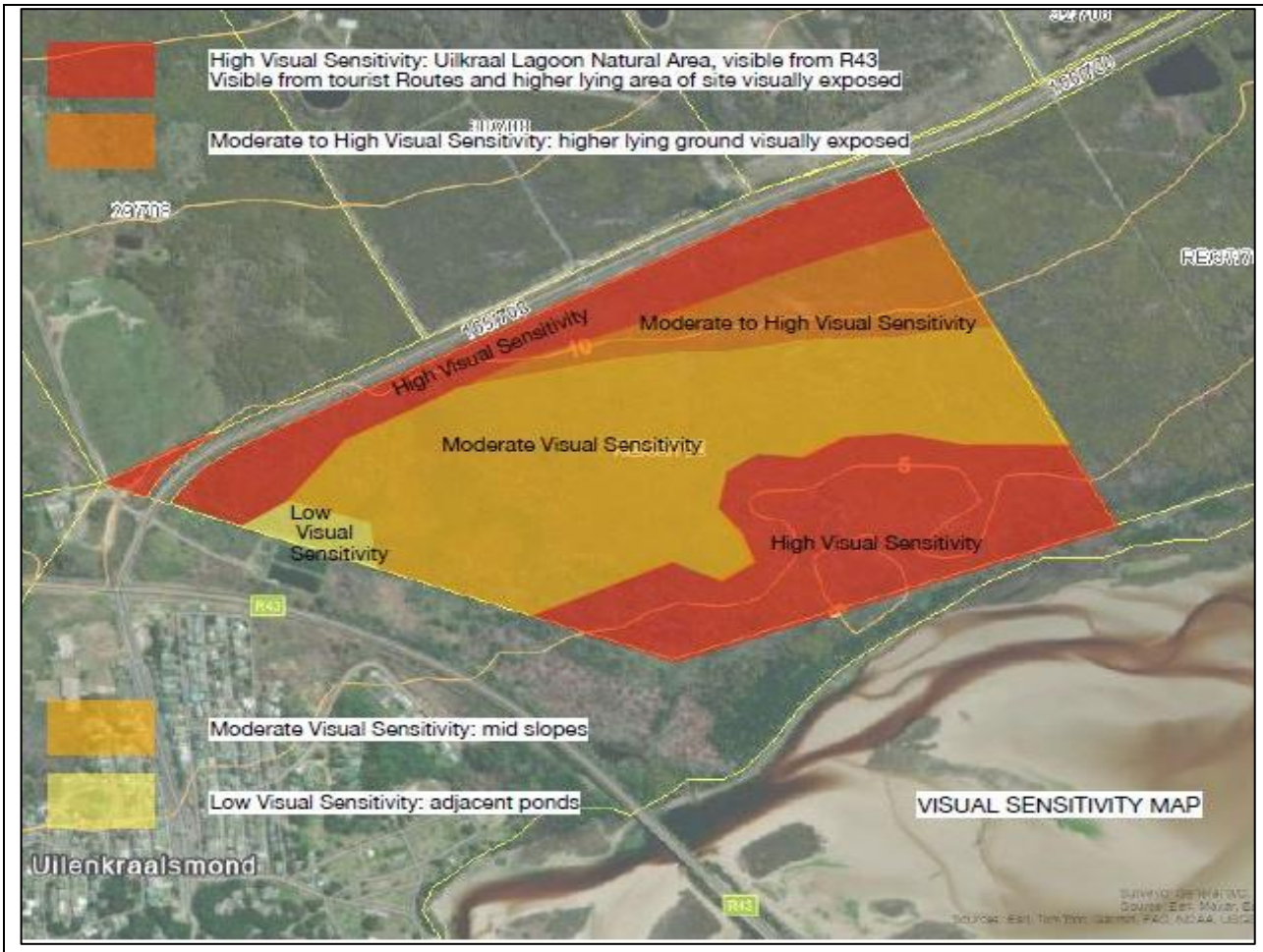


Figure 37: Visual Sensitivity of the site and proposed development

Most of the site will have a moderate visual sensitivity. Development in these areas will potentially have a Moderate, negative visual Impact.

Some areas of the site, namely the areas adjacent to the R43 Scenic Route and Corridor and the Uilkraals Estuary/Lagoon, and their buffers, identified on site, will have a high visual sensitivity and any development in these areas will potentially have a high, negative visual impact. See **Figure 38** below.

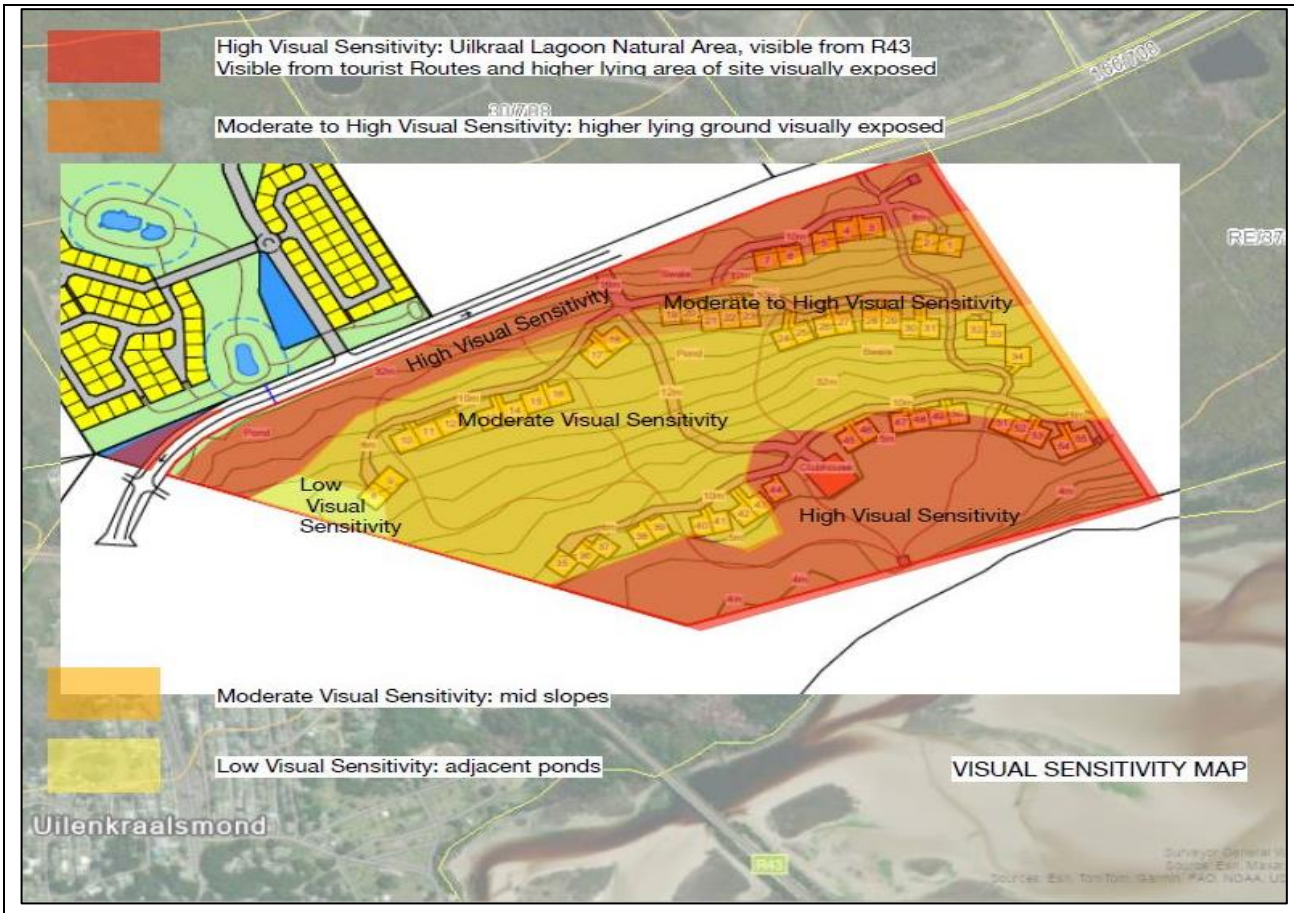


Figure 38: Proposed development overlaid on the Visual Sensitivity plan highlighting areas of visual concern.

Units 3 to 7 and 44 to 55 and the communal facility are within the high visual sensitivity areas and will result in a high visual impact and will need to be mitigated.

Visual Absorption Capacity

The proposed site of development is on the relatively flat - gently undulating coastal plain. The vegetation is predominantly invasive alien vegetation with remnants of fynbos. When cleared of

the invasive vegetation, the remaining fynbos will provide little screening. The VAC of the site is moderate to low, there is partial (low lying, some undulations) to little screening by topography and vegetation.

Visual Intrusion

The proposed site of development is situated on a predominantly undisturbed site. The site is very close to the Uilkraals Estuary/Lagoon which is partially protected and a EMOZ and the R43 Scenic

Route is immediately adjacent to the western border of the site. The site is within the current urban edge line of the Greater Gansbaai area and is indicated for development. The Uilkraalmond Resort is close by to the south and to the west and north there is rural development. The visual intrusion of the proposed development will be moderate - i.e it partially fits into the surroundings (Uilkraalmond Resort and rural development), but will be clearly noticeable.

Potential Visual Impacts:

Construction phase:

During the construction phase of the development it is assumed that the site will be cleared of the invasive alien vegetation and the installation of services, roads, units and fencing areas will be cleared of all vegetation. The clearing of the alien vegetation will result in the site being visually exposed to the adjacent areas namely the R43 roads and the

Lagoon while the construction activity will also change the activity levels of the site as well as the vegetation clearing for construction will also result in exposed substrates being more visible to the surrounding areas.

Operation Phase:

- Loss of Scenic Resources - Change of visual character and Sense of Place, from a passive rural and wilderness site to a site with a residential character;
- Visibility from sensitive receptors;
- Visual intrusion of night lighting.

Loss of scenic resource - Change of visual character and Sense of Place from a predominantly undeveloped site to a low-density residential development.

The rural and wilderness character of the site will be replaced by residential buildings, facilities and amenities, paved roads, boundary walls/fences.

Palaeontological Impact Assessment

Affected formations

According to Palaeontological assessment, the project area is located on a wave-cut marine platform planned across Peninsula Fm. quartzite bedrock. Most of the area is mapped ass bedrock (Ope) (**Figure 40**). The wider surrounding area is underlain by the calcreted Waenhuiskrans Fm. aeolianites (Qw). A small area of the Waenhuiskrans Fm. is mapped in the southeastern corner of the property where a steeper slope descends down to the edge of the estuary (**Figure 40**). Recent dune sands of the Strandveld Fm. (Qs) are indicated around the estuary mouth, just lapping onto the lower southernmost part of the Project Area. Recent dune sands of the Strandveld Fm. (Qs) are indicated around the estuary mouth, just lapping onto the lower southernmost part of the Project Area.

The area was occupied by the sea during the Late Pliocene Warm Period (~3 Ma), but other than residual rounded cobbles (**Figure 39)** it is unlikely that fossiliferous De Hoopvlei Fm. deposits remain. The high sea level of ~13 m asl. during MIS 11 (~400 ka) (**Figure 41**) would have inundated the Project Area. During the subsequent 270 thousand years the shoreline varied in distance from the site until sea level was exceeded again during the Last Interglacial and lapped onto the lower portion of the Project Area below about 6 m asl. However, no outcrops of the Klein Brak Fm. have been mentioned to occur around the Uilenkraalsmond estuary.

The proposed development is mainly on the mapped bedrock and the surficial aeolian coversands (Qg) which mantle most of the Project Area. The Waenhuiskrans Fm. aeolianites in the low-elevation southeastern part of the Project Area are marginally affected, but the mapped boundaries are not necessarily precise.

Figure 39: Bedrock rubble and cobbles from shallow ditch of adjacent main road (**source**: Kaplan, 2024).

Anticipated impacts on Palaeontological resources

The physical extent of impacts on the project area is associated with the construction phase of the proposed development. The disturbance includes the subsurface disturbance through use of Self Drilling Anchor piles for micro piled foundations. This method of drilling for the placement of micropiled foundations is considered less intrusive as it reduces the impact of the proposed development. The trenches for services infrastructure (generally ~1.0 m depth) and will primarily affect the aeolian Qg coversands and marginally affect the upper Waenhuiskrans Fm., of MODERATE palaeontological sensitivities with respect to fossil bones due to the estuarine shoreline setting. According to Kaplin (2024), although Peninsula Fm bedrock is rated high by SAHRIS as illustrated in **Figure 42** below, the proposed construction activities will not impact the fossil heritage associated with this bedrock.

Marine deposits of the De Hoopvlei Fm. and the Klein Brak Fm. have apparently been eroded from the bedrock platform, although it is possible that residual deposits may be encountered in the trenches for services. Thin veneers of cemented De Hoopvlei Fm. conglomerates may occur, but the shell content in such cases is dissolved to moulds except for oyster shells.

The Klein Brak Fm. raised beach deposits include a fossil shell fauna which is mainly comprised of extant (living) species which are common today. In sheltered settings where warm-water conditions pertained locally the deposits may also include a few tropical species that no longer occur along the coast today, as well as a small number of extinct species. The development is above ~5 m asl. and may intersect the older, pre-LIG deposits wherein there is less potential for the preservation of fossil shells. Due to the unfavourable setting a LOW sensitivity may be assigned to any residual Klein Brak Fm. raised beach deposits which may occur in the Project Area.

Residual shelly deposits of the Quaternary Klein Brak Fm. may occur beneath the coversands, of LOW sensitivity due to the preponderance of extant species and previous sampling in the region. An impact on the fossil shell heritage of the Klein Brak Fm. is not expected.

In consideration of the shoreline setting of the proposed development it is considered probable (distinct possibility) that fossil bones and buried archaeological material are present within the Project Area.

The overall, default palaeontological sensitivity of the Waenhuiskrans Fm. is classified as VERY HIGH and the unconsolidated Qg coversand deposits is classified as LOW by the SAHRIS Palaeo-Sensitivity map. Considering that the late Quaternary to present day fauna is fairly well known from archaeological sites and hyaena lair bone accumulations, additional finds are considered to be of moderate scientific importance, i.e. formations known to contain palaeontological localities and that have yielded fossils that are common elsewhere, and/or that are stratigraphically long-ranging, may be assigned a MODERATE sensitivity rating (Appendix 1 of the Palaeontological Impact Assessment). These criteria apply to both the Qg coversands and the Waenhuiskrans Fm. Furthermore, although fossil bones are quite sparse in the older aeolianites and in the coversands, the ecologically diverse estuarine setting increases the probability that they could occur to distinctly possible. Buried archaeological material, such as artefacts, shell and bone scatters, and brown hyaena (strandwolf) bone stashes, could be uncovered in the coversands.

Figure 40: Geology of the Franskraalstrand area (**source:** Kaplin, 2024).

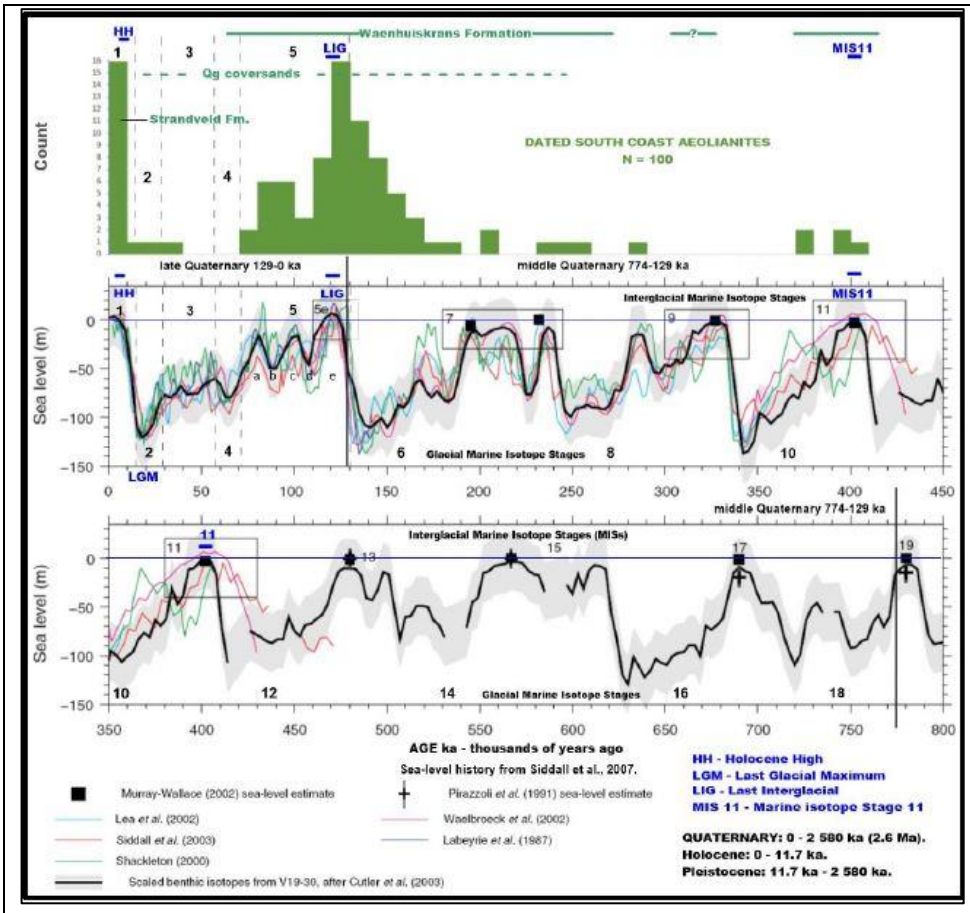


Figure 41: Sea-level history for the last 800 ka with numbered Marine Isotope Stages showing the ages of the Klein Brak Formation raised beaches and OSL dates from South Coast Waenhuiskrans Fm. aeolianites (**Kaplin, 2024**).

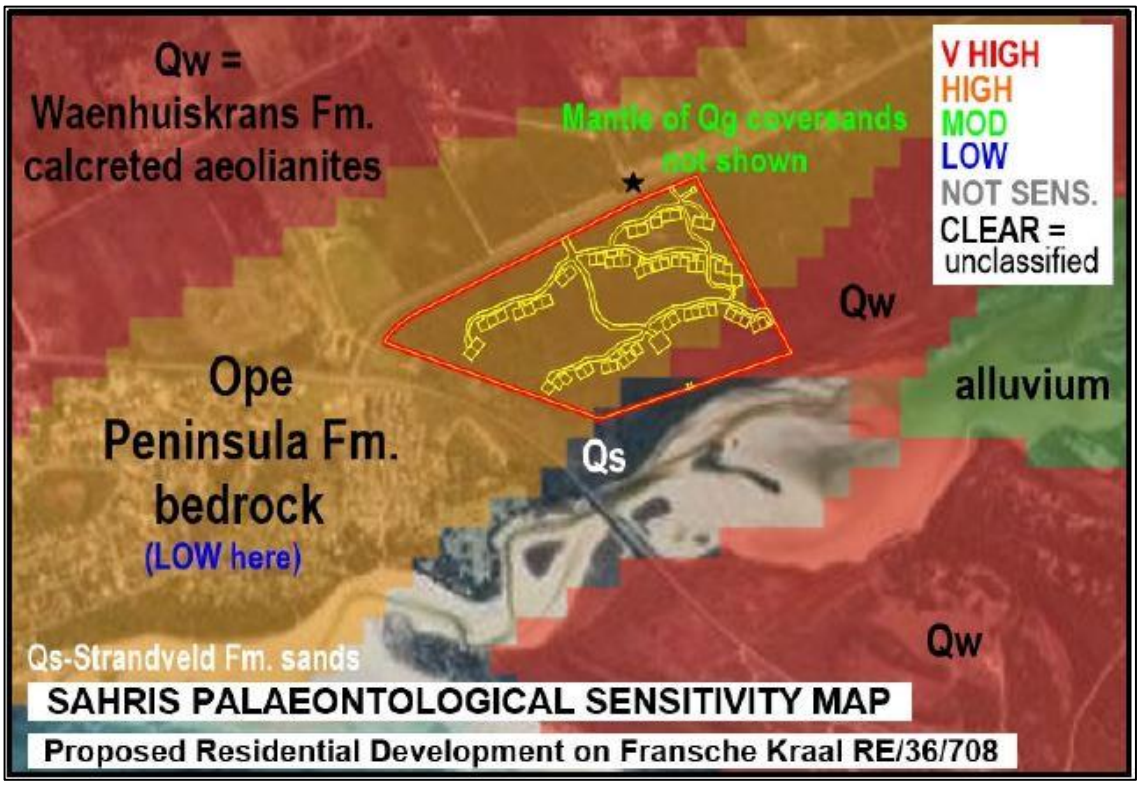


Figure 42: Palaeontological sensitivities of formations in the Uilenkraalsmond area (**source:** Kaplin, 2024).

The intensity or magnitude of impact relates to the palaeontological sensitivities of the affected formations (**Appendix 1** Paleontological Impact Assessment) and the volume of disturbance by excavation. The use of Self Drilling Anchor piles to support dwellings considerably reduces the subsurface impact of the proposed development. The trenches for services infrastructure (generally ~1.0 m depth) and will primarily affect the aeolian Qg coversands and marginally affect the upper Waenhuiskrans Fm., of MODERATE palaeontological sensitivities with respect to fossil bones due to the estuarine shoreline setting.

Residual shelly deposits of the Quaternary Klein Brak Fm. may occur beneath the coversands, of LOW sensitivity due to the preponderance of extant species and previous sampling in the region. An impact on the fossil shell heritage of the Klein Brak Fm. is not expected.

Cumulative impacts

It will never be possible to spot and rescue all fossils which means that there will always be some loss and therefore cumulative negative impact. As mentioned, the impact of both the finding and the loss of fossils is permanent. The loss of fossils would be of unknown significance. Diligent and successful mitigation contributes to a positive cumulative impact as the rescued fossils are preserved and accumulated for scientific study. Positive impacts would continue to be felt with successful mitigation because of the scientific implications of the resulting research opportunities. Even though just a very minor portion of the bone fossils exposed in excavations has been seen and saved, the rescued fossils proved to be of fundamental scientific value.

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.

Paleontological Impact Assessment

The Palaeontological Impact Assessment conducted by John Pether (2024) indicates that potential discovery of fossil material, could take place during construction. The site lies above formations with varying levels of palaeontological sensitivity—namely, the Waenhuiskrans Formation, which has a Very High sensitivity, and the overlying Qg coversands with Low sensitivity. The presence of fossils, though generally sparse, is possible due to the estuarine setting, increasing the likelihood of uncovering shell and bone scatters, as well as other archaeological remains.

This palaeontological potential has influenced the proposed development by necessitating the implementation of mitigation strategies, including monitoring and fossil rescue efforts during excavation. These strategies aim to preserve scientifically valuable specimens, contributing to ongoing research and reducing the likelihood of permanent loss of fossil heritage. Without these mitigation measures, the significance of the impact would be rated as Medium Negative due to the possible loss of fossils, but proper mitigation may elevate the outcome to a Medium to High Positive, depending on the significance of any finds.

Visual Impact Assessment

The Visual Impact Assessment (Anderson, 2024) identifies the scenic value of the surrounding landscape, including the R43 Scenic Route (also known as the Whale Route), which runs along the coast and provides views of the rural and natural landscape to the north. The juxtaposition of the rugged sandstone mountain ranges, pristine coastline, and estuarine environments creates a natural heritage resource with significant tourism and economic value.

The proposed development will alter the visual character of the site from an undeveloped coastal plain to a low-density residential development, impacting the rural and wilderness qualities of the area. Sensitive visual receptors, including the Uilenskraalmond Nature Reserve and the R43 Scenic Drive, are identified as being at risk of experiencing a moderate to high negative visual impact. The introduction of residential buildings, roads, and boundary fencing will change the sense of place, though these elements may blend partially into the surrounding environment. Efforts to manage alien vegetation and implement sensitive design solutions have been proposed to mitigate visual intrusion and maintain the area's scenic and natural heritage.

Heritage Impact Assessment

Archaeology

Scatters of shellfish, stone tools, and pottery may be exposed during vegetation clearing operations and preparation of the site for development.

Unmarked Khoisan burials may be exposed during construction phase excavations, but the probability of this occurring is considered to be low.

Palaeontology

Pether (2024) notes that although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS (**Figure 13** of the Heritage Impact Assessment), for the most part its palaeontological sensitivity is LOW due to the sparse presence of trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed construction activities is not expected' (Pether 2024).

According to Pether (2024), it also seems improbable that residual "raised beach" deposits of the Klein Brak Fm. with well-preserved fossil content are present. The Klein Brak Fm. is not rated on the SAHRIS palaeontological sensitivity map but is assigned CLEAR/Unclassified Due to the unfavourable setting a LOW sensitivity may be assigned to any residual Klein Brak Fm. raised beach deposits which may occur in the Project Area. Intersection of the uppermost Waenhuiskrans Fm. in earthworks is (also) limited, relative to the affected volume of overlying unconsolidated Qg coversands which mantle the area. The fossil bones that may occur in the Waenhuiskrans Fm. are, like the later coversands, also mainly comprised of representatives of extant fauna, but unexpected species of a different fauna are more likely to occur, as a result of phases of different ecological and palaeoclimatic conditions in the past, as well as the bones of some species which became extinct in the geologically recent past.

