

In terms of the **National Environmental Management Act** and 2014 Environmental Impact Regulations as amended, 2017, for:

PROPOSED DEVELOPMENT OF A RESIDENTIAL DWELLING ON ERF 1363, PARADYS STRAND, KOUGA LOCAL MUNICIPALITY