The overall, default palaeontological sensitivity of the Waenhuiskrans Fm. is classified as VERY HIGH/red and the unconsolidated Qg coversand deposits is classified as LOW/blue by the SAHRIS Palaeo-Sensitivity map. Considering that the late Quaternary to present day faunas are fairly well known from archaeological sites and hyaena lair bone accumulations, additional finds are considered to be of moderate scientific importance, i.e. formations known to contain palaeontological localities and that have yielded fossils that are common elsewhere, and/or that are stratigraphically long-ranging, may be assigned a MODERATE sensitivity rating.

Cultural Landscape

According to Anderson (2024), the proposed development falls within the Greater Gansbaai Urban Edge as defined in the 2020 Spatial Development Framework. Furthermore, the area is allocated for urban development, where plans provided indicate further residential development to the west of the site. The proposed eco type development is also low density and as such is an appropriate development for this site which is visible from Scenic Routes and is adjacent to the Uilkraal Lagoon (Anderson 2024). The proposed development guidelines further indicates `that much consideration has been given to the sites visual sensitivity and if development is to go ahead, the site can be visually enhanced from the alien infested character now presented' (Anderson 2024:41).

Conclusion

Indications are that a proposed Eco Type development on Portion 36 of Farm 708 Franskraal, does not pose a significant threat to local Stone Age archaeological resources. Shell middens, stone tools and stone tools, may however be exposed during vegetation clearing operations. The likelihood of Khoisan burials being uncovered during construction phase excavations is considered to be low given the shallow depth of the associated excavations.

According to Pether (2024), although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS, for the most part its palaeontological sensitivity is LOW due to the sparse presence of the trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed construction activities is (therefore) not expected'. Any fossil heritage is likely to be encountered in an archaeological context.

According to Anderson (2024), the proposed development plan, indicating 52 units, and the 'Franskraal Beach Estate (Portion 36 of Farm Franche Kraal) Design Guidelines and Philosophy' Draft document dated 6 March 2024, provide for a number of design elements that assist in the mitigation of the potential visual impacts. Although most, of the identified

receptors are sensitive to visual change of the experiential landscape, the overall impacts are low.

If the recommendations and mitigation measures are implemented, the proposed development could have a moderate visual impact on the highly rated scenic resources of the surrounding environment and could enhance the visual character of the site and its surrounds (Anderson 2024:41).

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.

The project site falls within the jurisdiction of the Overstrand Municipality and the Overberg District Municipality (ODM). The visual metrics of the ODM's socioeconomic profile (2023) are presented below.

Overstrand Municipality is located along the south-western coastline of the Overberg District Municipal area bordering the City of Cape Town in the west and Cape Agulhas Municipality in the east. Its northern neighbour is Theewaterskloof Municipality. Overstrand is a dynamic unity combining great potential and a beautiful setting. Our task is to bring about growth and development to the benefit of all our people, in their different communities, whilst maintaining a balance with nature. The Municipality covers a land area of approximately 1708 km^2, with a projected population of 110 971 people (Western Cape Provincial Treasury, SEP 2022) and covers the areas of Hangklip Kleinmond, Greater Hermanus, Stanford and Greater Gansbaai.

In addition to the endless, pristine beaches dotting the coastline, the Overstrand boasts 5 Blue Flag beaches. Tourism is a major economic driver in the area and its popularity as a holiday destination results in a fourfold increase of its population over the holiday seasons. This influx places a great strain on the existing municipal services and roads infrastructure.

The Overstrand Municipality's population increased by 56 721 people over a period of 20 years from 1996 to 2016. Overstrand's population has increased steadily from 80 432 in 2011 to 93 407 in 2016. Between 2011 and 2016 the population growth in Overstrand was 16.1 per cent. The projected population growth for the period 2022-2026 are cited on the Municipal IDP 2023/24. The population increase for the municipality is expected to increase from 110 971 to 124 826 in 2026, making it the most populated municipal area in the Overberg District.

According to the Overstrand IDP 2023/2024, the Overstrand has a growing population that will increase the demand for housing, employment, service delivery and related infrastructure developments. The increased population growth will therefor place increased pressure on the municipal resources to develop new as well as maintain existing infrastructure. The ability to work from home has enabled households to move away from the economic hubs and settle in smaller towns such as Hermanus. This trend can be a valuable injection for the local economy as well as the municipality in terms of income generation, despite the increased demand for services (Source: Western Cape Provincial Treasury, MERO 2021 and SEP 2021).

Overstrand's 2023 projected forecast is 0.1 per cent economic growth, which is lower than both the District and Western Cape projection over the same period. In 2020, a total of 33 096 workers were employed in the Overstrand municipal area, contributing 27.4 per cent to Overberg District employment during the year. Between 2016 and 2020, the Overstrand municipal area experienced an average annual decline of 520 jobs. Estimates for 2021 indicate a further deterioration in Overstrand's employment, with a total of 1 475 jobs lost. Overall, the deterioration of the Overberg's labour market conditions in 2020 was due to the COVID-19 pandemic and the implantation of lockdown restrictions to contain its spread. Furthermore, restrictions in domestic and international travel greatly impacted activity in sectors related to tourism (Western Cape Provincial Treasury, MERO, 2022). Furthermore, load shedding in 2022 and 2023 are expected to further deteriorate employment prospects in the Overstrand municipal area. The estimated decline in employment opportunities is likely to result in a decline in household income, which in turn will continue to restrain municipal revenue and increase the demand for free basic services.

Overall, all development and growth in Overstrand must be sensitive to the area's most important asset, that being the natural environment. Sustainable development in Overstrand will be guided by the municipal spatial development framework (SDF) and related sector plans. The SDF identified Kleinmond, Hawston, Hermanus, Stanford and Gansbaai

with its suburbs as areas prioritized for further development. This is due to bulk services being available to support densification and developments.

The proposed development is situated in the Overstrand Municipality area, specifically Franskraal, which falls under the jurisdictions of Hermanus. The existing social and economic characteristics of the community in the vicinity of the proposed site are influenced by several factors:

- → Job creation is identified as a need in the area. the proposed development is expected to contribute significantly to economic growth by generating employment opportunities. This, in turn will contribute to investment opportunities and tourism growth in the area.
- → The proposed area for development is adjacent to the Uilenkraalsmond suburb which is a very popular tourist destination located in the town of Gansbaai. The area Uilenkraalsmond is one of the oldest and most popular holiday resorts in the Gansbaai area. The estuary and lagoon with its rich bird and marine life flow into the sea at the main beach area and is a paradise for outdoor lovers and sun seekers. The area provides the ultimate weekend and holiday accommodation for families and those who want a casual, relaxed seaside experience.

8.2.	Explain the socio-economic value/contribution of the proposed development.

The proposed eco estate holds several socio-economic values and contributions to the surrounds and the broader area of Overstrand Municipality:

- → One of the significant contributions is the creation of employment opportunities, both directly and indirectly. The proposed development will have both short term and long-term economic impacts on the Overstrand Municipality and the surrounding area during the construction and operational phase of the development.

8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

The proposed development will contribute towards job creation and skills transfer during the construction and development phase. The proposal will result in investment in the area and the creation of a high end eco type development which should form as an example for future development types for the area.

8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.

Impacts associated with the construction phase:

- → The machinery used during site preparation will generate considerable noise, which can be a nuisance for nearby residents and road users.
- → Dust impact may occur during the development phase of the project.
- → The transition from a vegetated area to one dominated by construction will alter the visual landscape, potentially diminishing the aesthetic value of the surroundings. This change can affect residents' sense of belonging and community, leading to feelings of loss or displacement.

Impacts associate with the post-construction phase:

- → Once the development is complete, the area will permanently shift from green space to residential properties. This loss of natural vegetation can negatively affect the visual appeal and biodiversity of the area, which may contribute to a diminished sense of well-being among residents who value green spaces.
- → The development will likely result in a minor increase in traffic, which can contribute to noise and air pollution.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred property and site alternative.

The selected property for the development is the Remainder Portion 36 of Farm Franskraal No. 708 and Farm U.K.R West 707, located in Franskraal, Gansbaai.

The proposed site for development is owned by the applicant, therefore, no site alternatives are available for consideration. The site provides a unique offering with its placement in close proximity to the Uilkraals Estuary, and along key transport routes allowing easy access to nearby towns. In addition, the site is included in the urban edge, demarcating it for future development.

This undeveloped site presents a unique opportunity to establish an eco-estate that aligns with sustainable practices and environmentally friendly design principles and provides an opportunity to rehabilitate and restore the site to provide quality habitat on site and ecological connectivity to the surrounds. The proximity to the estuary environment enhances its suitability for development providing guided access to this natural resource , allowing the eco-estate low impact access and co-existence with the surrounding natural landscape.

The proposed eco-estate encompasses low-density residential housing, featuring 52 dwelling units, as well as a small business zone on the opposite side of Elim Road. The preferred site spans approximately 31.59 hectares, providing ample space for the eco-estate while preserving the surrounding ecological landscape. Various layout options have been considered to ensure the development minimizes its ecological footprint and maximizes the positive impacts on the proposed site.

The development is proposed as follows:

- → Erven 1-52: Residential Zone 1: Single Residential
- → Erven 56-58: Open Space Zone 3
- → Erven 55: Transport Zone 2: Road and Parking
- → Erven 53 & 54: Utility Zone: Utility Services
- → Erven 59: Business Zone: Farm stall/ Coffee shop

Table 10: Summary of the proposed development on Alternative 2 (preferred)

Erven	Zoning	Land Use	Erven sizes	Number of Erven	Area Totals	i%
1-9 & 15-22	Residential Zone 1	Dwelling on 750m^2 Erf	750m^2	17	33750m^2	10.7%
10-14 & 23-52	Residential Zone 1	Dwelling on 600m^2 Erf	600m^2	35		
53	Utility Zone	Grey water treatment	150m^2	1	250m^2	0.1%
54	Utility Zone	Grey water pump	100m^2	1		
55	Transport Zone 2	Private Road	21482m^2	1	21482m^2	6.8%
56	Open Space Zone 3	Clubhouse	1618m^2	1	258293m^2	81.8%

57	Open Space Zone 3	Natural area	12257m^2	1		
58	Open Space Zone 3	Natural area	244418m^2	1		
59	Business Zone 3	Business	2085m^2	1	2085m^2	0.7%
Totals				**59**	**315860m^2**	**100.0%**

The 52 residential erven are proposed to be 600m² to 750m² in size, with a combination of single or double-storey homes. The 2,085m² business erf outside the residential estate, located on the opposite side of Elim Road, is envisaged as a coffee shop or farm stall.

Construction and services will be limited to roads, walkways, residential erven, the clubhouse erf, and utility services. Greywater will be treated on-site and reused for irrigation purposes and possibly for toilet flushing, subject to approval.

Provide a description of any other property and site alternatives investigated.

As noted above, the investigation was only limited to the remainder of Portion 36 of Farm 708, along with the adjacent erf designated for business zoning. No other sites were considered or investigated for this project.

Provide a motivation for the preferred property and site alternative including the outcome of the site selectin matrix.

- → The preferred property is the Remainder Portion 36 of Farm Franskraal No. 708. The site is extensive and is suitable to acheive low-density residential development while maintaining and enhancing the ecological integrity. Its location near the estuary offers a unique environment that supports sustainable development practices, particularly in terms of preserving ecological corridors.
- → The property does not fall within protected areas as per the Western Cape Biodiversity Spatial Plan and the receiving environment is regarded as having considerable habit disturbance, with indigenous vegetation being in a poor condition caused by the presence of alien infestation and car tracks.
- → The property falls within the existing urban edge as demarcated by the Overstrand Municipality, indicating that the area is designated for future development. However, only low-density housing development, as per this proposal that is deemed suitable for this location to align with the municipality's planning and sustainability goals.
- → Furthermore, this property is the sole asset available to the developer for this project, making it the only feasible option.
- → No other alternative properties have been considered and therefore no site selection matrix was utilised.

Provide a full description of the process followed to reach the preferred alternative within the site.

The process to reach the preferred alternative within the site did not involve the evaluation of multiple site alternatives. The chosen site, Remainder Portion 36 of Farm Franskraal No. 708, is owned by the developer and is the only property available for the proposed development. Consequently, no other property or other site alternatives were considered or investigated for this project.

Provide a detailed motivation if no property and site alternatives were considered.

The Remainder Portion 36 of Farm Franskraal No. 708 is owned by the developer and is the sole property available for this project. Due to the ownership constraints, there are no other properties that could be investigated or considered as alternatives. This exclusivity necessitated the focus on evaluating the feasibility and suitability of this specific site for the proposed eco-estate development.

List the positive and negative impacts that the property and site alternatives will have on the environment.

Alternative 1

Positive impacts:

- → The proposal includes 55 residential erven, which will accommodate more people and contribute to housing needs in the area and providing greater potential for economic returns and accommodation capacity**.**
- → Increased development footprint may support local job creation and stimulate the local economy through construction and operational activities.

Negative impacts:

- → Significant destruction of natural habitat, particularly Agulhas Sand Fynbos, leading to reduced biodiversity and the loss of species of conservation concern.
- → Fragmentation of ecological corridors critical for wildlife movement, reducing connectivity between habitats and impairing the ability of species to adapt to environmental changes.
- → Corridors provided are inadequate and do not align with the greater principles for mountain to sea connectivity
- → A medium negative impact on terrestrial fauna and flora, as the clearing of vegetation will cause displacement and possible local extinctions of species dependent on the natural habitat.
- → Medium to high negative impacts on plant species, particularly those that are endemic or critically endangered, due to extensive clearing of vegetation.
- → Medium negative impact on the seep wetland, with further degradation of its ecological function, affecting water quality and the species that rely on it.
- → The disturbance of natural areas may exacerbate the spread of invasive alien species, further degrading the natural environment and outcompeting native species.

Table 11: Summary of Alternative 1

Zoning	Land Use	Erven sizes	Number of Erven	Area Totals
Residential Zone 1	Dwelling on 750m^2 Erf	959m^2	20	48 775m^2
Residential Zone 1	Dwelling on 600m^2 Erf	846m^2	35	
Utility Zone	Grey water treatment	74	1	148m^2
Utility Zone	Grey water pump	74	1	
Transport Zone 2	Private Road	21482m^2	1	24165m^2
Open Space Zone 3	Clubhouse	1618m^2	1	239089m^2
Open Space Zone 3	Natural area	12257m^2	1	
Open Space Zone 3	Natural area	244418m^2	1	
Business Zone 3	Business	2085m^2	1	2085m^2
Total development footprint	**313776m^2**			

Alternative 2 (Preferred)

Positive impacts

→ Larger open spaces are preserved for ecological corridors, facilitating species movement and maintaining habitat connectivity, crucial for biodiversity conservation. This alternative allows for large, functional ecological corridors which align with the area wide drive to create and maintain mountain to coast ecological corridors.
→ With a smaller development footprint, Alternative 2 reduces habitat fragmentation, lowering the impact on natural ecosystems and helping sustain native plant and animal species.
→ The reduced footprint results in a lower impact on Agulhas Sand Fynbos and other sensitive vegetation, offering better prospects for preserving plant species of conservation concern.
→ Balances development needs with environmental considerations, minimising ecological impacts while still meeting housing objectives, contributing to a more sustainable approach.
→ By minimising disturbance, Alternative 2 decreases the likelihood of invasive alien species spreading, helping protect native vegetation and biodiversity.

Negative impacts

→ The reduced development footprint in Alternative 2 limits the number of residential units and economic potential compared to Alternative 1, possibly impacting the financial viability of the project.
→ Despite minimization, there is still a low to medium negative impact on terrestrial biodiversity due to vegetation clearance and habitat disturbance in some areas.
→ The disturbance of Agulhas Sand Fynbos, though reduced, still results in medium negative impacts on plant species, including those of conservation concern.
→ While reduced, the development still poses a medium negative impact on the seep wetland, with potential consequences for hydrological processes and the ecological integrity of the wetland area.

Table 12: Summary of Alternative 2 (preferred)

Erven	Zoning	Land Use	Erven sizes	Area Totals
1-9 & 15-22	Residential Zone 1	Dwelling on 750m^2 Erf	750m^2	33 750m^2
10-14 & 23-52	Residential Zone 1	Dwelling on 600m^2 Erf	600m^2	
53	Utility Zone	Grey water treatment	150m^2	250m^2
54	Utility Zone	Grey water pump	100m^2	
55	Transport Zone 2	Private Road	21482m^2	**21482m^2**
56	Open Space Zone 3	Clubhouse	1618m^2	**258293m^2**
57	Open Space Zone 3	Natural area	12257m^2	
58	Open Space Zone 3	Natural area	244418m^2	
59	Business Zone 3	Business	2085m^2	2085m^2
Totals				**315860m^2**

1.2.	Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred activity alternative.

The preferred alternative includes development of an eco-estate which prioritizes sustainability, community integration, and minimal environmental impact. This development will consist of 52 residential erven, designed to harmonize with the natural landscape of Franskraal, Gansbaai. The project will include:

Residential erven

- → Total units: 52 residential erven:
- → 17 erven with the footprint of 750m^2
- → 35 erven with a footprint of 600m^2.

Building design:

- → The homes will be a mix of single and double-storey structures, with heights limited to 4.5m and 6.5m respectively.
- → The architectural style will be intentionally recessive, utilising light steel construction, flat roofs, and lightweight infill panels in dark greys, blacks, and other naturally recessive colors. This design approach will minimize visual disturbances and enhance the natural beauty of the area.

Building Materials

The use of environmentally sustainable materials such as timber, stone, and dark-coloured cladding (e.g., Rheinzinc) will be prioritized. The stone palette will be limited to maintain ecological integrity.

The material that will be utilised for the proposed structures is considered to be environmentally

Provide a description of any other activity alternatives investigated.

No activity alternatives are investigated.

Provide a motivation for the preferred activity alternative.

The subject properties is included in the municipal urban edge for proposed future residential growth. There is a high demand for low impact, eco focussed housing and the property in its location provides access to a unique resource. The development proposed achieves a balance between environment and development and promotes key principles such as low impact development and maintenance and improvement of habitat quality alongside development. The preferred alternative allows for the inclusion of functional ecological corridors which align with the area wide drive for ecological connectively between the mountains and sea.

The property as it stands, and as found by the specialist team, is degraded and in need of restoration and rehabilitation. The proposal allows for this to happen alongside development and reach a situation where the habitat quality of the site can be improved.

Provide a detailed motivation if no activity alternatives exist.
Refer to the above.
List the positive and negative impacts that the activity alternatives will have on the environment.
No activity alternatives exist. The property is flagged for residential development through inclusion in the urban edge. The proposal here secures eco centred development and removes the threat of inappropriate high-density development which would have significant impacts on the natural environment.

1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts

Provide a description of the preferred design or layout alternative.

Alternative 2 (preferred)

In assessing potential impacts, two layout alternatives are considered, with Alternative Two emerging as the preferred design due to its clear consideration of the ecological and biodiversity requirements of the site. This preferred layout was thoroughly evaluated for its impacts on the freshwater ecosystem and biodiversity on site. Through consultations with relevant specialists, the development was repositioned to include a larger ecological corridor, facilitating fauna and flora movement and protecting sensitive ecosystems. The revised layout includes ecological corridors on the southern and northern boundaries of the property. The southern corridor has a minimum width of 50 m and aligns with the proposed ecological corridor on the property to the north-west (portion 29 of 708), while the northern corridor has a minimum width of 40m. Further north-south corridors have been included in the design running across the site linking to the boundary corridors. These corridors integrate with the area wide corridors for improved mountain to sea linkages. Alternative Two, characterized by more substantial open spaces, provides greater ecological corridor opportunities compared to the initial layout (Alternative one), making it a viable option for the eco-estate. This strategic design not only mitigates unavoidable negative impacts but also maximizes positive outcomes by enhancing habitat connectivity and ecosystem protection.

The revised site plan satisfies the requirements for functional ecological corridors on the site. This ecological connectivity will be strengthened by the proposed lease of the site. This ecological connectivity will be strengthened by the proposed lease of the municipal land directly to the south of the property.

Figure 43: Preferred alternative with ecological corridors indicated

In addition to the above, the layout avoids sensitive wetland areas and allows for large scale onsite wetland rehabilitate via the wetland offset and rehabilitation process. The onsite wetlands were found to be in a highly degraded state and in urgent need of rehabilitation.

The preferred layout alternative includes design for regulated, low impact access to the estuary edge, which plays an important role in preventing adhoc paths and trampling impacts. The inclusion of the estuary front property – owned by the Department of Public Works and Infrastructure (DPW&I) allows for this sensitive water side area to be included in the rehabilitation plans to create quality habitats within the Estuarine Functional Zone.

All fixed infrastructure is located more than 75 m above the high-water mark, and above the 5m contour and by default outside of the Estuarine Functional Zone (EFZ).

The development of the site as proposed in the preferred alternative will secure development which can be considered low impact with significant benefits through the alien vegetation management and rehabilitation of the on-site wetlands. The development protects the site from possible future development which may not focus on a low impact approach. The proposal also aligns with the area wide drive to reinstate the crest to coast ecological corridors.

Provide a description of any other design or layout alternatives investigated.

Alternative 1

Alternative One includes the construction of 55 single residential erven with erven ranging from approximately 850 m² to 960 m², covering a total area of 48 775m². This footprint was significantly larger than that of Alternative Two and proposed more residential erven. The development boundary initially extended to the property line, leaving no ecological corridor for fauna and potentially compromising all sections of high sensitivity on the site. This layout also extends into the seep wetland and sensitive wetland areas identified on the western property boundary, which was delineated by the wetland specialist. This was deemed unacceptable by the specialist team, necssitated refine of the layout to reduce the environmental impacts.

Figure 44: Alternative layout one

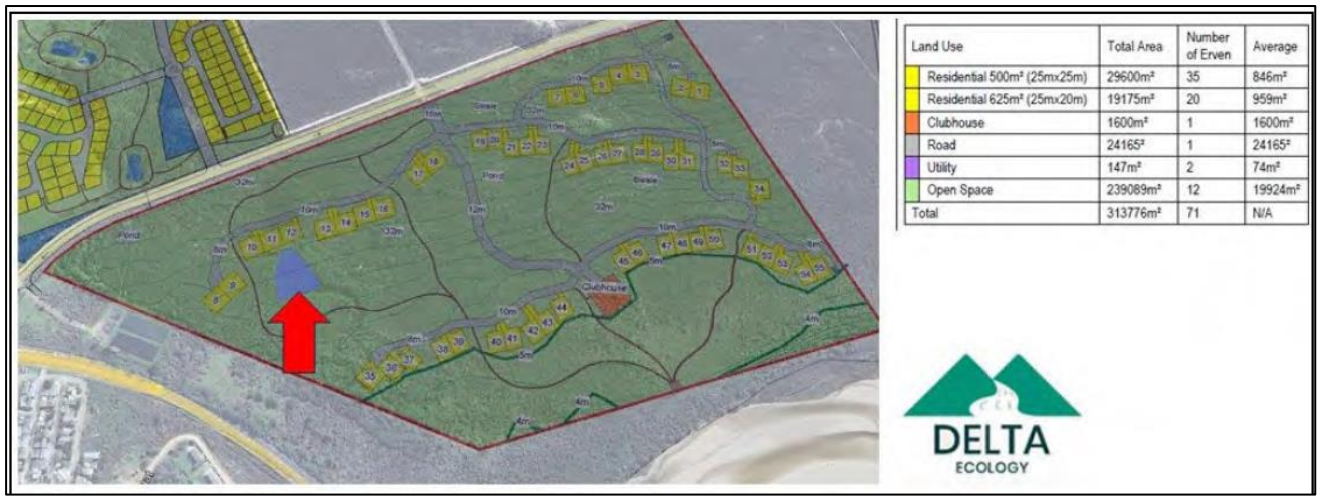


Figure 45: Sensitive wetland areas on western boundary with units extending into this zone.

Alternative 2 (preferred)

In assessing potential impacts, two layout alternatives are considered, with Alternative Two emerging as the preferred design due to its clear consideration of the ecological and biodiversity requirements of the site. This preferred layout was thoroughly evaluated for its impacts on the freshwater ecosystem and biodiversity on site. Through consultations with relevant specialists, the development was repositioned to include a larger ecological corridor, facilitating fauna and flora movement and protecting sensitive ecosystems. The revised layout includes ecological corridors on the southern and northern boundaries of the property. The southern corridor has a minimum width of 50 m and aligns with the proposed ecological corridor on the property to the north-west (portion 29 of 708), while the northern corridor has a minimum width of 40m. Further north-south corridors have been included in the design running across the site linking to the boundary corridors. These corridors integrate with the area wide corridors for improved mountain to sea linkages. Alternative Two,

characterized by more substantial open spaces, provides greater ecological corridor opportunities compared to the initial layout (Alternative one), making it a viable option for the eco-estate. This strategic design not only mitigates unavoidable negative impacts but also maximizes positive outcomes by enhancing habitat connectivity and ecosystem protection.

The revised site plan satisfies the requirements for functional ecological corridors on the site. This ecological connectivity will be strengthened by the proposed lease of the site. This ecological connectivity will be strengthened by the proposed lease of the municipal land directly to the south of the property.

Figure 46: Preferred alternative with ecological corridors indicated and no development on the western boundary of the property.

In addition to the above, the layout avoids sensitive wetland areas and allows for large scale onsite wetland rehabilitate via the wetland offset and rehabilitation process. The onsite wetlands were found to be in a highly degraded state and in urgent need of rehabilitation. In particular, the preferred alternative is supported as it ensures that flow is maintained to the downstream Uilkraals Estuary along the western Rehabilitated wetland area and in the central area of the site. The relatively natural portion of the seep wetland indicated by the Aquatic specialist, avoided and maintained within a larger area to be rehabilitated during the Offset process. Additionally, Layout Alternative 2 includes a buffer area surrounding the Uilkraals Estuary of more than 75 m (as recommended) during construction and operation of most essential aspects of the estate.

The preferred layout alternative includes design for regulated, low impact access to the estuary edge, which plays an important role in preventing adhoc paths and trampling impacts. The inclusion of the estuary front property – owned by the Department of Public Works and Infrastructure (DPW&I) allows for this sensitive water side area to be included in the rehabilitation plans to create quality habitats within the Estuarine Functional Zone.

All fixed infrastructure is located more than 75 m above the high-water mark, and above the 5m contour and by default outside of the Estuarine Functional Zone (EFZ).

The development of the site as proposed in the preferred alternative will secure development which can be considered low impact with significant benefits through the alien vegetation management and rehabilitation of the on-site wetlands.

The development protects the site from possible future development which may not focus on a low impact approach. The proposal also aligns with the area wide drive to reinstate the crest to coast ecological corridors.

Alternative 3 (No-Go)

The "no-go" alternative, where the status quo remains, is always considered in the Environmental Impact Assessment (EIA) process, assumes that the development does not proceed. This scenario would mean the continuation of the current situation, including no socio-economic benefits such as provision of eco centred housing options, , job creation, or local economic development and investment in the area. Additionally, because the status quo remains, the opportunity for site rehabilitation and site restoration would not be available. There would be no consideration for ecological corridors or the rehabilitation of onsite wetlands and improved flow to the Uilkraals Estuary. The site's isolation could lead to informal settlement, destruction of the area for firewood and shelters, and provide a safe haven for potential criminal activities.

Provide a motivation for the preferred design or layout alternative.

The preferred design alternative, Alternative Two, was chosen based on its alignment with ecological and biodiversity requirements which significantly enhances the conservation and connectivity of the site's natural habitats and avoids areas marked as sensitive unlike Alternative One, which would have compromised sensitive ecological corridors and specific, sensitive wetland zones, Alternative Two strategically positions development to preserve larger areas for ecological corridors, facilitating fauna movement and protecting critical ecosystems. The layout also allows for the rehabilitation of the relatively natural western seep wetlands and large buffer to the Uilkraals Estuary. This layout not only minimizes negative impacts but also maximizes positive outcomes by creating extensive open spaces that support biodiversity and persistence of functional ecological corridors between the coast and crest. Through careful consultation with relevant authorities, the design was refined to maintain a buffer of wetlands and seeps, ensuring the preservation of sensitive areas. Additionally, Alternative Two offers significant socio-economic benefits, including the provision of housing, job creation, and local economic development, all while establishing a non-useable conservation zone to safeguard the area's future.

Provide a detailed motivation if no design or layout alternatives exist.

N/A

List the positive and negative impacts that the design alternatives will have on the environment.

Alternative one

Positive impacts

→ With more residential erven, this alternative addresses the housing needs in the area, providing more opportunities for people to access housing
→ The larger number of erven provides more opportunities for property investments, potentially boosting the local real estate market.
→ The development will facilitate the clearing of invasive alien species, contributing to the restoration of indigenous vegetation and improving the site's overall ecological health.

Negative impacts

→ The development significantly reduces the amount of open space available for ecological corridors, potentially disrupting fauna movement and compromising sensitive ecosystems.

Alternative two (Preferred)

Positive impacts

→ This alternative preserves larger areas for ecological corridors, facilitating the movement of fauna and protecting sensitive ecosystems.
→ Ecological corridors form part of the greater area drive for mountain to sea connectivity

→ The layout strategically integrates development with conservation efforts, ensuring a balance between socio-economic benefits and environmental protection**.**
→ Opportunity for site rehabilitation and restoration, alien vegetation clearance and reinstatement of natural vegetation
→ Avoidance of the relatively natural seep wetland on the western boundary of the site which will form part of the wetland offset area.

Negative impacts

→ Compared to Alternative One, there are fewer residential erven, which may not fully meet the high housing demand in the area.
→ The inclusion of larger ecological corridors and conservation measures might increase the development costs.

No-Go Alternative

Positive Impacts

→ The existing ecosystems remain undisturbed, maintaining the current ecological balance.
→ There are no new construction impacts, such as habitat destruction or increased human activity.

Negative Impacts

→ There will be no creation of housing, job opportunities, or local economic development.
→ The site will continue to suffer from the spread of invasive and alien vegetation, compromising the potential indigenous vegetation.
→ The area may become a target for informal settlements, leading to environmental degradation and potential safety concerns in future**.**
→ No opportunity for long term rehabilitation and site protection.

1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred technology alternative:

Not applicable, as no technology alternatives are proposed.

Provide a description of any other technology alternatives investigated.

No other technology alternatives investigated.

Provide a motivation for the preferred technology alternative.

Not applicable.

Provide a detailed motivation if no alternatives exist.

Not applicable.

List the positive and negative impacts that the technology alternatives will have on the environment.

Not applicable.

1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred operational alternative.

N/A

Provide a description of any other operational alternatives investigated.

No other operational activities have been investigated.

Provide a motivation for the preferred operational alternative.

The preferred operational alternative is achieved through preferred alternative two. The alternative seeks to address the consequences of unsustainable urban development which has led to unauthorised sprawl of residential dwelling and disruption to ecological sensitive areas. The consideration of the ecological corridors and construction of low-density residential development will ensure the maintenance and conservation of the ecosystem on site.

Provide a detailed motivation if no alternatives exist.

N/A

List the positive and negative impacts that the operational alternatives will have on the environment.

Alternative 2 (preferred)

Positive

- → The preferred operational alternative includes a comprehensive invasive species management plan. This will involve the systematic removal of invasive alien plants and the rehabilitation of the area with indigenous vegetation. By restoring native flora, the ecological balance of the site will be enhanced, supporting local biodiversity and ecosystem functions.
- → The planning will have an advantage at not allowing Unauthorised sprawl of residential erven and footpaths.
- → The construction of a floating jetty and the boardwalk will prevent trampling.

Negative

- → residential activities such as the introduction of domestic animals to the site will contribute to negative impacts on the biodiversity on site.
- → potential secondary invasion by alien species including the introduction of new invasive species.

1.6.	The option of not implementing the activity (the 'No-Go' Option).

Provide an explanation as to why the 'No-Go' Option is not preferred.

The 'No-Go' option, which involves not implementing the proposed eco-estate development, is not preferred due to its significant socio-economic and environmental drawbacks. If the development does not proceed, the region will miss out on critical benefits, such as addressing the pressing need for housing, generating job opportunities, and stimulating local economic growth. Additionally, the site would continue to suffer from the unchecked spread of invasive alien species, further compromising indigenous vegetation and overall ecological health. The absence of development also means that potential conservation measures and the creation of a non-useable conservation zone, which could protect sensitive coastal and wetland areas, would not be realized. Furthermore, the continued isolation of the site could lead to informal settlement, resulting in environmental degradation and increased risks of safety concerns. Therefore, the 'No-Go' option is not preferred as it fails to offer the combined benefits of socio-economic development and environmental conservation that the proposed project aims to achieve.

1.7.	Provide and explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.

Two alternatives have been evaluated during the planning process. Initially, Alternative 1 was proposed for the construction of the development. However, this alternative was found to contribute to significant unavoidable impacts, including the fragmentation of site biodiversity and a misalignment of the ecological corridors identified both on-site and on adjacent properties, which are crucial for habitat connectivity. These concerns were highlighted by specialists, prompting a re-evaluation of the site development plan.

As a result, Alternative 2 has emerged as the preferred option. This layout incorporates larger open spaces designed to facilitate the movement of biodiversity between development areas. Additionally, it offers ample opportunities for hydrological and ecosystem connectivity on-site. The proposed development footprint associated with Alternative 2 is now 6 hectares, which is a reduction from the 7.5 hectares proposed in Alternative 1.

1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

Alternative Two is the preferred option for the proposed eco-residential development. This alternative effectively balances environmental conservation with the objectives of the development, ensuring minimal disruption to the site's sensitive ecosystems while achieving the project's goals.

The development will consist of 52 single residential erven, three designated open spaces set aside as conservation zones, a network of internal roads, two utility zones dedicated to grey water management, as well as a clubhouse and business zone. The total development footprint is approximately 6 ha, excluding the conservation areas that will further contribute to habitat protection. Additionally, the proposal includes the construction of a boardwalk and a jetty on public land bordering the estuary, ensuring public access and ecological sensitivity. On site rehabilitation of the western seep wetland will contribute to improved subsurface flow feeding the Uilkraals Estuary.

Roads and Pathways

The internal roads will be constructed using exposed aggregate paving blocks, designed to blend with the site's natural sandy environment. Key features of the road infrastructure include:

Road widths of 4.7 to 5m for general internal roads.

A 6-meter-wide road at the main entrance to facilitate access.

The development also includes pathways and walking trails, which will be constructed from soft materials such as gravel, alongside timber boardwalks traversing wetlands and swales to preserve natural flow and reduce ground disturbance.

Bulk Infrastructure (Water and Sewage)

The water and sewage infrastructure will follow the layout of the internal roads to minimize environmental impact. By integrating these services within the road network, the project will ensure low-impact construction and operation, avoiding unnecessary disruptions to the natural environment.

2. "No-Go" areas

Explain what "no-go" area(s) have been identified during identification of the alternatives and provide the co-ordinates of the "no-go" area(s).
No No-go areas identified by specialists.

3. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.

An impact is any change to a resource or receptor brought about by a project component or through the execution of a project related activity. The evaluation of baseline data provides information for the process of evaluating and describing how the project could affect the biophysical and socio-economic environment.

Impact is described according to their nature or type, as follows:

Nature/ Type

Nature/ Type of impact	Definition
Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
Negative	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.
Direct	Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (e.g. between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality).
Indirect	Impacts that result from other activities that are encouraged to happen as a consequence of the Project (e.g. in-migration for employment placing a demand on resources).
Cumulative	Impacts that act together with other impacts (including those from concurrent or planned future third-party activities) to affect the same resources and/or receptors as the Project.

Significance

Impacts are described in terms of significance. Significance is a function of the magnitude of the impact and the likelihood of the impact occurring:

Impact Magnitude	
Extent	**On site** – impacts that are limited to the boundaries of the development site.
	Local – impacts that affect an area in a radius of 20 km around the Development site.
	Regional – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem.
	National – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences
Duration	**Temporary** – impacts are predicted to be of short duration and intermittent/occasional.
	Short-term – impacts that are predicted to last only for the duration of the construction period.
	Long-term – impacts that will continue for the life of the Project but ceases when the project stops operating

	Permanent – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the project lifetime
	BIOPHYSICAL ENVIRONMENT
	Negligible – the impact on the environment is not detectable.
	Low – the impact affects the environment in such a way that natural functions and processes are not affected.
	Medium – where the affected environment is altered but natural functions and processes continue, albeit in a modified way.
Intensity	**High** – where natural functions or processes are altered to the extent that they will temporarily or permanently cease
	SOCIO-ECONOMIC
	Negligible – there is no perceptible change to people's livelihood
	Low - people/communities are able to adapt with relative ease and maintain pre-impact livelihoods
	Medium – people/communities are able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support
	High - affected people/communities will not be able to adapt to changes or continue to maintain pre-impact livelihoods.

Likelihood- the likelihood that an impact will occur

Likelihood	
Unlikely	The impact is unlikely to occur
Likely	The impact is likely to occur under the most conditions.
Definite	The impact will occur

Once an assessment is made of the magnitude and the likelihood, the impact significance is rated through a matrix process:

Significance				
Magnitude		Unlikely	Likely	Definite
	Negligence	Negligible	Negligible	Minor
	Low	Negligible	Minor	Minor
	Medium	Minor	Moderate	Moderate
	High	Moderate	Major	Major

Definition of significance:

Negligible	An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible'.
Minor	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is small (with and without mitigation) and within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable. This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are managed effectively and efficiently.

Major	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued / sensitive resource / receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts.

Significance of an impact is then qualified through a statement of the degree of confidence. Degree of confidence is expressed as low, medium or high.

Significance colour scale (if applicable):

Negative	Positive
Negligible	Negligible
Minor	Minor
Moderate	Moderate
Major	Major

Impact rating colour scale:

Negative	Positive
Negligible	Negligible
Low	Low
Medium	Medium
High	High

4. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

SUMMARY OF ALTERNATIVES

ALTERNATIVE ONE

Positive Impacts

- → Alternative One allows for a higher-density development, accommodating more residential erven, which could result in greater economic returns and increased housing supply**.**
- → This alternative makes full use of the available land, potentially providing more housing opportunities while maximising the use of infrastructure within a limited area
- → With a larger contiguous development area, infrastructure and service connections may be more cost-effective, reducing the overall cost of construction.

Negative Impacts

- → The larger development footprint would lead to loss of habitat, including the clearance of critically endangered Agulhas Sand Fynbos and the loss of valuable fauna habitats.
- → The development would severely disrupt ecological connectivity, cutting off wildlife movement corridors and further isolating species, which may affect long-term biodiversity viability.
- → Alternative One would exert greater pressure on the existing seep wetland due to encroachment, reducing the ecosystem's ability to support hydrological processes and biodiversity.
- → The development may further exacerbate the spread of invasive alien plant species, such as Acacia saligna, increasing the challenges of managing these species and restoring native vegetation.

→ The larger development would contribute to greater cumulative impacts, including increased pollution, erosion, and degradation of the natural landscape.

ALTERNATIVE 2 (PREFERRED)

Positive impacts

→ Alternative Two prioritizes ecological corridors, allowing for improved wildlife movement and protecting sensitive ecosystems, thereby fostering biodiversity. The ecological corridors planned for under this layout are aligned with the area wide drive for reinstating the Ecological connectivity between the crest and coast.
→ The layout minimizes the footprint, preserving significant areas of critically endangered Agulhas Sand Fynbos and allowing for the conservation of valuable fauna habitats.
→ This alternative includes larger open spaces, which serve as conservation zones, further supporting ecological balance and habitat restoration efforts.
→ By respecting the integrity of the seep wetland, this alternative aims to maintain its ecological functions and supports the local hydrology and makes provision for rehabilitation of the western seep wetland
→ Long term site rehabilitation to provide quality natural habitats
→ Regulated access to estuarine edge through a open access board walk system. No impact on general public access to the water's edge
→ Rehabilitation of the DPW&I Coastal strip which falls within the EFZ
→ Infrastructure design incorporates environmentally friendly materials and methods, aligning with sustainable development practices.

Negative impacts

→ While Alternative Two reduces long-term impacts, the construction phase may still temporarily disturb local habitats and wildlife.
→ The emphasis on conservation and ecological corridors may lead to longer planning and implementation timelines, potentially delaying housing availability.

ALTERNATIVE 3 (NO-GO)

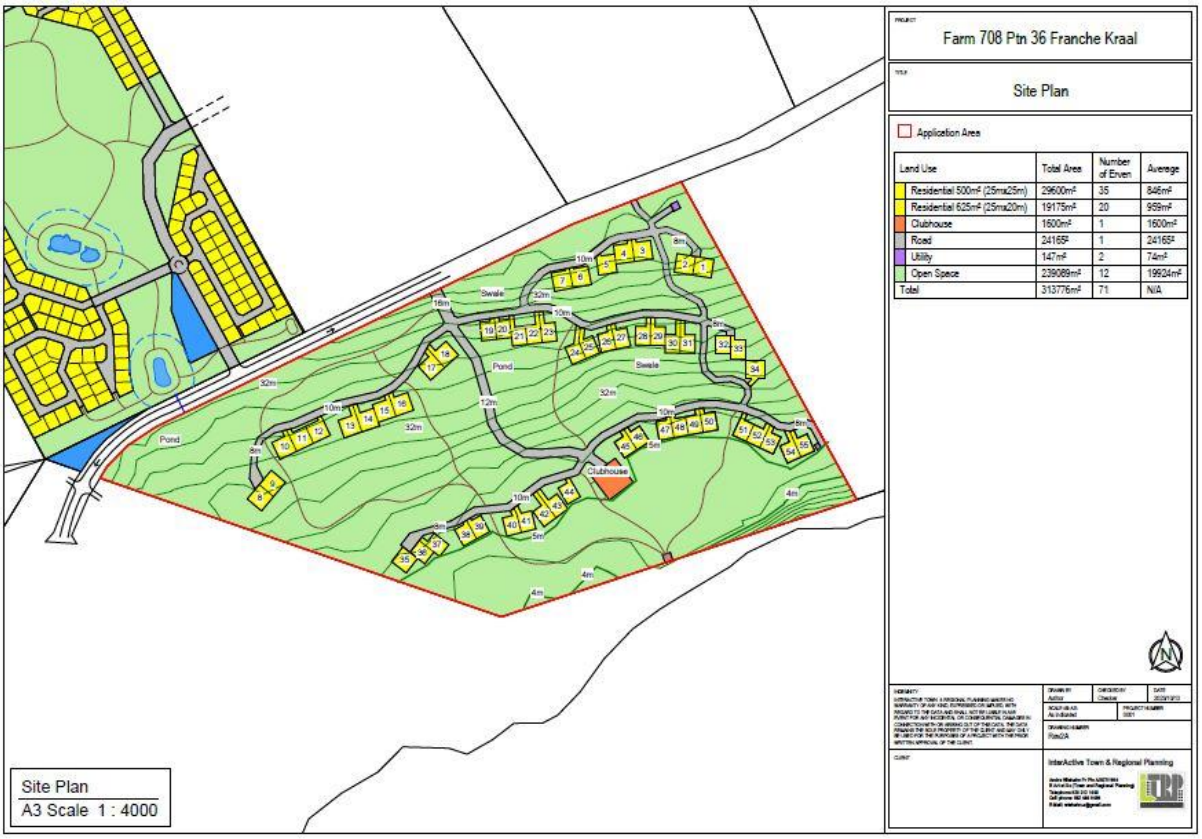
Positive Impacts

→ The No-Go Alternative would prevent any habitat destruction, ensuring that the critically endangered Agulhas Sand Fynbos and the valuable fauna habitats remain intact.
→ Ecological connectivity would be maintained, ensuring uninterrupted wildlife movement and preserving long-term biodiversity viability.
→ The seep wetland and surrounding ecosystems would remain undisturbed, continuing to support hydrological processes and a rich variety of species.

Negative Impacts

→ The No-Go alternative would result in the loss of potential economic benefits from housing developments and associated infrastructure improvements.
→ No opportunity for improvement of the current degraded state of the site.
→
→ Failing to develop the area would contribute to the continued housing shortage, preventing the community from benefiting from additional residential erven.

ALTERNATIVE ONE



PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**1. Socioeconomic impacts** Job creation during the development/construction phase of the erven
Nature of impact:	Positive
Extent and duration of impact:	Short-term; Local
Consequence of impact or risk:	Positive
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A

Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Job creation for local community
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	1. Ensure labour force is sourced locally as far as possible. 2. A gender balance to be considered during employment.
Residual impacts:	1. Improved livelihoods 2. Improvement of local economy, skills transfer, investment in the area.
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Potential impact and risk:	**2. Dust** The dust could be generated during the site preparation**.**
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	Visual impacts

	Nuisance for residents adjacent to the site as well as road users.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	High
Indirect impacts:	Potential for reduced visibility, temporary visual impacts to the general area.
Cumulative impact prior to mitigation:	Dust may be generated as a result of earthmoving machinery required for construction.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Maintain ground cover for as long as possible to reduce the total surface area exposed to wind. Do not clear entire plots and rather clear building sites only → Ensure vehicle speed limits on site are kept to a minimum. → Delivery vehicles to keep loads covered. → Cover fine material stockpiles. → Wet dry and dusty surfaces using non-potable water. → Staff to wear correct PPE if dust is generated for long periods. → Road surfaces to be swept and kept clean of sand and fine materials.
Residual impacts:	None
Cumulative impact post mitigation:	Dust generated during construction; mitigation successful
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative

Potential impact and risk:	**3. Noise** Noise generated from vehicles and machinery during the construction phase.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	Noise disturbance to transient receptors, i.e motorists, and pedestrians.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No resources will be impacted.
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Noise generated from construction works
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be avoided:	Low-Medium
Degree to which the impact can be managed:	Low-medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Limit noise levels (e.g. install and maintain silencers on machinery). → Provide protective wear for workers i.e. ear plugs. → Ensure that construction vehicles and machinery are maintained regularly to reduce noise generation. → Restrict construction to normal working hours

Residual impacts:	None
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative
Potential impact and risk:	**4. Paleontological Heritage Impact** Loss of fossil bones and archaeological material from excavations in the loose Qg coversands and upper Waenhuiskrans Fm.
Nature of impact:	Negative
Extent and duration of impact:	Local; permanent
Consequence of impact or risk:	Permanent loss of material palaeontological heritage.
Probability of occurrence:	Probable, distinct possibility.
Degree to which the impact may cause irreplaceable loss of resources:	Complete loss of fossil resources.
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Impoverished landscape geohistory.
Cumulative impact prior to mitigation:	Permanent loss of fossils and the associated scientific implications.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium Negative
Degree to which the impact can be avoided:	Low. The locations of fossil bones in the coversands and aeolianites cannot be predicted.

Degree to which the impact can be managed:	Low. There is a high risk of valuable fossils being lost despite management actions to mitigate such loss.
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Construction personnel to be alert for rare fossil bones and follow "Fossil Finds Procedure". → Cease construction on discovery of fossil bones and protect fossils from further damage. → Contact appointed archaeologist/palaeontologist or HWC providing information and images. → The aforementioned will assess the information and establish suitable response, such as the importance of the find and measures for preservation, collection and record keeping. → Exposed fossiliferous sections in earthworks recorded and sampled by appointed specialist. → Fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution.
Residual impacts:	Permanent loss of fossils and the associated scientific implications
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium Negative
Potential impact and risk:	**5. Visual Impacts** Change from a rural/natural area to a very active construction site.
Nature of impact:	Negative
Extent and duration of impact:	Local; Short-term
Consequence of impact or risk:	The clearing of the alien vegetation will result in the site being visually exposed to the adjacent areas namely the R43 roads and the Lagoon while the construction activity will also change the activity levels of the site as well as the vegetation clearing for

	construction will also result in exposed substrates being more visible to the surrounding areas.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate - High
Degree to which the impact can be reversed:	Low- moderate
Indirect impacts:	Change in relatively passive scene, to that of a very active construction works site. In order to install services, construct roads, dwellings and facilities, the once predominantly undeveloped site will be cleared for development.
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Clear invasive alien vegetation selectively such that the areas being developed can be screened by vegetation from receptors. → Have a phased revegetation/clearing approach → Minimise clearing to small areas - i.e. phased development. → Ensure a construction EMP is in place.
Residual impacts:	The site will be cleared of the invasive alien vegetation and the installation of services, roads, units and fencing areas will be cleared of all vegetation.
Cumulative impact post mitigation:	Medium- removal of alien vegetation will contribute to the rehabilitation of the site and restoration of indigenous vegetation, which will be a positive outcome in the area.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
Potential impact and risk:	**6. Impacts on terrestrial biodiversity** Loss of natural habitat and species as a result of clearing of vegetation and associated biota for the development road networks and residential dwellings.
Nature of impact:	Negative
Extent and duration of impact:	Local & Long term
Consequence of impact or risk:	From a botanical impact perspective, the loss of 7,4 hectares of alien infested Agulhas sand fynbos will result in the total loss of plant species and associated biota from these areas.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate Loss
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Disturbance of 7,4 hectares (approximately 24 %) of Agulhas sand fynbos vegetation. Currently approximately 75% of this property is already impacted as a result of heavy alien plant infestation.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-high
Degree to which the impact can be avoided:	Medium-high
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	Medium

Proposed mitigation:	→ Initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing. → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property. → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas. → Roads should be kept to a minimum width. → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property. → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done. → Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to

	development and maintained in a dedicated nursery until needed.
Residual impacts:	Positive- alien vegetation removal from the site will contribute to restoration of indigenous vegetation Negative- continued loss of indigenous vegetation on development areas.
Cumulative impact post mitigation:	This current alien invasive impact could however be reduced through a comprehensive (but expensive) alien vegetation clearing program. As a rough guideline at least 60 % of an area's natural vegetation should be left intact and in good condition to ensure maintenance of basic ecological processes such as pollination and seed dispersal, and to minimise fragmentation effects, such as the edge effect.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium Negative
Potential impact and risk:	**7. Impacts on Plant Species** The loss of approximately 7.4 hectares of indigenous natural vegetation.
Nature of impact:	Negative
Extent and duration of impact:	Local & Long term
Consequence of impact or risk:	The loss of 7,4 hectares of alien infested Agulhas sand fynbos will result in the total loss of plant species and associated biota from these areas.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate loss
Degree to which the impact can be reversed:	Low
Indirect impacts:	N/A

Cumulative impact prior to mitigation:	Disturbance of 7,4 hectares (approximately 24 %) of Agulhas sand fynbos vegetation.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Low-Medium
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	→ Initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing. → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property. → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas. → Roads should be kept to a minimum width. → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid

	out and no additional roads, tracks or footpaths should be permitted on the property. → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done. → Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.	
Residual impacts:	Continued loss of indigenous vegetation.	
Cumulative impact post mitigation:	Loss of sensitive plant species associated with Agulhas fynbos vegetation.	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative	High negative
Potential impact and risk:	**8. Wetland Loss (seep wetland)** The development will result in the Infilling and loss of largely disturbed seep wetland area.	
Nature of impact:	Negative	
Extent and duration of impact:	Limited to project site	
Consequence of impact or risk:	Loss of hydrological connectivity from the seep wetland found onsite to the Uilkraals Estuary.	
Probability of occurrence:	Definite	

Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Moderately (low-cost rehabilitation)
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Loss of seep wetland onsite
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very High
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	→ It is however recommended that a suitable amount of the remaining onsite wetland area is rehabilitated, and subsequently the wetland loss should be adequately offset. → It is recommended that the relatively natural portion of the seep wetland indicated by the red arrow in Figure i of the aquatic biodiversity assessment is avoided by construction activities, and maintained within a likely larger area to be rehabilitated during the Offset process:
Residual impacts:	Continued loss of connectivity between seep wetland onsite and Uilkraals Estuary.
Cumulative impact post mitigation:	Continued loss of connectivity between seep wetland onsite and Uilkraals Estuary.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative

Potential impact and risk:	**9. Altered flow regime** Site clearance, infilling and compaction will result in alteration of the flow regime for the remnant seep wetland and potentially within the Uilkraals Estuary.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Lack of hydrological connectivity from the seep wetland found onsite to the Uilkraals Estuary.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities. → Install the stormwater infrastructure and conduct rehabilitation activities (as proposed in a suitable Offset and Rehabilitation Management Plan), prior to initiating other construction such that wetland flow and any stormwater leaving the construction site are attenuated in the wetland.

	→ It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. → If possible, conduct construction and rehabilitation activities during summer months (November to March). Remove all alien invasive vegetation from the proposed site.
Residual impacts:	Contamination of freshwater bodies as well as sedimentation downstream
Cumulative impact post mitigation:	N/A
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low
Potential impact and risk:	**10. Water Quality Impairment** Accidentally spilled cement, construction chemicals, sewage from temporary toilets or petrochemicals from construction vehicles may find their way into the remnant wetland and Uilkraals Estuary. Vegetation clearing may result in increased sediment input within the estuary downstream.
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	The contamination and pollution of freshwater which could lead to fatality of aquatic fauna.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High
Indirect impacts:	The contamination and pollution of freshwater which could lead to fatality of aquatic fauna.

Cumulative impact prior to mitigation:	The contamination and pollution of freshwater which could lead to fatality of aquatic fauna.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities. → Bunded, impervious areas must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. These bunded areas must be at least 100 m from the demarcated estuary's boundaries.
Residual impacts:	Contamination of freshwater bodies as well as sedimentation downstream.
Cumulative impact post mitigation:	Contamination of freshwater bodies as well as sedimentation downstream.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**1. Socio economic impacts** Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Nature of impact:	Positive

Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Improved livelihoods, influx of people to the area, investment in the area, spending in the area
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	→ Ensure labour force is sourced locally as far as possible. → A gender balance to be considered during employment.
Residual impacts:	Investment in the area, attraction to the area, spending in the area Improved local economy.
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive

POST-CONSTRUCTION PHASE	
Potential impact and risk:	**2. Visual impacts (Loss of scenic resources)** Change of visual character and Sense of Place from a rural/wilderness (predominantly undeveloped site) to a low-density residential development.
Nature of impact:	Negative
Extent and duration of impact:	Local-Regional; Limited to the local surroundings
Consequence of impact or risk:	The rural and wilderness character of the site will be replaced by residential buildings, facilities and amenities, paved roads, boundary walls/fences.
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Moderate
Indirect impacts:	Visibility of the proposed development
Cumulative impact prior to mitigation:	Moderate
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Limit number of units and implement guidelines as provided by the developer with low planted roofs etc. → Provide enough area/buffers along edges of site to provide suitable screening such as vegetated berms and indigenous trees.

	→ Reducing units to as few as economically viable → Clustering the units with green areas surrounding them → Screening the units from sensitive receptors - earthworks/landscaping such that units have views but receptors are not significantly affected, phasing removal of alien vegetation and adding quick growing trees to tree list (refer to Platbos Forest) → Implementing design philosophy and guidelines → Ensure a construction EMP is in place.
Residual impacts:	The proposed development will be visible, in varying degrees, from the highly sensitive receptors in the Zone of Visual Influence, namely Uilenkraal Lagoon, EM&HPOZ's and the R43 Scenic Route.
Cumulative impact post mitigation:	Medium negative – the impact will have moderate negative effects and will require moderate mitigation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**3. Visual impacts (Visual intrusion of night light)** The current rural/wilderness site is unlit. Lighting for the new residential units and streets will extend the Franskraal settlement into the rural area.
Nature of impact:	Visibility from Sensitive Receptors
Extent and duration of impact:	Local: including neighbouring properties and wider municipal area to the northwest
Consequence of impact or risk:	The proposed development will be visible, in varying degrees, from the highly sensitive receptors in the Zone of Visual Influence, namely Uilenkraal Lagoon, EM&HPOZ's and the R43 Scenic Route.
Probability of occurrence:	Highly Probable, it is most likely that the impacts will occur at some stage of the development. Plans must be drawn up to mitigate the activity before the activity commences.

Degree to which the impact may cause irreplaceable loss of resources:	Marginal- Significant loss of rural/natural scenery
Degree to which the impact can be reversed:	Partly reversible – the impact is reversible but more intense mitigation measures are required
Indirect impacts:	Can cause glare, which can interfere with drivers' vision and consequently increase the risk of traffic accidents.
Cumulative impact prior to mitigation:	Additive and Moderate - the impact would result in a combined impact of moderate significance on the scenic resources and Scenic Route.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Moderate
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Limit outdoor street and path lighting to bollard height and low spill with limited outdoor lighting on buildings → Electrical Engineer to design for appropriate lighting for aNatural area and alongside a Scenic route
Residual impacts:	The rural and wilderness character of the site will be replaced by residential buildings, facilities and amenities, paved roads, boundary walls/fences.
Cumulative impact post mitigation:	Additive and Low - the impact would result in a combined impact of low significance on the scenic resources and Scenic Route
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**4. Impact terrestrial biodiversity**

	Impacts associated with residential activities such as the introduction of domestic animals to the site.
Nature of impact:	Negative
Extent and duration of impact:	Local & Long term
Consequence of impact or risk:	This will result in potential secondary invasion by alien species including the introduction of new invasive species to the site.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate loss
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Reduced ecological connectivity due to barriers from residential fencing and infrastructure
Cumulative impact prior to mitigation:	Long-term biodiversity loss and habitat degradation, compounded by potential spread of invasive species
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium high
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to

	development and maintained in a dedicated nursery until needed. → No invasive aliens (as listed in CARA) must be allowed anywhere on site. → Roads should be kept to a minimum width.
Residual impacts:	Continued biodiversity loss, though reduced, potential for invasive species establishment and minor habitat alteration
Cumulative impact post mitigation:	Moderate – Managed habitats with controlled alien vegetation but residual biodiversity fragmentation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**5. Impact on plant species** Potential secondary invasion by alien species including the introduction of new invasive species to the site, impact on pollination and dispersal, impact on faunal movement, fire suppression with associated negative long-term impact on fynbos regeneration and ecological functioning
Nature of impact:	Negative
Extent and duration of impact:	Local & Long-term
Consequence of impact or risk:	Loss of indigenous vegetation cover and biodiversity, disruption of ecosystem services like pollination, loss of habitat continuity critical for endemic species survival, and increased vulnerability of surrounding areas to invasive species spread
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate loss
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Decline in local biodiversity, particularly for fynbos specialists, potential shifts in ecological processes and cycles, including nutrient cycling; impact on fire ecology and vegetation

	succession, creating barriers to faunal movement and seed dispersal
Cumulative impact prior to mitigation:	Potential secondary invasion by alien species including the introduction of new invasive species to the site, impact on pollination and dispersal, impact on faunal movement, fire suppression with associated negative long-term impact on fynbos regeneration and ecological functioning
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High
Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	→ An initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing. → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property. → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas.

	→ Roads should be kept to a minimum width. → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property. → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done. → Following vegetation clearing, all available top soil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development, and maintained in a dedicated nursery until needed.	
Residual impacts:	Permanent alteration in the species composition and structure, possible loss of sensitive fynbos species, continued need for long-term management to control invasives, some level of diminished ecological functioning despite efforts	
Cumulative impact post mitigation:	Reduced risk of invasives, with ongoing impact on pollination and dispersal but improved faunal movement and fire ecology within designated managed areas.	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative	High Negative
POST-CONSTRUCTION PHASE		
Potential impact and risk:	**6. Altered flow regime** Site clearance, infilling and compaction will result in alteration of the flow regime for the remnant seep wetland and potentially the Uilkraals Estuary. The significance of this impact will be largely mitigated by effective stormwater measures, which will ensure that all runoff still drains into a suitably designated rehabilitated remnant wetland area, or into SW ponds onsite. There may	

	however still be an impact due to catchment hardening, and associated increase in peak flows.
Nature of impact:	Negative
Extent and duration of impact:	Local: long-term
Consequence of impact or risk:	Moderate, as alterations in the flow regime may lead to changes in water quality and quantity affecting the wetland and estuary ecosystem.
Probability of occurrence:	Possible
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High (Passive restoration)
Indirect impacts:	→ Potential for downstream effects on the Uilkraals Estuary, affecting hydrology and possibly impacting aquatic life. → Changes in vegetation structure around the wetland due to altered water availability, which could influence habitat for local fauna.
Cumulative impact prior to mitigation:	Medium, given that ongoing development in the region may contribute additional changes in hydrology and peak flows, especially if not adequately managed.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Effective stormwater management measures – i.e. ensuring that stormwater flows into a designated rehabilitated remnant wetland area - will mitigate this impact to a large extent.

	→ It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. → Alien invasive vegetation should be monitored onsite to ensure that Port Jackson does not re-colonise the area.
Residual impacts:	There may however still be an impact due to catchment hardening, and associated increase in peak flows.
Cumulative impact post mitigation:	Low, as effective stormwater measures and the rehabilitation of the remnant wetland area should significantly reduce the broader cumulative effects.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**7. Water quality impairment** Stormwater from the proposed development areas, which may potentially be contaminated stormwater (hydrocarbons), will be directed into the remnant rehabilitated wetland area. Pollutants may also enter the remnant wetland onsite via sewage leaks (although highly unlikely).
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	Potential loss of aquatic ecosystem due to contaminated stormwater.
Probability of occurrence:	Possible
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High
Indirect impacts:	Pollution of the watercourses

Cumulative impact prior to mitigation:	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low Negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Ensure that all potentially significant pollution sources are listed in the Environmental Management Plan. → Ensure that all activities that may lead to pollution take place indoors or on bunded impervious surfaces such that the pollutants cannot enter the stormwater system. → Repair all sewage leaks as soon as reasonably possible after detection. → Inspection of all sewage pipes should be conducted by a plumber once every 10 years. → SW draining into the estuary should first flow into the rehabilitated onsite SW ponds / wetland area onsite.
Residual impacts:	Minor risk of pollution reaching watercourses if mitigation measures are not maintained over time.
Cumulative impact post mitigation:	Low cumulative impact due to minimised risk of stormwater pollution.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative
DECOMMISSIONING AND CLOSURE PHASE	
Potential impact and risk:	**Not applicable**
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-

Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE TWO (PREFERRED)	
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**1. Socioeconomic impacts** Job creation during the development/construction phase of the erven.
Nature of impact:	Positive
Extent and duration of impact:	Short-term; Local
Consequence of impact or risk:	Positive
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	Job creation for local community

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Ensure labour force is sourced locally as far as possible. → A gender balance to be considered during employment.
Residual impacts:	→ Improved livelihoods → Improvement of local economy, skills transfer, investment in the area.
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**2. Dust** The dust could be generated during the site preparation**.**
Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	Visual impacts Nuisance for residents adjacent to the site as well as road users.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	N/A

Degree to which the impact can be reversed:	High
Indirect impacts:	Potential for reduced visibility, temporary visual impacts to the general area.
Cumulative impact prior to mitigation:	Dust may be generated as a result of earthmoving machinery required for construction.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Maintain ground cover for as long as possible to reduce the total surface area exposed to wind. Do not clear entire plots and rather clear building sites only → Ensure vehicle speed limits on site are kept to a minimum. → Delivery vehicles to keep loads covered. → Cover fine material stockpiles. → Wet dry and dusty surfaces using non-potable water. → Staff to wear correct PPE if dust is generated for long periods. → Road surfaces to be swept and kept clean of sand and fine materials.
Residual impacts:	None
Cumulative impact post mitigation:	Dust generated during construction; mitigation successful
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**3. Noise** Noise generated from vehicles and machinery during the construction phase.
Nature of impact:	Negative

Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	Noise disturbance to transient receptors, i.e motorists, and pedestrians.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No resources will be impacted.
Degree to which the impact can be reversed:	High
Indirect impacts:	None
Cumulative impact prior to mitigation:	Noise generated from construction works
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be avoided:	Low-Medium
Degree to which the impact can be managed:	Low-medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Limit noise levels (e.g. install and maintain silencers on machinery). → Provide protective wear for workers i.e. ear plugs. → Ensure that construction vehicles and machinery are maintained regularly to reduce noise generation. → Restrict construction to normal working hours
Residual impacts:	None
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative

PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**4. Paleontological Heritage Impact** Loss of fossil bones and archaeological material from excavations in the loose Qg coversands and upper Waenhuiskrans Fm.
Nature of impact:	Negative
Extent and duration of impact:	Local; Regional to international and permanent
Consequence of impact or risk:	Permanent loss of material palaeontological heritage.
Probability of occurrence:	Probable, distinct possibility.
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss may still occur.
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Enriched landscape geohistory.
Cumulative impact prior to mitigation:	Some fossils are rescued for posterity and available for scientific study.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High Positive
Degree to which the impact can be avoided:	Low. The locations of fossil bones in the coversands and aeolianites cannot be predicted.
Degree to which the impact can be managed:	Low. There is a high risk of valuable fossils being lost despite management actions to mitigate such loss.
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Construction personnel to be alert for rare fossil bones and follow “Fossil Finds Procedure”.

	→ Cease construction on discovery of fossil bones and protect fossils from further damage. → Contact appointed archaeologist/palaeontologist or HWC providing information and images. → The aforementioned will assess the information and establish suitable response, such as the importance of the find and measures for preservation, collection and record keeping. → Exposed fossiliferous sections in earthworks recorded and sampled by appointed specialist. Fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution.
Residual impacts:	Permanent loss of fossils and the associated scientific implications
Cumulative impact post mitigation:	Typical noise impacts associated with a construction site
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium Positive**
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**5. Visual Impacts** Change from a rural/natural area to a very active construction site.
Nature of impact:	Negative
Extent and duration of impact:	Local; Short-term
Consequence of impact or risk:	The clearing of the alien vegetation will result in the site being visually exposed to the adjacent areas namely the R43 roads and the Lagoon while the construction activity will also change the activity levels of the site as well as the vegetation clearing for construction will also result in exposed substrates being more visible to the surrounding areas.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate - High

Degree to which the impact can be reversed:	Low- moderate
Indirect impacts:	Change in relatively passive scene, to that of a very active construction works site. In order to install services, construct roads, dwellings and facilities, the once predominantly undeveloped site will be cleared for development.
Cumulative impact prior to mitigation:	Medium
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Clear invasive alien vegetation selectively such that the areas being developed can be screened by vegetation from receptors. → Have a phased revegetation/clearing approach → Minimise clearing to small areas - i.e. phased development. → Ensure a construction EMP is in place.
Residual impacts:	The site will be cleared of the invasive alien vegetation and the installation of services, roads, units and fencing areas will be cleared of all vegetation.
Cumulative impact post mitigation:	Medium
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**6. Impacts on terrestrial biodiversity** Loss of natural habitat and species as a result of clearing of vegetation and associated biota for the development road networks and residential dwellings.
Nature of impact:	Negative

Extent and duration of impact:	Local & Long term
Consequence of impact or risk:	From a botanical impact perspective, the loss of 7,4 hectares of alien infested Agulhas sand fynbos will result in the total loss of plant species and associated biota from these areas.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate Loss
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	
Cumulative impact prior to mitigation:	Disturbance of 7,4 hectares (approximately 24 %) of Agulhas sand fynbos vegetation. Currently approximately 75% of this property is already impacted as a result of heavy alien plant infestation.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-high
Degree to which the impact can be avoided:	Medium-high
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing. → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a

	large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property. → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas. → Roads should be kept to a minimum width. → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property. → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done. → Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.
Residual impacts:	Positive- alien vegetation removal from the site will contribute to restoration of indigenous vegetation Negative- continued loss of indigenous vegetation on development areas.
Cumulative impact post mitigation:	This current alien invasive impact could however be reduced through a comprehensive (but expensive) alien vegetation clearing program. As a rough guideline at least 60 % of an area's natural vegetation should be left intact and in good condition to ensure maintenance of basic ecological processes such as pollination and seed dispersal, and to minimise fragmentation effects, such as the edge effect.

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low Negative	Medium negative
PLANNING, DESIGN AND DEVELOPMENT PHASE		
Potential impact and risk:	**7. Impacts on Plant Species** Potential loss of 6 ha indigenous natural vegetation.	
Nature of impact:	Negative	
Extent and duration of impact:	Local & Long term	
Consequence of impact or risk:	The loss of 6 hectares of alien-infested Agulhas sand fynbos will result in the total loss of plant species and associated biota from these areas.	
Probability of occurrence:	Definite	
Degree to which the impact may cause irreplaceable loss of resources:	Moderate loss	
Degree to which the impact can be reversed:	Low	
Indirect impacts:	Potential for soil erosion in cleared areas, loss of biodiversity from disrupted seed banks, increased vulnerability to invasive species, and reduced resilience of surrounding natural areas.	
Cumulative impact prior to mitigation:	Disturbance of 6 hectares of Agulhas sand fynbos vegetation.	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High	
Degree to which the impact can be avoided:	Low	
Degree to which the impact can be managed:	Low-Medium	
Degree to which the impact can be mitigated:	Low	
Proposed mitigation:	→ Initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation	

	management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing. → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property. → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas. → Roads should be kept to a minimum width. → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property. → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done. → Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.
Residual impacts:	Positive- ecological connectivity will be strengthened by the proposed lease the municipal land directly to the south of the

	property. This revised layout offers abundant space for ecological corridors.
Cumulative impact post mitigation:	Positive- ecological connectivity will be strengthened by the proposed lease the municipal land directly to the south of the property. This revised layout offers abundant space for ecological corridors.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**8. Wetland Loss (seep wetland)** The development will result in the Infilling and loss of 6 ha of largely disturbed seep wetland area.
Nature of impact:	Negative
Extent and duration of impact:	Limited to project site; Long term
Consequence of impact or risk:	Loss of hydrological connectivity from the onsite seep wetland to the Uilkraals Estuary, impacting ecosystem functioning and species reliant on wetland habitats.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low, as the area has been largely disturbed but contributes to site ecology.
Degree to which the impact can be reversed:	Moderately (low-cost rehabilitation)
Indirect impacts:	Decreased water quality in downstream areas due to loss of natural filtration; potential reduction in biodiversity.
Cumulative impact prior to mitigation:	Continued fragmentation of wetland systems in the region, further impacting hydrological and ecological functions.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very High
Degree to which the impact can be avoided:	Medium

Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	Moderate to low
Proposed mitigation:	→ Rehabilitation of remaining onsite wetland areas is recommended to partially offset loss, with additional enhancement of nearby natural wetland areas where feasible.
Residual impacts:	Ongoing loss of hydrological and ecological connectivity between seep wetland onsite and the Uilkraals Estuary.
Cumulative impact post mitigation:	Continued reduction in wetland connectivity; risk of long-term habitat degradation within and beyond the site.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**9. Altered flow regime** Site clearance, infilling and compaction will result in alteration of the flow regime for the remnant seep wetland and potentially within the Uilkraals Estuary.
Nature of impact:	Negative
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Potential disruption to natural water flow and estuary health due to changes in runoff and seepage patterns.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High
Indirect impacts:	Potential downstream ecological impacts on species reliant on estuarine flow stability.

Cumulative impact prior to mitigation:	Potential accumulation of changes in water flow patterns could affect the estuary's natural hydrology over time.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities. → Install the stormwater infrastructure and conduct rehabilitation activities (as proposed in a suitable Offset and Rehabilitation Management Plan), prior to initiating other construction such that wetland flow and any stormwater leaving the construction site are attenuated in the wetland. → It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. → If possible, conduct construction and rehabilitation activities during summer months (November to March). Remove all alien invasive vegetation from the proposed site.
Residual impacts:	Minor flow regime alteration but within acceptable limits for ecosystem function post-mitigation.
Cumulative impact post mitigation:	Reduced to negligible with effective management and monitoring.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low
PLANNING, DESIGN AND DEVELOPMENT PHASE	
Potential impact and risk:	**10. Water Quality Impairment** Accidentally spilled cement, construction chemicals, sewage from temporary toilets or petrochemicals from construction vehicles may find their way into the remnant wetland and Uilkraals Estuary. Vegetation clearing may result in increased sediment input within the estuary downstream.

Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	The introduction of contaminants could affect the ecological integrity of the Uilkraals Estuary and associated wetland habitats, potentially impacting water quality and biodiversity.
Probability of occurrence:	Likely
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High
Indirect impacts:	Increased sedimentation may lead to decreased water clarity, affecting aquatic organisms and habitats downstream. The introduction of pollutants could also lead to bioaccumulation in local fauna.
Cumulative impact prior to mitigation:	Additional impacts from concurrent developments in the area could exacerbate water quality issues.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low
Degree to which the impact can be avoided:	Moderate; careful planning and design can minimize the risk of contamination.
Degree to which the impact can be managed:	High; effective management practices can significantly reduce risks associated with construction activities.
Degree to which the impact can be mitigated:	High; implementation of best practices and monitoring can mitigate potential negative impacts on water quality.
Proposed mitigation:	→ It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities. → Bunded, impervious areas must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. These bunded areas must be at least 100 m from the demarcated estuary's boundaries.

Residual impacts:	Minimal residual impacts anticipated if mitigation measures are effectively implemented. Continuous monitoring will ensure compliance with environmental standards.
Cumulative impact post mitigation:	Post-mitigation impacts are expected to be significantly reduced, leading to minimal contributions to cumulative impacts on water quality.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**1. Socio economic impacts** Access to employment for the community during the operational phase, Job creation, Provision of residential erven in response to provincial demand, investment in the area
Nature of impact:	Positive
Extent and duration of impact:	Local; long term
Consequence of impact or risk:	Improved livelihoods, influx of people to the area, investment in the area, spending in the area
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	N/A
Degree to which the impact can be reversed:	N/A
Indirect impacts:	N/A
Cumulative impact prior to mitigation:	N/A
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High Positive
Degree to which the impact can be avoided:	N/A

Degree to which the impact can be managed:	N/A
Degree to which the impact can be mitigated:	N/A
Proposed mitigation:	→ Ensure labour force is sourced locally as far as possible. → A gender balance to be considered during employment.
Residual impacts:	Investment in the area, attraction to the area, spending in the area Improved local economy.
Cumulative impact post mitigation:	Job creation and skills transfer to local community
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High positive
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**2. Visual impacts (Loss of scenic resources)** Change of visual character and Sense of Place from a rural/wilderness (predominantly undeveloped site) to a low-density residential development.
Nature of impact:	Negative
Extent and duration of impact:	Local-Regional; Limited to the local surroundings
Consequence of impact or risk:	Moderate impact on local aesthetics and community perception
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Moderate
Indirect impacts:	Potential decrease in property values in surrounding areas due to altered visual landscape and neighborhood character
Cumulative impact prior to mitigation:	Moderate

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Limit number of units and implement guidelines as provided by the developer with low planted roofs etc. → Provide enough area/buffers along edges of site to provide suitable screening such as vegetated berms and indigenous trees. → Ensure a construction EMP is in place.
Residual impacts:	The proposed development will be visible, in varying degrees, from the highly sensitive receptors in the Zone of Visual Influence, namely Uilenkraal Lagoon, EM&HPOZ's and the R43 Scenic Route.
Cumulative impact post mitigation:	Medium negative – the impact will have moderate negative effects and will require moderate mitigation.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**3. Visual impacts (Visual intrusion of night light)** The current rural/wilderness site is unlit. Lighting for the new residential units and streets will extend the Franskraal settlement into the rural area.
Nature of impact:	Visual intrusion of night light (Negative)
Extent and duration of impact:	Local: from immediate surroundings (10km radius) till view catchment extent: Long-term
Consequence of impact or risk:	Marginal to Significant loss of rural/natural scenery
Probability of occurrence:	Highly Probable
Degree to which the impact may cause irreplaceable loss of resources:	Marginal- Significant loss of rural/natural scenery

Degree to which the impact can be reversed:	Partly reversible – the impact is reversible but more intense mitigation measures are required
Indirect impacts:	Potential increase in residential light pollution affecting nearby habitats and nocturnal wildlife.
Cumulative impact prior to mitigation:	Additive and Moderate - the impact would result in a combined impact of moderate significance on the scenic resources and Scenic Route.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High negative
Degree to which the impact can be avoided:	Moderate
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Moderate
Proposed mitigation:	→ Limit outdoor street and path lighting to bollard height and low spill with limited outdoor lighting on buildings → Electrical Engineer to design for appropriate lighting for a → Natural area and alongside a Scenic route
Residual impacts:	The overall impact remains noticeable but significantly reduced through mitigation measures
Cumulative impact post mitigation:	Additive and Low - the impact would result in a combined impact of low significance on the scenic resources and Scenic Route
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**4. Impact terrestrial biodiversity** Impacts associated with residential activities such as the introduction of domestic animals to the site.
Nature of impact:	Negative
Extent and duration of impact:	Local & Long term

Consequence of impact or risk:	The introduction of domestic animals can disrupt local wildlife, leading to habitat degradation and potential extinction of vulnerable species.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate loss
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Potential disturbance to native fauna, including increased predation on small animals and changes to local vegetation dynamics.
Cumulative impact prior to mitigation:	Cumulative loss of biodiversity due to residential development, including habitat fragmentation and increased pressure from domestic animals and invasive species.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium high
Degree to which the impact can be avoided:	Medium
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Medium
Proposed mitigation:	→ Following vegetation clearing, all available top soil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed. → No invasive aliens (as listed in CARA) must be allowed anywhere on site. → Roads should be kept to a minimum width.

Residual impacts:	Although mitigation measures will reduce impacts, some level of habitat alteration and potential loss of biodiversity may still occur, particularly related to ongoing domestic animal activities.
Cumulative impact post mitigation:	Reduced but still present cumulative effects on biodiversity, particularly if mitigation measures are not rigorously enforced.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**5. Impact on plant species** Potential secondary invasion by alien species including the introduction of new invasive species to the site, impact on pollination and dispersal, impact on faunal movement, fire suppression with associated negative long-term impact on fynbos regeneration and ecological functioning.
Nature of impact:	Negative
Extent and duration of impact:	Local & Long-term
Consequence of impact or risk:	Moderate loss of indigenous fynbos vegetation, affecting overall ecosystem health.
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Moderate loss
Degree to which the impact can be reversed:	Irreversible
Indirect impacts:	Loss of important species of fynbos vegetation.
Cumulative impact prior to mitigation:	Potential secondary invasion by alien species including the introduction of new invasive species to the site, impact on pollination and dispersal, impact on faunal movement, fire suppression with associated negative long-term impact on fynbos regeneration and ecological functioning
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High

Degree to which the impact can be avoided:	Low
Degree to which the impact can be managed:	Medium
Degree to which the impact can be mitigated:	Low
Proposed mitigation:	→ An initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing. → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property. → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas. → Roads should be kept to a minimum width. → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property. → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done. → Following vegetation clearing, all available top soil should be removed and stockpiled prior to construction commencing.

	This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings. → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development, and maintained in a dedicated nursery until needed.	
Residual impacts:	Permanent loss of indigenous vegetation on the development footprint.	
Cumulative impact post mitigation:	→ Negative: Permanent loss of indigenous vegetation on the development footprint → Positive: Alien clearing program will facilitate the restoration of fynbos plant species.	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium negative	High Negative
POST-CONSTRUCTION PHASE		
Potential impact and risk:	**6. Altered flow regime** Site clearance, infilling and compaction will result in alteration of the flow regime for the remnant seep wetland and potentially the Uilkraals Estuary. The significance of this impact will be largely mitigated by effective stormwater measures, which will ensure that all runoff still drains into a suitably designated rehabilitated remnant wetland area, or into SW ponds onsite. There may however still be an impact due to catchment hardening, and associated increase in peak flows.	
Nature of impact:	Negative	
Extent and duration of impact:	Local: long-term	
Consequence of impact or risk:	Potential for localized flooding and disruption of natural wetland processes.	
Probability of occurrence:	Possible	
Degree to which the impact may cause irreplaceable loss of resources:	None	

Degree to which the impact can be reversed:	High (Passive restoration)
Indirect impacts:	Potential changes in local biodiversity and wetland health due to altered hydrology.
Cumulative impact prior to mitigation:	Increased runoff and peak flow conditions could lead to localized flooding and sedimentation in downstream areas.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	High
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Effective stormwater management measures – i.e. ensuring that stormwater flows into a designated rehabilitated remnant wetland area - will mitigate this impact to a large extent. → It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. → Alien invasive vegetation should be monitored onsite to ensure that Port Jackson does not re-colonise the area.
Residual impacts:	Although mitigation measures will be in place, there may still be some impact from catchment hardening and associated increases in peak flows.
Cumulative impact post mitigation:	Reduced risk of flooding and improved wetland health due to effective management measures; however, potential residual effects on hydrology may persist.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very-Low Negative
POST-CONSTRUCTION PHASE	
Potential impact and risk:	**7. Water quality impairment** Stormwater from the proposed development areas, which may potentially be contaminated stormwater (hydrocarbons), will be directed into the remnant rehabilitated wetland area. Pollutants may also enter the remnant wetland onsite via sewage leaks (although highly unlikely).

Nature of impact:	Negative
Extent and duration of impact:	Local; short-term
Consequence of impact or risk:	Potential loss of aquatic ecosystem due to contaminated stormwater.
Probability of occurrence:	Possible
Degree to which the impact may cause irreplaceable loss of resources:	None
Degree to which the impact can be reversed:	High
Indirect impacts:	Pollution of the watercourses
Cumulative impact prior to mitigation:	Minimal cumulative impacts are anticipated due to the small scale of the project and effective pre-construction mitigation measures.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low Negative
Degree to which the impact can be avoided:	High
Degree to which the impact can be managed:	Moderate
Degree to which the impact can be mitigated:	High
Proposed mitigation:	→ Ensure that all potentially significant pollution sources are listed in the Environmental Management Plan. → Ensure that all activities that may lead to pollution take place indoors or on bunded impervious surfaces such that the pollutants cannot enter the stormwater system. → Repair all sewage leaks as soon as reasonably possible after detection. → Inspection of all sewage pipes should be conducted by a plumber once every 10 years. → SW draining into the estuary should first flow into the rehabilitated onsite SW ponds / wetland area onsite.

Residual impacts:	Potential minor residual impacts may occur if mitigation measures are not fully implemented, but these are expected to be negligible due to proactive measures
Cumulative impact post mitigation:	Cumulative impacts are expected to be low due to effective mitigation measures in place and the small scale of the project.
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low negative

DECOMMISSIONING AND CLOSURE PHASE

Potential impact and risk:	**Not applicable**
Nature of impact:	-
Extent and duration of impact:	-
Consequence of impact or risk:	-
Probability of occurrence:	-
Degree to which the impact may cause irreplaceable loss of resources:	-
Degree to which the impact can be reversed:	-
Indirect impacts:	-
Cumulative impact prior to mitigation:	-
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-
Degree to which the impact can be avoided:	-
Degree to which the impact can be managed:	-
Degree to which the impact can be mitigated:	-
Proposed mitigation:	-
Residual impacts:	-
Cumulative impact post mitigation:	-
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	-

ALTERNATIVE 3 - NO-GO

This is where the status quo remains and the site is not developed, although this allows for the site to remain undeveloped, it offers limited to no opportunity for improvement of the natural state of the whole site, or alien vegetation management or rehabilitation of the seep wetland on site.

No job creation opportunities or investment in the area.

Allows for increased risk of unregulated and inappropriate development taking place.

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.

Terrestrial Biodiversity Assessment

The proposed residential development will lead to the direct loss of 7.4 hectares of natural vegetation characterized by Agulhas sand fynbos, a critically endangered vegetation type according to the National Spatial Biodiversity Assessment (NSBA). The site hosts three vulnerable Red Data species: *Leucadendron coniferum, Leucadendron linifolium*, and *Leucospermum prostratum*, with the potential for more Red Data species to be identified with further surveys. The vegetation varies from open natural fynbos to heavily infested areas with alien invasive species, covering approximately 70% of the site. The removal of alien species, although costly, could largely restore the natural vegetation. The property, including terrestrial and aquatic Critical Biodiversity Areas, holds high local and regional conservation value.

The natural vegetation's condition varies, influenced by drainage and soil moisture, but is generally defined as Agulhas sand fynbos, with different species indicative of these moisture gradients. Alien invasive species, particularly *Acacia saligna,* pose a significant threat to the site's biodiversity. Other disturbances are minimal, limited to an access jeep track and some areas impacted by rubble. Despite these disturbances, the natural ecological and evolutionary processes remain functional. The proposed development would fragment connectivity between the lagoon and Franskraal mountains, although an ecological corridor could mitigate this impact. The current state of the vegetation is poor due to alien infestation but holds potential for restoration.

Botanical impacts will occur during both construction and operational phases, with the former involving the loss of habitat and species due to clearing vegetation, and the latter involving less obvious but significant impacts such as secondary invasion by alien species, disruption of pollination and dispersal, and other effects from residential activities.

The revised layout (Alternative two) includes ecological corridors on the southern and northern boundaries of the property. The southern corridor has a minimum width of 50 m and aligns with the proposed ecological corridor on the property to the north-west (portion 29 of 708), while the northern corridor has a minimum width of 40m. Further north-south corridors have been included in the design running across the site linking to the boundary corridors.

This revised site plan (Alternative two) satisfies the requirements for functional ecological corridors on the site. This ecological connectivity will be strengthened by the proposed lease of the municipal land directly to the south of the property.

Mitigation measures include:

- → An initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing.
- → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs,

succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property.

- → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas.
- → Roads should be kept to a minimum width.
- → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property.
- → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done.
- → Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings.
- → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.

Aquatic Biodiversity Impact Assessment

The aquatic assessment carried out on 10 October 2023 confirmed the presence of a degraded seep wetland on the property. Despite the wetland being impacted by invasive alien vegetation like Port Jackson (Acacia saligna), hydrology remains evident, with surface water features, such as small channels and shallow streams, visible across the site. Indigenous wetland vegetation, including species like *Hellmuthia membranacea* and *Typha capensis*, is present, but sparse.

Present Ecological State (PES) and Wetland Health

The WET-Health assessment method determined that the wetland's PES falls within Category E, indicating that it is in a seriously modified state. The main factors influencing this condition include altered hydrology due to stormwater (SW) infrastructure associated with nearby roads, and dense stands of invasive species that significantly alter water flow patterns. The wetland's geomorphology remains largely intact, though it has suffered from artificial modifications in certain areas.

Water quality in the wetland is likely compromised by runoff from surrounding roads, which may introduce pollutants such as oil, rubber, and sediment. While some indigenous wetland vegetation is present, the invasive species outcompete native plants, reducing the wetland’s ecological integrity.

Ecosystem Services and Climate Considerations

The wetland's contribution to ecosystem services is limited. The WET-EcoServices assessment classified its role in flood attenuation, streamflow regulation, and erosion control as minimal due to the poor vegetation cover and degraded condition. The presence of invasive species reduces the wetland’s ability to trap sediment or assimilate nutrients effectively. However, it plays a moderate role in toxicant assimilation due to the stormwater inputs from surrounding infrastructure.

Given the degraded state of the wetland and the sparse organic sediment, its capacity for carbon storage is also low. The site's value in maintaining biodiversity is moderate, linked to its proximity to the Uilkraals estuary, a priority area for conservation efforts. Although no species of conservation concern were noted, the wetland could serve as a breeding site for certain amphibians.

Ecological Importance and Sensitivity (EIS)

The EIS assessment ranked the wetland's importance as "moderate". While it supports biodiversity indirectly through its connection to the Uilkraals estuary, the wetland's ecological condition limits its overall importance due to its modified state. The historical status of the wetland vegetation as endangered (South Coast Sand Fynbos) further underscores its potential for rehabilitation. Sensitivity to hydrological changes, especially those related to flooding and low flows, is relatively low.

Following the Aquatic and Botanical specialist input during 2023, the Layout for the proposed Beach Estate was amended as depicted in the figure below. This layout (Alternative 2) is the preferred layout from an aquatic biodiversity perspective.

In particular, Layout Alternative 2 is supported as it ensures that flow is maintained to the downstream Uilkraals Estuary along the western Rehabilitated wetland area and in the central area of the site. The relatively natural portion of the seep wetland indicated by the red arrow in **Figure 47** is avoided and maintained within a larger area to be rehabilitated during the Offset process. Additionally, Layout Alternative 2 includes a buffer area surrounding the Uilkraals Estuary of more than 75 m (as recommended) during construction and operation of most essential aspects of the estate.

In order to ensure that water quality impairment does not occur within the offset wetland area and the Uilkraals Estuary, the following is recommended:

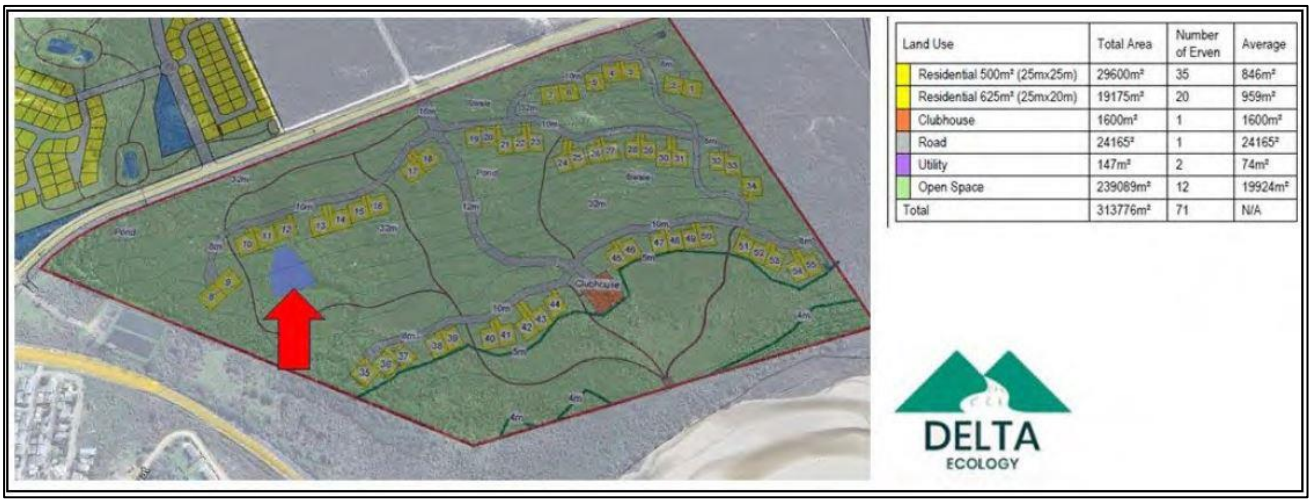


Figure 47: Wetland area to be conserved and rehabilitated.

It is the opinion of the specialist that the proposed development should be approved, subject to application of the mitigation measures listed in this report, as well as the implementation of a suitable Wetland Offset, Rehabilitation and Management Plan.

In particular, Layout Alternative 2 is supported as it ensures that flow is maintained to the downstream Uilkraals Estuary along the western Rehabilitated wetland area and in the central area of the site. The relatively natural portion of the seep wetland indicated by the red arrow in Figure 10-1 is avoided and maintained within a larger area to be rehabilitated during the Offset process. Additionally, Layout Alternative 2 includes a buffer area surrounding the Uilkraals Estuary of more than 75 m (as recommended) during construction and operation of most essential aspects of the estate.

Management Measures

- In order to ensure that water quality impairment does not occur within the offset wetland area and the Uilkraals Estuary, the following is recommended:

- Ideally, the sewage system should connect to the Municipal network. Flow rates of sewage pipelines will further inform the WUA process.
- Operational phase mitigation implemented during the design/construction phase
    - Construct sewage pipelines in accordance with the relevant SANS / SABS specifications.
    - Design the pipelines to accommodate the operating and surge pressures.
    - Provide surge protection e.g air valves.
    - Allow for scour valves along pipelines in order to ensure sewage pipelines can be emptied in a controlled manner if required.
    - Allow for surcharge containment and emergency storage of 2 hours of peak flow at manholes located within areas upslope of the estuary. Containment/emergency storage may include a concrete box or earthen bund surrounding the manholes. The backup storage capacity of manholes may also be improved by raising the manholes by one meter.
    - Maintenance and Monitoring Programme must be compiled for all infrastructure (e.g. pipelines) and implemented by a suitably qualified professional to ensure that all defects or leakages are identified timeously and repaired immediately.
- Stormwater associated with the internal road network may potentially contain hydrocarbons and other contaminants. It is recommended that a SW Management Plan (SWMP) is drafted. Potentially contaminated SW should ideally drain into the Grey Water Treatment Plant and be adequately treated prior to discharge into the swale system (and downstream Estuary).
- Incorporate measures into the stormwater design to trap solid waste, debris and sediment carried by stormwater. Measures may include the use of curb inlet drain grates and debris baskets/bags.
- Stormwater generated from areas with a higher risk of contamination such as parking areas and roads must receive basic filtering and treatment prior to its release into surrounding areas. Treatment methods may include sand filter traps and oil-water separators which will require maintenance.
- Stormwater systems must be monitored and maintained into perpetuity and collections of debris and solid waste removed from grates and baskets. The developer must confirm who will be responsible for this monitoring and maintenance as well as their roles.
- Further recommendations specific to the Rehabilitation of the remnant Seep Wetland area should form part of a suitable Wetland Offset, Rehabilitation and Management Plan drafted for the proposed development.
- Recommendations specific to the proposed 6 m wide road located in the buffer area of the Estuary, gazebo, access gate, and boardwalk (within the estuarine functional zone) include:
    - A method statement must be developed indicating how the contractor will minimise the passage of contaminants such as fuel and cement into the estuary. This method statement must be approved by the ECO prior to the commencement of construction activities.
    - Fuel, chemicals, and other hazardous substances should preferably be stored as far away as possible from the estuary and buffer area. These substances must be stored in suitable secure weather-proof containers with impermeable and bunded floors to limit pilferage, spillage into the environment, flooding, or storm damage.
    - Inspect all storage facilities, vehicles, and machinery (as applicable) daily for the early detection of deterioration or leaks, and strictly prohibit the use of any vehicles or machinery from which leakage has been detected.
    - Mixing and transferring of chemicals or hazardous substances must take place outside of the estuary and buffer, and must take place on drip trays, shutter boards or other impermeable surfaces.
    - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the estuary and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator.
    - Dispose of used oils, wash water from cement and other pollutants at an appropriate licensed landfill site.

- Avoid the use of infill material or construction material with pollution / leaching potential. Where possible, in situ earthen materials must be used during construction in order to reduce the risk of leachate from imported materials contaminating the downstream areas.
- Concrete should preferably be imported as "ready-mix" concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO outside of the no-go area. Surplus or waste concrete must be sent back to the supplier who will dispose of it.
- Construct temporary bunds around areas where cement is to be cast in situ.
- Dispose of concrete and cement-related mortars in an environmental sensitive manner (can be toxic to aquatic life). Disposal of any of these waste materials into the stormwater system or the estuary is strictly prohibited.
- Washout must not be discharged into the no-go area or the stormwater system. A washout area should be designated, and wash water should be treated on-site.
- Clean up any spillages immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility.
- Provide an adequate number of bins on site and encourage construction personnel to dispose of their waste responsibly.
- Waste generated by construction personnel must be removed from the site and disposed of at a registered waste disposal facility on a weekly basis.
- Locate site camp, laydown areas, stockpile areas, construction material, equipment storage areas, vehicle parking areas, bunded vehicle servicing areas and re-fuelling areas in designated areas of already hardened surface or disturbed areas located outside of the estuary and associated 75 m buffer area. These areas should preferably be located on level ground in a previously disturbed area of vegetation approved by the Environmental Control Officer (ECO).
- Prohibit the dumping of excavated material, building materials or removed vegetation within the estuary and its associated buffer area. Building material must be stored at the designated storage area located outside of the no-go area (estuary and buffer). Spoil material must be appropriately disposed of at a registered waste disposal facility.
- Vegetation clearance should be restricted to the relevant development components and indigenous vegetation cover should be maintained as far as practically possible.
- Vegetation which is considered suitable for rehabilitation activities after construction (such as indigenous grasses and other herbaceous species) should be carefully removed from the construction footprint and stored at an appropriate facility for use in later rehabilitation activities.
- Clear and remove any rubble or litter that may have been accidentally deposited into the no-go area as a result of construction activities and dispose of at an appropriate registered facility.
- An ECO must inspect the construction footprint on a weekly basis during construction of these elements of the development; and must take immediate measures to address unforeseen disturbances to the estuary and its associated buffer area. Any disturbed / compacted areas falling outside of the demarcated construction footprint must be immediately rehabilitated. Depending on the extent of damage the method of rehabilitation may require input from an aquatic specialist / suitably qualified contractor.
- Once construction has been completed, orange hazard fences as well as all construction waste, rubble, and equipment must be removed from the construction footprint.
- In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DEFF: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase.
- Where possible undertake construction during the dry season.
- The site manager / ECO must check the downslope estuary as well as the recommended buffer area for erosion damage and sedimentation weekly and after every heavy rainfall event. Should erosion or sedimentation be noted, immediate corrective measures must be undertaken.

- The estuary must be monitored monthly for dumping, and any refuse or waste encountered must be removed and disposed of at a registered waste facility. The developer must confirm who will be responsible for this monitoring of the estuarine.
- An AIPS control plan must be compiled which includes measures to control and prevent the proliferation of AIPS during the operational phase.

Should an onsite sewage treatment plant be implemented, additional input from an Aquatic Specialist is required. The treated effluent discharged into the swale system (and ultimately draining into the downstream Estuary) must comply with the South African Water Quality Guidelines for aquatic ecosystems (DWAF, 2006). As the guidelines are specific to protection of freshwater aquatic ecosystems (and do not deal with estuarine systems), guidance from the DWS will be sought should this be the preferred option. The sewage system must be monitored and maintained into perpetuity. A water quality monitoring plan would need to form part of the Operational EMPr and/or the WULA process.

Agricultural Compliance Statement

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to negligible loss of future agricultural production potential.

The site is classified as high agricultural sensitivity by the screening tool. This has been disputed by this assessment, because of the agricultural production potential and current agricultural land use, and the site is rated by this assessment as being of medium agricultural sensitivity.

The site is located in an area where there is little crop production. Cropping potential is limited by a combination of climate and soil constraints. The climate is classified as arid and therefore limiting to rain-fed cropping. Soils are constrained by very low water holding capacity. The climate and soil combination provides an insufficient moisture reservoir for viable rain-fed crop production and limits the land's agricultural potential to grazing only.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of a development. In this case, the entire property is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations on its agricultural potential. The use of this land for non-agricultural purposes will cause zero loss of agricultural production potential in terms of national food security. The overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed as being of negligible significance and as acceptable.

From an agricultural impact point of view, it is recommended that the development be approved. The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

No mitigation measures are required for the protection of agricultural production potential on the site because the site is not and will not be utilised as agricultural production land.

Visual Impact Assessment

Most of the site will have a moderate visual sensitivity. Development in these areas will potentially have a Moderate, negative visual Impact.

Some areas of the site, namely the areas adjacent to the R43 Scenic Route and Corridor and the Uilkraals Estuary/Lagoon, and their buffers, identified on site, will have a high visual sensitivity and any development in these areas will potentially have a high, negative visual impact.

The proposed site of development is on the relatively flat - gently undulating coastal plain. The vegetation is predominantly invasive alien vegetation with remnants of fynbos. When cleared of the invasive vegetation, the remaining fynbos will provide little screening. The VAC of the site is moderate to low, there is partial (low lying, some undulations) to little screening by topography and vegetation.

The proposed site of development is situated on a predominantly undisturbed site. The site is very close to the Uilkraals Estuary/Lagoon which is partially protected and a EMOZ and the R43 Scenic Route is immediately adjacent to the western

border of the site. The site is within the current urban edge line of the Greater Gansbaai area and is indicated for development. The Uilkraalmond Resort is close by to the south and to the west and north there is rural development. The visual intrusion of the proposed development will be moderate - i.e it partially fits into the surroundings (Uilkraalmond Resort and rural development) but will be clearly noticeable.

The potential visual impacts will occur during the construction and operation phase of the development. The nature of the visual impacts will be the visual effect the activity would have on the receiving environment. The visual impacts will be assessed based on a synthesis of criteria (nature of impact, extent, duration, probability, intensity, status, degree of confidence, level of significance and significance after mitigation) as defined by the NEMA regulations.

Construction phase:

During the construction phase of the development it is assumed that the site will be cleared of the invasive alien vegetation and the installation of services, roads, units and fencing areas will be cleared of all vegetation. The clearing of the alien vegetation will result in the site being visually exposed to the adjacent areas namely the R43 roads and the Lagoon while the construction activity will also change the activity levels of the site as well as the vegetation clearing for construction will also result in exposed substrates being more visible to the surrounding areas.

Operation Phase

- → Loss of Scenic Resources - Change of visual character and Sense of Place, from a passive rural and wilderness site to a site with a residential character;
- → Visibility from sensitive receptors;
- → Visual intrusion of night lighting.

Mitigation measures

- → Phased removal of the invasive alien vegetation such that the construction activities are screened. Where the berm is along the southern and western areas, the construction and revegetation, including some large indigenous trees, should form part of the initial phase of construction and between this berm and the most western proposed roads and eastern units, some larger alien trees should be retained to screen the proposed units and roads from the R43 sections until the revegetated berms are established and can screen the development.
- → Similarly along the eastern boundary - some of the larger alien trees should be retained to screen development from the R43 Scenic Whale Route. The effectiveness of trees screening development is seen to the south of the R43 where there is a strip of vegetation between the lagoon and the resort, screening buildings well. Once the indigenous trees and shrubs are established, the remaining trees can be removed.
- → Quicker growing indigenous pioneer tree species such as *Virgilia spp. Olivia ventosa, Kiggelaria africana, Buddleja spp., Euclea racemosa,* and other quick growing trees from local area - (refer to Platbos Forest and vegetation specialist)
- → The linear arrangement of units need to be broken, with either more space between units or some being set back so that the 'line' is broken. Additional landscaping can also assist with the breaking of the line

During Construction:

- → Limit extent of damage, keeping cut and fill to a minimum. Minimise disturbance through fencing off construction areas, thereby protecting and retaining vegetation in the areas that will not be built on.
- → Revegetate service areas and public street verges immediately after construction and continue maintenance eternally.
- → The site must be kept tidy at all times
- → Building material stockpiles must be protected from dispersion into the surrounding area by wind or water
- → A concerted effort must be made to minimise dust generation and its effect on the surrounding areas.

During operational

It is of importance that the Visual Mitigation measures provided are carried through into the operation phase of the development - responsibilities shift from Developer to Home Owners Association. To this end it must be ensured that the:

- → Home Owners Association (HOA) have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping and that the maintenance actions comply with the architectural and landscaping guidelines provided for this Visual Impact Assessment and this VIA's mitigation measures
- → HOA monitor the building and landscape guidelines
- → HOA maintain buildings and landscaping to a high standard
- → HOA continue minimising light pollution - keep outdoor lighting as bollard lighting, height to maximum 1.2 m, low spill type lights to minimize light spill and pollution, external lighting on buildings must be minimised or completely omitted etc.

Heritage Impact Assessment

Archaeology

The site is situated on the edge of the Uilkraal Lagoon/vlei environment, shellfish, stone tools, and pottery for example, may be uncovered during vegetation clearing operations.

Unmarked Khoisan burials may be exposed during construction phase excavations, but the probability of this occurring is considered to be low. The proposed residential units will be raised off the ground, and subsurface excavations will be much less intrusive than conventional foundations. Services infrastructure for water, electricity and sewerage will be in conventional trenches about 1m deep along the road reserves and connected to the municipal network.

Palaeontology

Pether (2024) notes that although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS, for the most part its palaeontological sensitivity is LOW due to the sparse presence of trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed construction activities is (therefore) not expected' (Pether 2024).

According to Pether (2024), it also appears improbable that residual raised beach deposits of the Klein Brak Fm. with well-preserved fossil content are present. Due to the unfavourable setting, a LOW sensitivity may be assigned to any residual Klein Brak Formation raised beach deposits which may occur in the Project Area. Intersection of the uppermost Waenhuiskrans Fm. in earthworks is (also) limited, relative to the affected volume of overlying unconsolidated Qg coversands which mantle the area The overall, default palaeontological sensitivity of the Waenhuiskrans Fm. is classified as VERY HIGH and the unconsolidated Qg coversand deposits is classified as LOW by the SAHRIS Palaeo-Sensitivity map. Considering that the late Quaternary to present day faunas is fairly well known from archaeological sites and hyaena lair bone accumulations, additional finds are considered to be of moderate scientific importance.

Impact on the Cultural Landscape

According to Anderson (2024), the proposed development falls within the Greater Gansbaai Urban Edge as defined in the 2020 Spatial Development Framework. Furthermore, the area is allocated for urban development, where plans provided indicate further residential development to the west of the site. The proposed eco type development is also low density and as such is an appropriate development for this site which is visible from Scenic Routes and is adjacent to the Uilkraal Lagoon (Anderson 2024). The proposed development guidelines further indicate 'that much consideration has been given to the sites visual sensitivity and if development is to go ahead, the site can be visually enhanced from the alien infested character now presented' (Anderson 2024:41).

Conclusion

Indications are that a proposed Eco Type housing development on Portion 36 of Farm No. 708 Franskraal, in Uilenkraalsmond does not pose a significant threat to local Stone Age archaeological resources. Shell middens, stone tools

and pottery, for example, may however be exposed during vegetation clearing operations. The likelihood of Khoisan burials being uncovered during construction phase excavations is considered to be low given the shallow depth of the associated excavations. According to Pether (2024), although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS, for the most part its palaeontological sensitivity is LOW due to the sparse presence of the trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed construction activities is (therefore) not expected'.

According to Anderson (2024:40), the proposed development plan, indicating 55 units, and the 'Franskraal Beach Estate (Portion 36 of Farm Franche Kraal) Design Guidelines and Philosophy' Draft document dated 6 March 2024, provide for a number of design elements that assist in the mitigation of the potential visual impacts. If the recommendations and mitigation measures are implemented, the proposed development could have a moderate visual impact on the highly rated scenic resources of the surrounding environment and could enhance the visual character of the site and its surrounds (Anderson 2024).

Recommended mitigations measures

Archaeology

- → No archaeological mitigation is required prior to construction excavations commencing.
- → A walk down survey of the development site must be conducted by a professional archaeologist once vegetation has been cleared from the site.
- → If any human remains are uncovered or exposed during excavations, work must immediately stop, and the finds reported to the Environmental Control Officer (ECO) and the contracted archaeologist. Human remains must not be removed or disturbed until inspected by the archaeologist.

Palaeontology

- → The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossil bones as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.
- → The field contractor and workers involved in excavations must be informed of the need to watch for fossil bones and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the works supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise, with Heritage Western Cape on the nature of the find and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.

Visual Impact

- → Phased removal of the invasive alien vegetation such that the construction activities are screened. Where the berm is along the southern and western areas, the construction and revegetation, including some large indigenous trees, should form part of the initial phase of construction and between this berm and the most western proposed roads and eastern units, some larger alien trees should be retained to screen the proposed units and roads from the R43 sections until the revegetated berms are established and can screen the development.
- → Similarly, along the eastern boundary - some of the larger alien trees should be retained to screen development from the R43 Scenic Whale Route. The effectiveness of trees screening development is seen to the south of the R43 where there is a strip of vegetation between the lagoon and the resort, screening buildings well. Once the indigenous trees and shrubs are established, the remaining trees can be removed.
- → Quicker growing Indigenous pioneer tree species such as *Virgilia spp. Olivia ventosa,Kiggelaria africana, Buddleja spp., Euclea racemosa*, and other quick growing trees from local area.

- → The linear arrangement of units needs to be broken, with either more space between units or some being set back so that the 'line' is broken. Additional landscaping can also assist with the breaking of the line.
- → Homeowners Association (HOA) have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping and that the maintenance actions comply with the architectural and landscaping guidelines provided for this Visual Impact Assessment and this VIA's mitigation measures. The above recommendations must be included in the Environmental Management Plan for the proposed project and must be monitored by the Environmental Control Officer (ECO).

Paleontological Impact Assessment

Affected Formations

The proposed development is located on a wave-cut marine platform primarily underlain by Peninsula Formation (Fm.) quartzite bedrock. The project area predominantly consists of this bedrock, with some sections of the Waenhuiskrans Fm. aeolianites and recent dune sands from the Strandveld Fm. surrounding the estuary mouth. Historical geological assessments indicate that the area was submerged during significant sea-level events, particularly the Late Pliocene and various Marine Isotope Stages (MIS).

Anticipated Impacts on Palaeontological Resources

The construction phase poses potential impacts primarily due to subsurface disturbances caused by the use of Self Drilling Anchor piles for foundations. This technique minimizes disturbance, targeting the surficial aeolian coversands and marginally affecting the Waenhuiskrans Fm., which has moderate palaeontological sensitivity concerning fossil bones.

The potential for finding fossil bones and archaeological materials remains significant, especially given the estuarine context of the development site. However, overall, the Klein Brak Fm.'s shell deposits may not substantially impact the development due to their low sensitivity rating.

Cumulative Impacts

The cumulative impact assessment acknowledges that while it is impossible to identify and rescue all fossils during excavation, diligent mitigation efforts can preserve significant finds for scientific study. Each loss of fossils contributes to a cumulative negative impact, with potential unknown significance. However, successful mitigation could yield positive outcomes, enhancing scientific knowledge through recovered fossils.

Mitigation measures

- → The possible presence of fossils in the subsurface does not have an *a priori* influence on the decision to proceed with the proposed development. However, mitigation measures are essential. The potential impact has a moderate influence upon the proposed project, consisting of implemented mitigation measures recommended below, to be followed during the Construction Phase.
- → It is not feasible for a specialist monitor to be continuously present during the Construction Phases, when fossils may be unearthed at any time. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging.
- → For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossils as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.
- → The Fossil Finds Procedure included as Appendix 3 provides guidelines to be followed in the event of fossil bone finds in the excavations. The works supervisor/foreman and workers involved in excavating the infrastructure trenches and stormwater drainage must be informed of the need to watch for fossils and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the Works Supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise with Heritage Western Cape and the standby palaeontologist on the nature of the find

and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.

→ If a significant occurrence of fossil bones in a palaeontological context is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Said palaeontologist must also undertake the recording of the stratigraphic context and sedimentary geometry of the exposure, the sampling of ambient small fossil content and the compilation of the report for distribution to Heritage Western Cape, SAHRA, the approved curatorial institution and local heritage interest groups.

→ A permit from HWC is required to excavate fossil bone finds. The applicant should be the qualified specialist responsible for assessment, collection and reporting (palaeontologist). Should fossils be found that require rapid collecting, application for a palaeontological permit with supporting work plan will immediately be made to HWC. The application requires the details and permission of the registered owner of the site. The fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution. The rescue of discovered palaeontological remains by a contracted specialist shall be at the Developer's expense.

Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment

Animal Species

Various bird species, including the Eurasian Whimbrel, African Oystercatcher, and Grey-headed Gull, were observed foraging or resting on nearby islands and sandbanks. Mammal activity, such as the Cape Grysbok and Porcupine, was also noted. However, alien plant infestations, primarily *Acacia saligna,* have negatively affected the diversity and abundance of wildlife.

Species of Conservation Concern (SCC)

The report identified species such as the Black Harrier, African Marsh Harrier, and Caspian Tern, which may use the area for foraging, though none were directly observed during fieldwork. The habitat is suitable for foraging, and potential impacts on these species are considered low due to planned mitigation and rehabilitation efforts.

The alien vegetation on the property significantly impacts the indigenous fauna. Restoration efforts after development are critical to improving habitat quality, which may lead to an increase in species diversity and abundance over time.

The site overlaps with ESA1 and ESA2 areas crucial for faunal connectivity. Open spaces between the development footprints are designed to maintain wildlife movement, particularly ground-dwelling species, between the Uilkraalmond Nature Reserve and other natural areas.

Recommended mitigation measures

→ An alien plant eradication and rehabilitation plan need to be developed and implemented to deal with the rehabilitation of the property. This plan and implementation need to be entrenched formally in the future maintenance of the properties open spaces.

→ Fire management plan needs to be developed and legally incorporated into the property's future management protocols so that fire is not removed as an ecological process due to perceived risk by future owners.

→ Only native plants should be allowed in household gardens.

→ During the construction phase the construction area should be clearly demarcated and blocked off from the 'private open spaces' area to avoid damage and pollution.

→ Pre and post construction site preparation should include rehabilitation of the 'private open space' by removing current building rubble and litter from this area.

→ The fence should always remain semi-permeable to allow for movement of small sized animals e.g. small antelope, genets, mongoose between the nature reserve and wetland system.

→ Search and Rescue of slow-moving animals should take place on building sites. Animals should however not be moved off-site but rather released in the open space areas.

- → Dogs should not be allowed to free-roam the 'private open space'. Cats should not be allowed due to their devastating effect on small animals.
- → Rodent control should make use of environmentally friendly methods such as instillation of owl boxes and raptor perches that attract natural predator control.
- → Human and their pet use of the walkway and jetty should be controlled to avoid disturbance to birds on the sandbanks, mudflats and salt marches.
- → Lights and insects:
    - Switch lights off when not needed
    - Add timers / sensors to lights
    - Make lights activated by movement
    - Add shields to lights
    - Make lights shine downward, or direct only to where needed
    - Use long wavelength red or amber lights / filtered amber LED, with no blue / minimal green light for outdoor lighted areas
    - A lighting plan should be developed to ensure that the impact of night lights is kept to an absolute minimum.
    - Clearing of indigenous fynbos vegetation should be kept to an absolute minimum.
    - Avoid trampling of natural fynbos vegetation surrounding developments.

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr

Terrestrial Biodiversity Assessment

The following mitigation measures are proposed if the residential development is to be considered for approval

- → An initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing.
- → Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property.
- → All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas.
- → Roads should be kept to a minimum width.
- → Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property.
- → The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done.
- → Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings.

→ No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.

Aquatic Biodiversity Assessment

→ It is however recommended that a suitable amount of the remaining onsite wetland area is rehabilitated, and subsequently the wetland loss should be adequately offset.
→ It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities. Install the stormwater infrastructure and conduct rehabilitation activities (as proposed in a suitable Offset and Rehabilitation Management Plan), prior to initiating other construction such that wetland flow and any stormwater leaving the construction site are attenuated in the wetland. It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. If possible, conduct construction and rehabilitation activities during summer months (November to March). Remove all alien invasive vegetation from the proposed site.
→ It is recommended that the It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities. Bunded, impervious areas must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. These bunded areas must be at least 100 m from the demarcated estuary's boundaries.
→ Effective stormwater management measures – i.e. ensuring that stormwater flows into a designated rehabilitated remnant wetland area - will mitigate this impact to a large extent. It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. Alien invasive vegetation should be monitored onsite to ensure that Port Jackson does not re-colonise the area.
→ Ensure that all potentially significant pollution sources are listed in the Environmental Management Plan. Ensure that all activities that may lead to pollution take place indoors or on bunded impervious surfaces such that the pollutants cannot enter the stormwater system. Repair all sewage leaks as soon as reasonably possible after detection. Inspection of all sewage pipes should be conducted by a plumber once every 10 years. SW draining into the estuary should first flow into the rehabilitated onsite SW ponds / wetland area onsite.

Water Quality impairment

→ Ideally, the sewage system should connect to the Municipal network. Flow rates of sewage pipelines will further inform the WUA process.
→ Should an onsite sewage treatment plant be implemented, additional input from an Aquatic Specialist is required. The treated effluent discharged into the swale system (and ultimately draining into the downstream Estuary) must comply with the South African Water Quality Guidelines for aquatic ecosystems (DWAF, 2006). As the guidelines are specific to protection of freshwater aquatic ecosystems (and do not deal with estuarine systems), guidance from the DWS will be sought should this be the preferred option. The sewage system must be monitored and maintained into perpetuity. A water quality monitoring plan would need to form part of the Operational EMPr and/or the WULA process.

Operational phase mitigation implemented during the design/construction phase:

→ Construct sewage pipelines in accordance with the relevant SANS / SABS specifications.
→ Design the pipelines to accommodate the operating and surge pressures.
→ Provide surge protection e.g air valves.
→ Allow for scour valves along pipelines in order to ensure sewage pipelines can be emptied in a controlled manner if required.

→ Allow for surcharge containment and emergency storage of 2 hours of peak flow at manholes located within areas upslope of the estuary. Containment/emergency storage may include a concrete box or earthen bund surrounding the manholes. The backup storage capacity of manholes may also be improved by raising the manholes by one meter.
→ A Maintenance and Monitoring Programme must be compiled for all infrastructure (e.g. pipelines) and implemented by a suitably qualified professional to ensure that all defects or leakages are identified timeously and repaired immediately. This report should be drawn up as a condition of authorisation.

Visual Impact Assessment

The visual impacts include recessive buildings with flat, planted/dark chip roofs, use of dark colours on walls and roofs, stone and wood, shaded windows, broken up building elements to add shadow lines, cantilevered floors and decks, dark rainwater tanks, raised berms along the southern and western borders of the site, low level lighting, no bright security lights. Other mitigation measures that should be implemented include the following:

→ Phased removal of the invasive alien vegetation such that the construction activities are screened. Where the berm is along the southern and western areas, the construction and revegetation, including some large indigenous trees, should form part of the initial phase of construction and between this berm and the most western proposed roads and eastern units, some larger alien trees should be retained to screen the proposed units and roads from the R43 sections until the revegetated berms are established and can screen the development.
→ Similarly along the eastern boundary - some of the larger alien trees should be retained to screen development from the R43 Scenic Whale Route. The effectiveness of trees screening development is seen to the south of the R43 where there is a strip of vegetation between the lagoon and the resort, screening buildings well. Once the indigenous trees and shrubs are established, the remaining trees can be removed.
→ Quicker growing indigenous pioneer tree species such as *Virgilia* spp. *Olivia ventosa*, *Kiggelaria africana, Buddleja* spp., *Euclea racemosa,* and other quick growing trees from local area - (refer to Platbos Forest and vegetation specialist)
→ The linear arrangement of units needs to be broken, with either more space between units or some being set back so that the 'line' is broken. Additional landscaping can also assist with the breaking of the line.

During Construction

→ Limit extent of damage, keeping cut and fill to a minimum. Minimise disturbance through fencing off construction areas, thereby protecting and retaining vegetation in the areas that will not be built on.
→ Revegetate service areas and public street verges immediately after construction and continue maintenance eternally.
→ The site must be kept tidy at all times.
→ Building material stockpiles must be protected from dispersion into the surrounding area by wind or water
→ A concerted effort must be made to minimise dust generation and its effect on the surrounding areas.

During Operational

It is of importance that the Visual Mitigation measures provided are carried through into the operation phase of the development - responsibilities shift from Developer to Home Owners Association. To this end it must be ensured that the:

→ Homeowners Association (HOA) have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping and that the maintenance actions comply with the architectural and landscaping guidelines provided for this Visual Impact Assessment and this VIA's mitigation measures
→ HOA monitor the building and landscape guidelines
→ HOA maintain buildings and landscaping to a high standard

→ HOA continue minimising light pollution - keep outdoor lighting as bollard lighting, height to maximum 1.2 m, low spill type lights to minimize light spill and pollution, external lighting on buildings must be minimised or completely omitted etc.

Paleontological Impact Assessment

→ For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossils as excavations are being made.
→ It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.
→ The Fossil Finds Procedure included as Appendix 3 provides guidelines to be followed in the event of fossil bone finds in the excavations. The works supervisor/foreman and workers involved in excavating the infrastructure trenches and stormwater drainage must be informed of the need to watch for fossils and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the Works Supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise with Heritage Western Cape and the standby palaeontologist on the nature of the find and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.
→ If a significant occurrence of fossil bones in a palaeontological context is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Said palaeontologist must also undertake the recording of the stratigraphic context and sedimentary geometry of the exposure, the sampling of ambient small fossil content and the compilation of the report for distribution to Heritage Western Cape, SAHRA, the approved curatorial institution and local heritage interest groups.
→ A permit from HWC is required to excavate fossil bone finds. The applicant should be the qualified specialist responsible for assessment, collection and reporting (palaeontologist). Should fossils be found that require rapid collecting, application for a palaeontological permit with supporting work plan will immediately be made to HWC. The application requires the details and permission of the registered owner of the site. The fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution. The rescue of discovered palaeontological remains by a contracted specialist shall be at the Developer's expense.

Heritage Impact Assessment

Archaeology

→ No archaeological mitigation is required prior to construction excavations commencing.
→ A walk down survey of the development site must be conducted by a professional archaeologist once vegetation has been cleared from the site.
→ If any human remains are uncovered or exposed during excavations, work must immediately stop, and the finds reported to the Environmental Control Officer (ECO) and the contracted archaeologist. Human remains must not be removed or disturbed until inspected by the archaeologist.

Palaeontology

→ The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossil bones as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.
→ The field contractor and workers involved in excavations must be informed of the need to watch for fossil bones and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the works supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise, with Heritage Western Cape on the nature of the find and suitable

consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.

Visual Impact

- → Phased removal of the invasive alien vegetation such that the construction activities are screened. Where the berm is along the southern and western areas, the construction and revegetation, including some large indigenous trees, should form part of the initial phase of construction and between this berm and the most western proposed roads and eastern units, some larger alien trees should be retained to screen the proposed units and roads from the R43 sections until the revegetated berms are established and can screen the development.
- → Similarly, along the eastern boundary - some of the larger alien trees should be retained to screen development from the R43 Scenic Whale Route. The effectiveness of trees screening development is seen to the south of the R43 where there is a strip of vegetation between the lagoon and the resort, screening buildings well. Once the indigenous trees and shrubs are established, the remaining trees can be removed.
- → Quicker growing Indigenous pioneer tree species such as *Virgilia spp. Olivia ventosa,Kiggelaria africana, Buddleja spp., Euclea racemosa*, and other quick growing trees from local area.
- → The linear arrangement of units needs to be broken, with either more space between units or some being set back so that the 'line' is broken. Additional landscaping can also assist with the breaking of the line.
- → Homeowners Association (HOA) have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping and that the maintenance actions comply with the architectural and landscaping guidelines provided for this Visual Impact Assessment and this VIA's mitigation measures. The above recommendations must be included in the Environmental Management Plan for the proposed project and must be monitored by the Environmental Control Officer (ECO).

Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment

The following animal impact related mitigation measures are recommended for this development.

- → An alien plant eradication and rehabilitation plan need to be developed and implemented to deal with the rehabilitation of the property. This plan and implementation need to be entrenched formally in the future maintenance of the properties open spaces.
- → A fire management plan needs to be developed and legally incorporated into the property's future management protocols so that fire is not removed as an ecological process due to perceived risk by future owners.
- → Only native plants should be allowed in household gardens.
- → During the construction phase the construction area should be clearly demarcated and blocked off from the 'private open spaces' area to avoid damage and pollution.
- → Pre and post construction site preparation should include rehabilitation of the 'private open space' by removing current building rubble and litter from this area.
- → The fence should always remain semi-permeable to allow for movement of small sized animals e.g. small antelope, genets, mongoose between the nature reserve and wetland system.
- → Search and Rescue of slow-moving animals should take place on building sites. Animals should however not be moved off-site but rather released in the open space areas.
- → Dogs should not be allowed to free-roam the 'private open space'. Cats should not be allowed due to their devastating effect on small animals.
- → Rodent control should make use of environmentally friendly methods such as instillation of owl boxes and raptor perches that attract natural predator control.
- → Human and their pet use of the walkway and jetty should be controlled to avoid disturbance to birds on the sandbanks, mudflats and salt marches.
- → Lights and insects:
    - Switch lights off when not needed
    - Add timers / sensors to lights

- Make lights activated by movement
- Add shields to lights
- Make lights shine downward, or direct only to where needed
- Use long wavelength red or amber lights / filtered amber LED, with no blue / minimal green light for outdoor lighted areas.
- A lighting plan should be developed to ensure that the impact of night lights is kept to an absolute minimum
- Clearing of indigenous fynbos vegetation should be kept to an absolute minimum
- Avoid trampling of natural fynbos vegetation surrounding developments.

3.	List the specialist investigations and the impact management measures that will **not** be implemented and provide an explanation as to why these measures will not be implemented.

N/A

4.	Explain how the proposed development will impact the surrounding communities.

→ The construction and post-construction phases of the proposed eco-estate will generate job opportunities for local residents. This employment can span various sectors, including construction, maintenance, and services, contributing to the local economy and providing income for families within the community.

→ The development will attract additional investments in the area during its operational phase. The establishment of the eco-estate is likely to enhance local business prospects, encouraging the growth of ancillary services such as retail, hospitality, and tourism. This can lead to increased economic activity and the establishment of new businesses, fostering a vibrant local economy.

→ The development of an eco-estate can enhance the attractiveness of the area, potentially leading to increased property values. As the region becomes more desirable due to improved amenities and services, existing homeowners may benefit from a rise in property worth.

→ The project will involve the clearing of invasive alien species, such as *Acacia saligna*, which currently threaten local biodiversity. By removing these species, the development will enhance the ecological health of the area, leading to a more sustainable environment that benefits both residents and local wildlife.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.

Based on the Aquatic Biodiversity assessment the wetland in question does not contain peat, though the soils present do contain high amounts of carbon. The wetland is however degraded in nature and is therefore unlikely to contribute significantly towards climatic-change resilience. Construction within the wetland is unlikely to lead to a significant release of carbon into the atmosphere. No further assessment of potential climate impact is necessary.

6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.

None that the EAP is aware of.

7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.

The integration of findings and recommendations from various specialist studies has been crucial in formulating the appropriate mitigation measures for the proposed development. Each specialist assessment has contributed unique insights into the ecological conditions of the site, which is characterized by a dense cover of invasive alien vegetation, notably *Acacia saligna*. This proliferation of invasive species has adversely affected the existing biodiversity, posing significant challenges to the conservation of native flora and fauna.

Despite the site's current degraded condition, specialists have highlighted its high conservation value, emphasising its location and unique vegetation type. This recognition underscores the importance of preserving the ecological integrity of the area while addressing the threats posed by invasive species. The specialists collectively recommend that the most

effective approach to mitigate the impacts of the proposed activity is to prioritise the clearance of invasive alien vegetation. By removing these non-native species, the project can restore the site's ecological balance, allowing for the natural re-establishment of indigenous plants and wildlife. Furthermore, the specialists advocate for comprehensive rehabilitation efforts following the clearance of invasive vegetation.

8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.

Avoidance

While the eco-residential development emphasizes sustainable practices, complete avoidance of Agulhas Sand Fynbos is not feasible due to the project's specific location and design requirements. The site is situated within both Critical Biodiversity Areas (CBA1 and CBA2), which inherently complicates the possibility of fully avoiding encroachment on these sensitive ecosystems. The specialist assessments identified the predominance of invasive alien vegetation on the site, which has a detrimental effect on local biodiversity as well as the wetland on site. Additionally, the site plays a vital role in ecological connectivity, serving as a corridor linking the mountains to the Uilenkraal estuary located south of the property. Although the site features a transformed seep wetland, aquatic biodiversity assessments have confirmed its significance in maintaining hydrological connectivity with the adjacent estuary.

Given the need for eco-residential housing and infrastructure, complete avoidance of sensitive vegetation types is limited. The initial site development plan (Alternative 1), which included 55 residential erven, posed a significant risk of fragmenting ecological corridors. However, after specialist input, the layout was revised (Alternative 2) to 52 residential erven, incorporating larger ecological corridors to preserve habitat connectivity. This preferred layout avoids development on the natural wetland delineated on-site and minimises ecological impacts while fulfilling housing needs.

Minimising

While complete avoidance of all sensitive areas is not possible, the revised layout (Alternative two) represents a responsible approach to minimising environmental impacts while still meeting the project's objectives. Following the recommendations of specialist assessments conducted on-site, the development proposal has undergone significant revisions to minimise ecological impacts. The number of residential erven was reduced from the initially proposed 55 to 52, resulting in a corresponding decrease in the development footprint from 7.5 ha to the current 6 ha. This reduction not only lessens the overall impact on the Agulhas Sand Fynbos but also allocates larger areas for open spaces and preserves ecological corridors. The current layout alternative was also supported by specialist, although it still infringes on the ESA1 and CBA1 as indicated by Venter, (2024), it provides abundant ecological spaces which in this case are desirable from the faunal standpoint. These corridors are essential for maintaining biodiversity and facilitating the movement of species between erven, thereby reducing habitat fragmentation. In addition to this, the site was also identified to provide foraging habitat for other species of birds and mammal, however, none of the species of concern were identified during the site visit (Venter, 2024). The specialist also highlighted that the small development footprint of the proposed development would rehabilitation of the open spaces on site would facilitate adequate habitat for any of the bird species that could possibly be found on site. Therefore the significant impact rating on bird species of conservation concern associated with alternative 2 preferred layout is classified as very low- low impact.

The proposed development will minimal excavation impacts on the ground will construct micro pile foundations to accommodate the housing, this will also minimise the disruption of hydrological patterns and still allow movement of fauna on site. According to Venter (2024) the presence of water on the western side of the property, specifically the seep wetland area, there is a possibility that it contains the population of Western leopard toad (Sclerophrys pantherine), however the species are not listed as an SCC for the site. This species population is considered to be fragmented. However, the proposed development will have a marginal negative impact on foraging habitat of these species, however none were observed during the site visit (Venter, 2024).

Rehabilitation/Restoration

To further enhance ecological integrity, the project incorporates comprehensive rehabilitation measures informed by specialist assessments. The most critical mitigation measure focuses on restoring degraded areas of Agulhas Sand Fynbos through the removal of invasive alien vegetation. By eliminating these invasive species, the project aims to enhance the overall ecological value of the site. As noted by Venter (2024), if the development is executed responsibly by incorporating post-development restoration and ongoing system maintenance, there is potential for positive outcomes, including improvements in animal occurrence, diversity, and density. Van Zyl & Morton (2024) confirmed and delineated a wetland onsite and its condition was poor and exhibited a high degree of transformation due to predominance of alien vegetation

and storm water inundation and infilling. rehabilitation efforts not only contribute to the conservation of the Agulhas Sand Fynbos but also promote the resilience of local ecosystems, supporting a balanced coexistence between development and biodiversity.

Offset

Although biodiversity offsets are typically considered for developments impacting critical ecosystems, they are not deemed necessary for this proposal. The specialist assessments, including those by Venter (2024) and Van Zyl & Morton (2024), conclude that the minimisation of impacts and rehabilitation measures related to the proposal sufficiently address the ecological sensitivities on-site. The reduction in the number of erven, preservation of ecological corridors, and the comprehensive rehabilitation strategy all contribute to significantly mitigating potential biodiversity loss.

The site, though classified as supporting critically endangered Agulhas Sand Fynbos, is largely degraded due to the presence of invasive species and previous disturbances, particularly in the wetland area. These findings suggest that the site's overall conservation value is diminishing, but the proposed rehabilitation measures will enhance its ecological functionality over time. Through implementation of post-construction management plans and continuous ecosystem maintenance, the project is positioned to deliver positive outcomes for the overall biodiversity on site, reducing the necessity for an offset. Proactive restoration of both the fynbos and wetland areas will facilitate ecological recovery, with the potential for increased faunal diversity and habitat availability.

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.

Terrestrial Biodiversity Assessment

The site survey confirmed the presence of critically endangered Agulhas Sand Fynbos, which dominates much of the development area. The vegetation is influenced by varying drainage and soil moisture conditions, with well-drained areas characterized by species such as *Leucadendron coniferum* and *Erica imbricata*, and wetter zones featuring species like L*eucadendron linifolium* and *Berzelia abrotanoides*. Although some areas near the estuary exhibit a slightly different vegetation composition, the majority of the site can broadly be classified as Agulhas Sand Fynbos.

The main ecological challenge identified is the invasion of alien plant species, particularly *Acacia saligna* (Port Jackson), which varies in density across the site. In some areas, it represents less than 5% cover, while other parts exhibit dense canopy formations. Additional invasive species include *Acacia cyclops* (Rooikrans), *Myoporum insulare* (Manatoka), and *Cenchrus clandestinum* (Kikuyu grass). Other disturbances include an existing jeep track and some scattered rubble.

Plant Species Recorded on Site

A wide variety of plant species were recorded, including shrubs, herbs, graminoids, and geophytes, many of which are typical of the Agulhas Sand Fynbos vegetation type. Notable species include Leucadendron coniferum, Leucadendron linifolium, and Leucospermum prostratum. However, due to seasonal constraints, certain geophytes and annual species were not observed. It is anticipated that further surveys in autumn, winter, and spring would reveal additional species, including those of conservation concern.

Species of Conservation Concern (SCC)

Three species of conservation concern were recorded on-site, all of which are classified as vulnerable:

→ *Leucadendron coniferum*
→ *Leucadendron linifolium*
→ *Leucospermum prostratum*

Impacts of the Proposed Development

Alternative 1

This option proposes the development of 55 residential units and associated infrastructure, disturbing approximately 7.4 hectares (24%) of Agulhas Sand Fynbos. While the site is heavily impacted by invasive alien species, it holds significant restoration potential through alien vegetation removal. Key risks include habitat loss, secondary alien invasions, and disruptions to ecological processes such as pollination and faunal movement. Additional risks in the operational phase include fire suppression, introduction of domestic animals, and further proliferation of invasive species.

Alternative 2 (Preferred)

This alternative reduces the development footprint to 6 hectares, accommodating 52 residential units and infrastructure. The layout incorporates ecological corridors along the southern and northern boundaries of the site, with the southern corridor aligning with adjacent ecological corridors. These corridors are essential for maintaining faunal movement and ecological connectivity. The preferred layout also strengthens connectivity through the potential lease of adjacent municipal land to the south for conservation purposes.

Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment

Animal Species of Concern

The EIA identified 11 species of conservation concern (SCC) through the desktop study, with two additional species flagged by the screening tool. The site's condition, primarily transformed by alien invasions, limits the abundance and diversity of animal species. However, the planned restoration could improve the site's suitability for fauna in the long term.

Connectivity for Animal Species

The Western Cape Biodiversity Plan indicates the presence of Ecological Support Areas (ESA1 and ESA2) and Critical Biodiversity Areas (CBA1) within the project area of influence (PAOI). These areas are essential for maintaining faunal connectivity, allowing species movement between the Uilkraalmond Nature Reserve and the Dynefontein Mountains. Although the development footprint will encroach on some of these areas, the inclusion of open spaces and ecological corridors is expected to mitigate some of the impact. The overall risk to faunal connectivity is classified as "medium," contingent on the implementation of effective mitigation measures.

Aquatic Biodiversity Assessment

Regional Context and Watercourses

→ The site is located in the Overberg Municipality within the Breede-Gouritz Water Management Area (quaternary catchment G40M).
→ It falls within the estuarine functional zone of the Uilkraals estuary, with a floodplain wetland present onsite.
→ The Boesmans River is situated 30m south, with additional wetlands and non-perennial streams within the 500m regulated proximity.
→ The site is adjacent to biodiversity-sensitive areas, including Critical Biodiversity Areas (CBA1) and the Uilkraalsmond Nature Reserve, indicating its high ecological significance for maintaining ecosystem functionality.

Wetland Delineation and Condition

→ A seep wetland and the estuarine functional zone were confirmed onsite during an October 2023 field assessment.
→ The wetland was found to be degraded, dominated by invasive species (such as Acacia saligna) and lacking indigenous wetland vegetation. However, some indigenous species, like Cape Bulrush and Cape Thatching Reed, were observed in localized areas.
→ Hydromorphic soil indicators confirmed wetland extent, though the wetland contributes minimally to climate-change resilience due to its degraded state and lack of peat.

Present Ecological State (PES) Assessment

→ The seep wetland's PES was classified as "seriously modified" (Category E), influenced by invasive alien species, altered hydrology from stormwater infrastructure, and degraded vegetation.
→ The primary hydrological changes are due to stormwater from surrounding roads and concentrated flow from dirt tracks, affecting the natural flow regime.
→ Vegetation is mostly alien invasive species, with few indigenous hydrophytic plants, and no species of conservation concern were recorded.
→ Pollution from stormwater runoff was identified as a concern for water quality.

Ecosystem Services

→ The wetland provides limited ecosystem services, with most scoring in the "Very Low" to "Moderately Low" categories, except for toxicant assimilation and biodiversity maintenance, which were rated "Moderate."
→ Due to its degraded condition, the wetland offers limited benefits such as flood attenuation, streamflow regulation, and sediment trapping.
→ It contributes marginally to toxicant assimilation, but carbon storage capacity is low due to the lack of organic material.

→ Biodiversity maintenance is moderately important due to the wetland's connection to the Uilkraals Estuary and historical conservation significance, though it is limited by its degraded state.

Ecological Importance and Sensitivity (EIS)

→ The wetland was classified as "Moderate" in ecological importance and sensitivity, with low biodiversity support due to the absence of Red Data species or unique populations.
→ The wetland's current state offers limited ecological functions but could be rehabilitated given its historical status as an endangered wetland type.

Heritage Impact Assessment

Archaeology

The site is situated on the edge of the Uilkraal Lagoon/vlei environment, shellfish, stone tools, and pottery for example, may be uncovered during vegetation clearing operations.

Unmarked Khoisan burials may be exposed during construction phase excavations, but the probability of this occurring is considered to be low. The proposed residential units will be raised off the ground, and subsurface excavations will be much less intrusive than conventional foundations. Services infrastructure for water, electricity and sewerage will be in conventional trenches about 1m deep along the road reserves and connected to the municipal network.

Palaeontology

Pether (2024) notes that although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS, for the most part its palaeontological sensitivity is LOW due to the sparse presence of trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed construction activities is (therefore) not expected' (Pether 2024).

According to Pether (2024), it also appears improbable that residual raised beach deposits of the Klein Brak Fm. with well-preserved fossil content are present. Due to the unfavourable setting, a LOW sensitivity may be assigned to any residual Klein Brak Formation raised beach deposits which may occur in the Project Area. Intersection of the uppermost Waenhuiskrans Fm. in earthworks is (also) limited, relative to the affected volume of overlying unconsolidated Qg coversands which mantle the area The overall, default palaeontological sensitivity of the Waenhuiskrans Fm. is classified as VERY HIGH and the unconsolidated Qg coversand deposits is classified as LOW by the SAHRIS Palaeo-Sensitivity map. Considering that the late Quaternary to present day faunas is fairly well known from archaeological sites and hyaena lair bone accumulations, additional finds are considered to be of moderate scientific importance.

Impact on the Cultural Landscape

According to Anderson (2024), the proposed development falls within the Greater Gansbaai Urban Edge as defined in the 2020 Spatial Development Framework. Furthermore, the area is allocated for urban development, where plans provided indicate further residential development to the west of the site. The proposed eco type development is also low density and as such is an appropriate development for this site which is visible from Scenic Routes and is adjacent to the Uilkraal Lagoon (Anderson 2024). The proposed development guidelines further indicate 'that much consideration has been given to the sites visual sensitivity and if development is to go ahead, the site can be visually enhanced from the alien infested character now presented' (Anderson 2024:41).

Conclusion

Indications are that a proposed Eco Type housing development on Portion 36 of Farm No. 708 Franskraal, in Uilenkraalsmond does not pose a significant threat to local Stone Age archaeological resources. Shell middens, stone tools and pottery, for example, may however be exposed during vegetation clearing operations. The likelihood of Khoisan burials being uncovered during construction phase excavations is considered to be low given the shallow depth of the associated excavations. According to Pether (2024), although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS,
for the most part its palaeontological sensitivity is LOW due to the sparse presence of the trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed construction activities is (therefore) not expected'.

According to Anderson (2024:40), the proposed development plan, indicating 52 units, and the 'Franskraal Beach Estate (Portion 36 of Farm Franche Kraal) Design Guidelines and Philosophy' Draft document dated 6 March 2024, provide for a number of design elements that assist in the mitigation of the potential visual impacts. If the recommendations and mitigation measures are implemented, the proposed development could have a moderate visual impact on the highly rated scenic resources of the surrounding environment and could enhance the visual character of the site and its surrounds (Anderson 2024).

Visual Impact Assessment

Most of the site will have a moderate visual sensitivity. Development in these areas will potentially have a Moderate, negative visual Impact.

Some areas of the site, namely the areas adjacent to the R43 Scenic Route and Corridor and the Uilkraals Estuary/Lagoon, and their buffers, identified on site, will have a high visual sensitivity and any development in these areas will potentially have a high, negative visual impact.

The proposed site of development is on the relatively flat - gently undulating coastal plain. The vegetation is predominantly invasive alien vegetation with remnants of fynbos. When cleared of the invasive vegetation, the remaining fynbos will provide little screening. The VAC of the site is moderate to low, there is partial (low lying, some undulations) to little screening by topography and vegetation.

The proposed site of development is situated on a predominantly undisturbed site. The site is very close to the Uilkraals Estuary/Lagoon which is partially protected and a EMOZ and the R43 Scenic Route is immediately adjacent to the western border of the site. The site is within the current urban edge line of the Greater Gansbaai area and is indicated for development. The Uilkraalmond Resort is close by to the south and to the west and north there is rural development. The visual intrusion of the proposed development will be moderate - i.e it partially fits into the surroundings (Uilkraalmond Resort and rural development) but will be clearly noticeable.

The potential visual impacts will occur during the construction and operation phase of the development. The nature of the visual impacts will be the visual effect the activity would have on the receiving environment. The visual impacts will be assessed based on a synthesis of criteria (nature of impact, extent, duration, probability, intensity, status, degree of confidence, level of significance and significance after mitigation) as defined by the NEMA regulations.

Palaeontological Impact Assessment

Affected Formations

The proposed development is located on a wave-cut marine platform primarily underlain by Peninsula Formation (Fm.) quartzite bedrock. The project area predominantly consists of this bedrock, with some sections of the Waenhuiskrans Fm. aeolianites and recent dune sands from the Strandveld Fm. surrounding the estuary mouth. Historical geological assessments indicate that the area was submerged during significant sea-level events, particularly the Late Pliocene and various Marine Isotope Stages (MIS).

Anticipated Impacts on Palaeontological Resources

The construction phase poses potential impacts primarily due to subsurface disturbances caused by the use of Self Drilling Anchor piles for foundations. This technique minimizes disturbance, targeting the surficial aeolian coversands and marginally affecting the Waenhuiskrans Fm., which has moderate palaeontological sensitivity concerning fossil bones.

The potential for finding fossil bones and archaeological materials remains significant, especially given the estuarine context of the development site. However, overall, the Klein Brak Fm.'s shell deposits may not substantially impact the development due to their low sensitivity rating.

Cumulative Impacts

The cumulative impact assessment acknowledges that while it is impossible to identify and rescue all fossils during excavation, diligent mitigation efforts can preserve significant finds for scientific study. Each loss of fossils contributes to

a cumulative negative impact, with potential unknown significance. However, successful mitigation could yield positive outcomes, enhancing scientific knowledge through recovered fossils.

Summary of the EIA

- → The proposed development, although of low density, is situated on land with high ecological sensitivity. Efforts have been made to minimize impacts on biodiversity and ecological integrity, with careful consideration given to specialist findings and through application of mitigation hierarchy.
- → Construction impacts will be minimized through the use of micro-piled foundations, and alien vegetation removal offers restoration potential.
- → While the development will result in some loss of indigenous vegetation, two alternatives were assessed, with the preferred alternative (Alternative 2) incorporating ecological corridors to enhance faunal connectivity and reduce overall environmental impact.
- → The site has a potential to improve its ecological value status through rehabilitation efforts to allow restoration of indigenous vegetation and biodiversity.

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)

See **Appendix B**

1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.

ALTERNATIVE 1

Positive

- → Alternative One allows for a higher-density development, accommodating more residential erven, which could result in greater economic returns and increased housing supply.

- → This alternative makes full use of the available land, potentially providing more housing opportunities while maximising the use of infrastructure within a limited area
- → With a larger contiguous development area, infrastructure and service connections may be more cost-effective, reducing the overall cost of construction.

Negative Impacts

- → The larger development footprint would lead to extensive habitat destruction, including the clearance of critically endangered Agulhas Sand Fynbos and the loss of valuable fauna habitats.
- → The development would severely disrupt ecological connectivity, cutting off wildlife movement corridors and further isolating species, which may affect long-term biodiversity viability.
- → Alternative One would exert greater pressure on the existing seep wetland due to encroachment, reducing the ecosystem's ability to support hydrological processes and biodiversity.
- → The development may further exacerbate the spread of invasive alien plant species, such as *Acacia saligna*, increasing the challenges of managing these species and restoring native vegetation.
- → The larger development would contribute to greater cumulative impacts, including increased pollution, erosion, and degradation of the natural landscape.

ALTERNATIVE 2 (PREFERRED)

Positive impacts:

- → Alternative Two prioritizes ecological corridors, allowing for improved wildlife movement and protecting sensitive ecosystems, thereby fostering biodiversity.

→ The layout minimizes the footprint, preserving significant areas of critically endangered Agulhas Sand Fynbos and allowing for the conservation of valuable fauna habitats.
→ This alternative includes larger open spaces, which serve as conservation zones, further supporting ecological balance and habitat restoration efforts.
→ By respecting the integrity of the seep wetland, this alternative aims to maintain its ecological functions and supports the local hydrology.
→ Infrastructure design incorporates environmentally friendly materials and methods, aligning with sustainable development practices.

Negative impacts

→ While Alternative 2 reduces long-term impacts, the construction phase may still temporarily disturb local habitats and wildlife.
→ The emphasis on conservation and ecological corridors may lead to longer planning and implementation timelines, potentially delaying housing availability.

Alternative 3 (NO-GO)

Positive impacts:

→ The site remains undeveloped, ensuring no immediate disruption to the existing flora and fauna, including critically endangered species.
→ Sensitive ecosystems, including the seep wetland, will remain intact without the pressures of development.

Negative impacts

→ The site's biodiversity would remain under threat from alien vegetation, particularly *Acacia saligna*. Without rehabilitation and restoration efforts, invasive species would continue to degrade the ecological value of the site.
→ No employment opportunities or economic benefits related to the proposed development will materialize.
→ The absence of active management and restoration measures means existing environmental degradation will persist.

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr

<u>Terrestrial Biodiversity Assessment</u>

Impact management outcomes:

→ Fragmentation of the natural vegetation on the property should be avoided to the greatest extent possible.
→ The exclusion of natural fire regimes, which are critical for the health of fynbos ecosystems, may compromise the long-term structural integrity and ecological viability of both flora and fauna on the property. This loss of fire as an ecological factor must be considered in long-term management planning.
→ The development will lead to the clearing of indigenous vegetation, resulting in the direct loss of habitat and species, including associated biota. The impact on Agulhas Sand Fynbos, a critically endangered vegetation type, is of particular concern.

Mitigation measures

→ An initial alien clearing program should be implemented by a qualified local team of alien vegetation clearers prior to any development happening on site. The entire property should be cleared of all alien invasive species. An alien

vegetation management plan must be drawn up and sufficient funding should be set aside to allow for effective long-term follow up clearing.

→ Once initial alien vegetation clearing has been implemented, search and rescue of all transplantable plant material must take place prior to clearing of vegetation and topsoil from any development areas (bulbs, succulents, and any others deemed translocatable). A suitably qualified botanist/horticulturalist should be appointed to undertake this work, which if it is to be done successfully should be carried out in late winter/early spring. If the search and rescue cannot be performed in the period July-October, a large proportion of the bulbs will not be located, and this is unacceptable and incomplete search and rescue. No vegetation clearing should commence until search and rescue has been completed. Once removed, bulbs can either be transplanted directly to surrounding natural areas or be stored in a dry, pathogen free storage facility, for replanting in post construction rehabilitation or gardening on the property.

→ All construction areas need to be clearly demarcated to ensure that no damage occurs to the vegetation outside of the minimum areas needed to create the construction footprint. A sturdy temporary fence must be erected around the proposed construction areas.

→ Roads should be kept to a minimum width.

→ Only one access route for machinery and cartage should be used and this should be aligned with the future road network of the estate. The footpath network should be carefully laid out and no additional roads, tracks or footpaths should be permitted on the property.

→ The appointment of an Environmental Control Officer for the duration of the construction phase is essential. The ECO should be responsible for enforcing no-go areas, environmental induction for all staff and making sure that search and rescue is done.

→ Following vegetation clearing, all available topsoil should be removed and stockpiled prior to construction commencing. This material should be used to rehabilitate road verges and for rehabilitation landscaping around dwellings.

→ No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.

Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment

According to Venter, (2024), the property is currently highly degraded due to a severe infestation of alien vegetation, primarily Acacia saligna (Port Jackson), as confirmed by Privett (2024). This infestation significantly reduces the occurrence, diversity, and density of animal species, as the alien vegetation disrupts the natural habitat required to support indigenous fauna (Venter, 2024). The specialist also added that should the property remain in this condition, without active management and restoration, the status quo will persist, offering little to no ecological value for supporting diverse wildlife.

Venter, (2024) indicated that the proposed development, if conducted responsibly and integrated with a comprehensive post-development restoration plan, has the potential to enhance the ecological value of the site. By implementing alien plant eradication and ecosystem rehabilitation, the development could improve animal occurrence, diversity, and density, ultimately yielding positive ecological outcomes (Venter, 2024).

Most of the property is currently covered by dense stands of *Acacia saligna* (Port Jackson), which, as documented by Holmes and Cowling (1997), has devastating effects on natural Fynbos plant diversity and structure, with subsequent negative impacts on animal diversity, distribution, and density. During site visits, only minimal bird and mammal activity were observed, indicating the current degraded state of the habitat.

Mitigation Measures:

→ An alien plant eradication and rehabilitation plan need to be developed and implemented to deal with the rehabilitation of the property. This plan and implementation need to be entrenched formally in the future maintenance of the properties open spaces.

- → fire management plan needs to be developed and legally incorporated into the property's future management protocols so that fire is not removed as an ecological process due to perceived risk by future owners.
- → Only native plants should be allowed in household gardens.
- → During the construction phase the construction area should be clearly demarcated and blocked off from the 'private open spaces' area to avoid damage and pollution.
- → Pre and post construction site preparation should include rehabilitation of the 'private open space' by removing current building rubble and litter from this area.
- → The fence should always remain semi-permeable to allow for movement of small sized animals e.g. small antelope, genets, mongoose between the nature reserve and wetland system.
- → Search and Rescue of slow-moving animals should take place on building sites. Animals should however not be moved off-site but rather released in the open space areas.
- → Dogs should not be allowed to free-roam the 'private open space'. Cats should not be allowed due to their devastating effect on small animals.
- → Rodent control should make use of environmentally friendly methods such as instillation of owl boxes and raptor perches that attract natural predator control.
- → Human and their pet use of the walkway and jetty should be controlled to avoid disturbance to birds on the sandbanks, mudflats and salt marches.
- → Lights and insects:
    - Switch lights off when not needed
    - Add timers / sensors to lights
    - Make lights activated by movement
    - Add shields to lights
    - Make lights shine downward, or direct only to where needed
    - Use long wavelength red or amber lights / filtered amber LED, with no blue / minimal green light for outdoor lighted areas
    - A lighting plan should be developed to ensure that the impact of night lights is kept to an absolute minimum
    - Clearing of indigenous fynbos vegetation should be kept to an absolute minimum
    - Avoid trampling of natural fynbos vegetation surrounding developments

Aquatic Biodiversity Assessment

Impact Management outcome

Construction phase

- → Wetland loss in the delineated seep wetland (as per the Layout Alternative 1 and 2).
- → Alteration of the flow regime of the remnant seep wetland and Uilkraals Estuary during construction of the beach resort.
- → Water quality impairment due to increased sediment input, potential spillage, or release of potentially contaminated runoff into the remnant seep wetland and Uilkraals Estuary during construction of the beach resort.

Operational Phase

- → Alteration of the flow regime of the remnant seep wetland and Uilkraals Estuary.
- → Water quality impairment of the remnant seep wetland and Uilkraals Estuary due to the release of potentially contaminated stormwater (hydrocarbons).

Mitigation measures:

- → It is recommended that the Uilkraals Estuary, and the 75 m buffer surrounding the estuary, is designated as a No-Go area during construction activities.

- → Install the stormwater infrastructure and conduct rehabilitation activities (as proposed in a suitable Offset and Rehabilitation Management Plan), prior to initiating other construction such that wetland flow and any stormwater leaving the construction site are attenuated in the wetland.
- → It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development. If possible, conduct construction and rehabilitation activities during summer months (November to March).
- → Remove all alien invasive vegetation from the proposed site.
- → Bunded, impervious areas must be designated by an Environmental Control Officer for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals. These bunded areas must be at least 100 m from the demarcated estuary's boundaries.
- → Effective stormwater management measures – i.e. ensuring that stormwater flows into a designated rehabilitated remnant wetland area - will mitigate this impact to a large extent. It is recommended that the SW design onsite takes cognisance of the fact that flow should still drain into the Uilkraals Estuary downstream of the development.
- → Alien invasive vegetation should be monitored onsite to ensure that Port Jackson does not re-colonise the area.
- → Ensure that all potentially significant pollution sources are listed in the Environmental Management Plan.
- → Ensure that all activities that may lead to pollution take place indoors or on bunded impervious surfaces such that the pollutants cannot enter the stormwater system.
- → Repair all sewage leaks as soon as reasonably possible after detection. Inspection of all sewage pipes should be conducted by a plumber once every 10 years.
- → SW draining into the estuary should first flow into the rehabilitated onsite SW ponds / wetland area onsite.
- → Ideally, the sewage system should connect to the Municipal network. Flow rates of sewage pipelines will further inform the WUA process1.
- → Should an onsite sewage treatment plant be implemented, additional input from an Aquatic Specialist is required. The treated effluent discharged into the swale system (and ultimately draining into the downstream Estuary) must comply with the South African Water Quality Guidelines for aquatic ecosystems (DWAF, 2006). As the guidelines are specific to protection of freshwater aquatic ecosystems (and do not deal with estuarine systems), guidance from the DWS will be sought should this be the preferred option. The sewage system must be monitored and maintained into perpetuity. A water quality monitoring plan would need to form part of the Operational EMPr and/or the WULA process.
- → Operational phase mitigation implemented during the design/construction phase
    - o Construct sewage pipelines in accordance with the relevant SANS / SABS specifications.
    - o Design the pipelines to accommodate the operating and surge pressures.
    - o Provide surge protection e.g air valves.
    - o Allow for scour valves along pipelines in order to ensure sewage pipelines can be emptied in a controlled manner if required.
    - o Allow for surcharge containment and emergency storage of 2 hours of peak flow at manholes located within areas upslope of the estuary. Containment/emergency storage may include a concrete box or earthen bund surrounding the manholes. The backup storage capacity of manholes may also be improved by raising the manholes by one meter.
    - o A Maintenance and Monitoring Programme must be compiled for all infrastructure (e.g. pipelines) and implemented by a suitably qualified professional to ensure that all defects or leakages are identified timeously and repaired immediately.
- → Stormwater associated with the internal road network may potentially contain hydrocarbons and other contaminants. It is recommended that a SW Management Plan (SWMP) is drafted. Potentially contaminated SW should ideally drain into the Grey Water Treatment Plant and be adequately treated prior to discharge into the swale system (and downstream Estuary).
- → Incorporate measures into the stormwater design to trap solid waste, debris and sediment carried by stormwater. Measures may include the use of curb inlet drain grates and debris baskets/bags.

- → Stormwater generated from areas with a higher risk of contamination such as parking areas and roads must receive basic filtering and treatment prior to its release into surrounding areas. Treatment methods may include sand filter traps and oil-water separators which will require maintenance.
- → Stormwater systems must be monitored and maintained into perpetuity and collections of debris and solid waste removed from grates and baskets. The developer must confirm who will be responsible for this monitoring and maintenance as well as their roles.
- → Further recommendations specific to the Rehabilitation of the remnant Seep Wetland area should form part of a suitable Wetland Offset, Rehabilitation and Management Plan drafted for the proposed development.
- → Recommendations specific to the proposed 6 m wide road located in the buffer area of the Estuary, gazebo, access gate, and boardwalk (within the estuarine functional zone) include:
    - A method statement must be developed indicating how the contractor will minimise the passage of contaminants such as fuel and cement into the estuary. This method statement must be approved by the ECO prior to the commencement of construction activities.
    - Fuel, chemicals, and other hazardous substances should preferably be stored as far away as possible from the estuary and buffer area. These substances must be stored in suitable secure weather-proof containers with impermeable and bunded floors to limit pilferage, spillage into the environment, flooding, or storm damage.
    - Inspect all storage facilities, vehicles, and machinery (as applicable) daily for the early detection of deterioration or leaks, and strictly prohibit the use of any vehicles or machinery from which leakage has been detected.
    - Mixing and transferring of chemicals or hazardous substances must take place outside of the estuary and buffer, and must take place on drip trays, shutter boards or other impermeable surfaces.
    - Vehicles and machinery should preferably be cleaned off site. Should cleaning be required on site it must only take place within designated areas outside of the estuary and its associated buffer area and should only occur on bunded areas with a water/oil/grease separator.
    - Dispose of used oils, wash water from cement and other pollutants at an appropriate licensed landfill site.
    - Avoid the use of infill material or construction material with pollution / leaching potential. Where possible, in situ earthen materials must be used during construction in order to reduce the risk of leachate from imported materials contaminating the downstream areas.
    - Concrete should preferably be imported as “ready-mix” concrete from a local supplier. Should onsite concrete mixing be required it must not be done on exposed soils. Concrete must be mixed on an impermeable surface in an area of low environmental sensitivity identified by the ECO outside of the no-go area. Surplus or waste concrete must be sent back to the supplier who will dispose of it.
    - Construct temporary bunds around areas where cement is to be cast in situ.
    - Dispose of concrete and cement-related mortars in an environmental sensitive manner (can be toxic to aquatic life). Disposal of any of these waste materials into the stormwater system or the estuary is strictly prohibited.
    - Washout must not be discharged into the no-go area or the stormwater system. A washout area should be designated, and wash water should be treated on-site.
    - Clean up any spillages immediately with the use of a chemical spill kit and dispose of contaminated material at an appropriately registered facility.
    - Provide an adequate number of bins on site and encourage construction personnel to dispose of their waste responsibly.
    - Waste generated by construction personnel must be removed from the site and disposed of at a registered waste disposal facility on a weekly basis.
    - Locate site camp, laydown areas, stockpile areas, construction material, equipment storage areas, vehicle parking areas, bunded vehicle servicing areas and re-fuelling areas in designated areas of already hardened surface or disturbed areas located outside of the estuary and associated 75 m buffer area. These areas should preferably be located on level ground in a previously disturbed area of vegetation approved by the Environmental Control Officer (ECO).

- Prohibit the dumping of excavated material, building materials or removed vegetation within the estuary and its associated buffer area. Building material must be stored at the designated storage area located outside of the no-go area (estuary and buffer). Spoil material must be appropriately disposed of at a registered waste disposal facility.
- Vegetation clearance should be restricted to the relevant development components and indigenous vegetation cover should be maintained as far as practically possible.
- Vegetation which is considered suitable for rehabilitation activities after construction (such as indigenous grasses and other herbaceous species) should be carefully removed from the construction footprint and stored at an appropriate facility for use in later rehabilitation activities.
- Clear and remove any rubble or litter that may have been accidentally deposited into the no-go area as a result of construction activities and dispose of at an appropriate registered facility.
- An ECO must inspect the construction footprint on a weekly basis during construction of these elements of the development; and must take immediate measures to address unforeseen disturbances to the estuary and its associated buffer area. Any disturbed / compacted areas falling outside of the demarcated construction footprint must be immediately rehabilitated. Depending on the extent of damage the method of rehabilitation may require input from an aquatic specialist / suitably qualified contractor.
- Once construction has been completed, orange hazard fences as well as all construction waste, rubble, and equipment must be removed from the construction footprint.
- In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DEFF: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase.
- Where possible undertake construction during the dry season.
- The site manager / ECO must check the downslope estuary as well as the recommended buffer area for erosion damage and sedimentation weekly and after every heavy rainfall event. Should erosion or sedimentation be noted, immediate corrective measures must be undertaken.
- The estuary must be monitored monthly for dumping, and any refuse or waste encountered must be removed and disposed of at a registered waste facility. The developer must confirm who will be responsible for this monitoring of the estuarine.
- An AIPS control plan must be compiled which includes measures to control and prevent the proliferation of AIPS during the operational phase.

Paleontological Impact Assessment

The construction phase poses potential impacts primarily due to subsurface disturbances caused by the use of Self Drilling Anchor piles for foundations. This technique minimises disturbance, targeting the surficial aeolian coversands and marginally affecting the Waenhuiskrans Fm., which has moderate palaeontological sensitivity concerning fossil bones.

The potential for finding fossil bones and archaeological materials remains significant, especially given the estuarine context of the development site. However, overall, the Klein Brak Fm.'s shell deposits may not substantially impact the development due to their low sensitivity rating.

Cumulative Impacts

The cumulative impact assessment acknowledges that while it is impossible to identify and rescue all fossils during excavation, diligent mitigation efforts can preserve significant finds for scientific study. Each loss of fossils contributes to a cumulative negative impact, with potential unknown significance. However, successful mitigation could yield positive outcomes, enhancing scientific knowledge through recovered fossils.

Mitigation Measures

- → The possible presence of fossils in the subsurface does not have an *a priori* influence on the decision to proceed with the proposed development. However, mitigation measures are essential. The potential impact has a moderate influence upon the proposed project, consisting of implemented mitigation measures recommended below, to be followed during the Construction Phase.
- → It is not feasible for a specialist monitor to be continuously present during the Construction Phases, when fossils may be unearthed at any time. The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging.
- → For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossils as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.
- → The Fossil Finds Procedure included as Appendix 3 provides guidelines to be followed in the event of fossil bone finds in the excavations. The works supervisor/foreman and workers involved in excavating the infrastructure trenches and stormwater drainage must be informed of the need to watch for fossils and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the Works Supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise with Heritage Western Cape and the standby palaeontologist on the nature of the find and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.
- → If a significant occurrence of fossil bones in a palaeontological context is discovered a professional palaeontologist must be appointed to collect them and to record their contexts. Said palaeontologist must also undertake the recording of the stratigraphic context and sedimentary geometry of the exposure, the sampling of ambient small fossil content and the compilation of the report for distribution to Heritage Western Cape, SAHRA, the approved curatorial institution and local heritage interest groups.
- → A permit from HWC is required to excavate fossil bone finds. The applicant should be the qualified specialist responsible for assessment, collection and reporting (palaeontologist). Should fossils be found that require rapid collecting, application for a palaeontological permit with supporting work plan will immediately be made to HWC. The application requires the details and permission of the registered owner of the site. The fossils and their contextual information must be deposited at a SAHRA/HWC-approved institution. The rescue of discovered palaeontological remains by a contracted specialist shall be at the Developer's expense.

Visual Impact Assessment

Implement design strategies that integrate buildings and infrastructure into the natural landscape. Use materials and colors that blend with the surrounding environment to minimize visual contrast. These include recessive buildings with flat, planted/dark chip roofs, use of dark colours on walls and roofs, stone and wood, shaded windows, broken up building elements to add shadow lines, cantilevered floors and decks, dark rainwater tanks, raised berms along the southern and western borders of the site, low level lighting, no bright security lights.

Mitigation measures

- → Phased removal of the invasive alien vegetation such that the construction activities are screened. Where the berm is along the southern and western areas, the construction and revegetation, including some large indigenous trees, should form part of the initial phase of construction and between this berm and the most western proposed roads and eastern units, some larger alien trees should be retained to screen the proposed units and roads from the R43 sections until the revegetated berms are established and can screen the development.
- → Similarly along the eastern boundary - some of the larger alien trees should be retained to screen development from the R43 Scenic Whale Route. The effectiveness of trees screening development is seen to the south of the R43 where there is a strip of vegetation between the lagoon and the resort, screening buildings well. Once the indigenous trees and shrubs are established, the remaining trees can be removed.

- → Quicker growing indigenous pioneer tree species such as *Virgilia spp. Olivia ventosa, Kiggelaria africana, Buddleja spp., Euclea racemosa*, and other quick growing trees from local area - (refer to Platbos Forest and vegetation specialist)
- → The linear arrangement of units need to be broken, with either more space between units or some being set back so that the 'line' is broken. Additional landscaping can also assist with the breaking of the line.

During Construction

- → Limit extent of damage, keeping cut and fill to a minimum. Minimise disturbance through fencing off construction areas, thereby protecting and retaining vegetation in the areas that will not be built on.
- → Revegetate service areas and public street verges immediately after construction and continue maintenance eternally.
- → The site must be kept tidy at all times
- → Building material stockpiles must be protected from dispersion into the surrounding area by wind or water
- → A concerted effort must be made to minimise dust generation and its effect on the surrounding areas.

During Operation

- → It is of importance that the Visual Mitigation measures provided are carried through into the operation phase of the development - responsibilities shift from Developer to Home Owners Association. To this end it must be ensured that the:
- → Home Owners Association (HOA) have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping and that the maintenance actions comply with the architectural and landscaping guidelines provided for this Visual Impact Assessment and this VIA's mitigation measures
- → HOA monitor the building and landscape guidelines
- → HOA maintain buildings and landscaping to a high standard
- → HOA continue minimising light pollution - keep outdoor lighting as bollard lighting, height to maximum 1.2 m, low spill type lights to minimize light spill and pollution, external lighting on buildings must be minimised or completely omitted etc.
- → No formal gardening should be allowed on any private erven, and the natural vegetation should be retained. Where rehabilitation is required, only an approved selection of locally indigenous species should be allowed. A large percentage of the material required for rehabilitation must be rescued from development footprints prior to development and maintained in a dedicated nursery until needed.

Heritage Impact Assessment

Findings:

Archaeology

No archaeological resources were recorded during the baseline study, which was severely constrained by dense vegetation cover (Figure 9 of the Heritage Impact Assessment).

Scatters of shellfish, stone tools, and pottery may be exposed during vegetation clearing operations and preparation of the site for development.
Unmarked Khoisan burials may be exposed during construction phase excavations, but the probability of this occurring is considered to be low.

Palaeontology

Pether (2024) notes that although the Peninsula Fm. bedrock is rated as HIGH by SAHRIS (Figure 13), for the most part its palaeontological sensitivity is LOW due to the sparse presence of trace fossils and tectonic deformation which is particularly intense in the Southern Cape. `An impact on the fossil heritage of the Peninsula Fm. from the proposed

construction activities is not expected' (Pether 2024). According to Pether (2024), it also seems improbable that residual "raised beach" deposits of the Klein Brak Fm. with well-preserved fossil content are present. The Klein Brak Fm. is not rated on the SAHRIS palaeontological sensitivity map but is assigned CLEAR/Unclassified Due to the unfavourable setting a LOW sensitivity may be assigned to any residual Klein Brak Fm. raised beach deposits which may occur in the Project Area. Intersection of the uppermost Waenhuiskrans Fm. in earthworks is (also) limited, relative to the affected volume of overlying unconsolidated Qg coversands which mantle the area. The fossil bones that may occur in the Waenhuiskrans Fm. are, like the later coversands, also mainly comprised of representatives of extant fauna, but unexpected species of a different fauna are more likely to occur, as a result of phases of different ecological and palaeoclimatic conditions in the past, as well as the bones of some species which became extinct in the geologically recent past. The overall, default palaeontological sensitivity of the Waenhuiskrans Fm. is classified as VERY HIGH/red and the unconsolidated Qg coversand deposits is classified as LOW/blue by the SAHRIS Palaeo-Sensitivity map. Considering that the late Quaternary to present day faunas are fairly well known from archaeological sites and hyaena lair bone accumulations, additional finds are considered to be of moderate scientific importance, i.e. formations known to contain palaeontological localities and that have yielded fossils that are common elsewhere, and/or that are stratigraphically long-ranging, may be assigned a MODERATE sensitivity rating.

Visual Impact

According to Anderson (2024), the proposed development is in a visually sensitive environment, very close to the Uilkraal Lagoon and the R43 (Scenic Route), and if not mitigated `could become visually intrusive'. The proposed site and development is in an area that is highly rated for its Scenic Resources, within the Greater Gansbaai Urban Edge. The Scenic Resources of the area and its surrounds can be described as natural (undeveloped coastal plain heavily infested with alien vegetation), the Uilkraal River/lagoon/estuary, Franskraal se Berge/mountains and nature reserves, rural landscape north of the R43 and residential (Franskraal). These are Highly, to Moderately (recent urban development) rated by Anderson (2024). However, the proposed development philosophy indicates a sensitive approach to the design, and the development `has the potential to visually enhance the site and its surrounds' (Anderson 2024:41). Although most, of the identified receptors within the Zone of Visual Influence (ZVI) are rated as being `Highly sensitive', and `Moderately sensitive', to visual change of the experiential landscape (Figure 11 of the Heritage Impact Assessment), the overall impacts are rated as being Moderate - i. e. it partially fits into the surroundings (Uilkraalmond Resort & rural development) `but will be clearly noticeable' (Anderson 2024:33).

Regarding the visual sensitivity of the site, some areas of the site, namely the areas adjacent to the R43 Scenic Route and Corridor and the Uilkraal Estuary/Lagoon, and their buffers identified on site, will have a high visual sensitivity and any development in these areas will potentially have a high, negative visual impact. However, according to Anderson (2024:31),`most of the site will have a moderate visual sensitivity. Development in these areas will potentially have a Moderate, negative visual impact' (Figure 13 of the Heritage Impact Assessment).

Mitigation measures

Archaeology

- → No archaeological mitigation is required prior to construction excavations commencing.
- → A walk down survey of the development site must be conducted by a professional archaeologist once vegetation has been cleared from the site.
- → If any human remains are uncovered or exposed during excavations, work must immediately stop, and the finds reported to the Environmental Control Officer (ECO) and the contracted archaeologist. Human remains must not be removed or disturbed until inspected by the archaeologist.

Palaeontology

- → The rescue of fossil bones during earth works critically depends on spotting this material as it is uncovered during digging. For successful mitigation, it is therefore crucial that earth works personnel must be involved in mitigation by watching for fossil bones as excavations are being made. It is recommended that a protocol for finds of buried fossil bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the proposed development.

→ The field contractor and workers involved in excavations must be informed of the need to watch for fossil bones and archaeological material. Workers seeing potential objects are to cease work at that spot and to report to the works supervisor who, in turn, will report to the Environmental Control Officer (ECO) and/or the Developer. The ECO/Developer will contact and liaise, with Heritage Western Cape on the nature of the find and suitable consequent actions such as immediate site inspection, application for a palaeontological collection permit and drafting of a work plan for the collection of the find.

Visual Impact

→ Phased removal of the invasive alien vegetation such that the construction activities are screened. Where the berm is along the southern and western areas, the construction and revegetation, including some large indigenous trees, should form part of the initial phase of construction and between this berm and the most western proposed roads and eastern units, some larger alien trees should be retained to screen the proposed units and roads from the R43 sections until the revegetated berms are established and can screen the development.

→ Similarly, along the eastern boundary - some of the larger alien trees should be retained to screen development from the R43 Scenic Whale Route. The effectiveness of trees screening development is seen to the south of the R43 where there is a strip of vegetation between the lagoon and the resort, screening buildings well. Once the indigenous trees and shrubs are established, the remaining trees can be removed.

→ Quicker growing Indigenous pioneer tree species such as *Virgilia spp. Olivia ventosa,Kiggelaria africana, Buddleja spp., Euclea racemosa*, and other quick growing trees from local area.

→ The linear arrangement of units needs to be broken, with either more space between units or some being set back so that the 'line' is broken. Additional landscaping can also assist with the breaking of the line.

→ Homeowners Association (HOA) have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping and that the maintenance actions comply with the architectural and landscaping guidelines provided for this Visual Impact Assessment and this VIA's mitigation measures. The above recommendations must be included in the Environmental Management Plan for the proposed project and must be monitored by the Environmental Control Officer (ECO).

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.

→ General mitigation measures outlined by the specialist team must be implemented.

→ Water Use License Application is required in terms of NWA, completed upon EA.

→ A natural seep wetland identified in Figure 10-1 of the Aquatic Biodiversity Assessment should be avoided by construction activities.

→ Should an onsite sewage treatment plant be implemented, additional input from an Aquatic Specialist is required. The treated effluent discharged into the swale system (and ultimately draining into the downstream Estuary) must comply with the South African Water Quality Guidelines for aquatic ecosystems (DWAF, 2006). As the guidelines are specific to protection of freshwater aquatic ecosystems (and do not deal with estuarine systems), guidance from the DWS will be sought should this be the preferred option. The sewage system must be monitored and maintained into perpetuity. A water quality monitoring plan would need to form part of the Operational EMPr and/or the WULA process.

→ Stormwater associated with the internal road network may potentially contain hydrocarbons and other contaminants. It is recommended that a SW Management Plan (SWMP) is drafted. Potentially contaminated SW should ideally drain into the Grey Water Treatment Plant and be adequately treated prior to discharge into the swale system (and downstream Estuary).

→ Further recommendations specific to the Rehabilitation of the remnant Seep Wetland area should form part of a suitable Wetland Offset, Rehabilitation and Management Plan drafted for the proposed development.

→ In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DEFF: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase.

- → Search and Rescue of slow-moving animals should take place on building sites. Animals should however not be moved off-site but rather released in the open space areas.
- → Dogs should not be allowed to free-roam the 'private open space'. Cats should not be allowed due to their devastating effect on small animals.
- → Fire management plan needs to be developed and legally incorporated into the property's future management protocols so that fire is not removed as an ecological process due to perceived risk by future owners.
- → Only native plants should be allowed in household gardens.
- → An ECO must be present on site full-time during construction (as required).

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.

In my reasoned opinion, the proposed development should be authorised, depending upon the implementation of specific conditions aimed at mitigating potential environmental impacts and enhancing site biodiversity. The site has been identified as having high ecological value, however, it is currently threatened by the proliferation of alien vegetation. As noted by the specialist team, a no-go option would likely result in the continuation of these detrimental effects, further degrading the ecological integrity of the area.

The proposed development presents an opportunity to address the existing ecological challenges by incorporating a comprehensive alien clearing program and rehabilitating the ecological system of the site. This initiative is crucial not only for restoring the site to a natural or near-natural condition but also for promoting the recovery of native animal species that may be adversely affected by invasive plants. By authorising the development with these considerations, the project can contribute positively to the local environment and continue to support biodiversity restoration efforts.

Conditions of Authorisation

- → General mitigation measures outlined by the specialist team must be implemented.
- → Water Use License Application is required in terms of NWA, completed upon EA.
- → A natural seep wetland identified in the Aquatic Biodiversity Assessment must be avoided during construction activities.
- → Stormwater associated with the internal road network may potentially contain hydrocarbons and other contaminants. It is recommended that a SW Management Plan (SWMP) is drafted. Potentially contaminated SW should ideally drain into the Grey Water Treatment Plant and be adequately treated prior to discharge into the swale system (and downstream Estuary).
- → Further recommendations specific to the Rehabilitation of the remnant Seep Wetland area should form part of a suitable Wetland Offset, Rehabilitation and Management Plan drafted for the proposed development.
- → In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DEFF: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase.
- → Search and Rescue of slow-moving animals should take place on building sites. Animals should however not be moved off-site but rather released in the open space areas.
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- → Only native plants should be allowed in household gardens.
- → An ECO must be present on site full-time during construction (as required).

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.

N/A

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.
Five years should be the EA period. While no further information can be provided at the time of the Draft BAR, the applicant would aim to commence with construction as soon as possible once the EA is granted.	

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.
Construction practices will prioritize water-efficient processes, reducing the use of potable water where possible

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
The proposed development will incorporate several measures aimed at minimising waste generation and promoting sustainable waste management practices throughout the construction and operational phases. Efforts will be made to identify opportunities for reusing materials on-site or through local community initiatives.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.

→ Switch lights off when not needed
→ Add timers / sensors to lights
→ Make lights activated by movement
→ Add shields to lights
→ Make lights shine downward, or direct only to where needed
→ Use long wavelength red or amber lights / filtered amber LED, with no blue / minimal green light for outdoor lighted areas
→ A lighting plan should be developed to ensure that the impact of night lights is kept to an absolute minimum

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I……., ID number ……in my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;

- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;

- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
  - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
  - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;

- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;

- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
  - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
  - Legitimate costs in respect of specialist(s) reviews; and
  - the provision of security to ensure compliance with applicable management and mitigation measures;

- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant: Date:

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I **Michelle Naylor** EAP Registration number **2019/698** as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

mnaylor

29-10-2024

Signature of the EAP: Date:

LORNAY ENVIRONMENTAL CONSULTING PTY LTD

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

I ……, EAP Registration number …….. as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I ……, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or

  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);

- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;

- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and

- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST

I ……., as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s):
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):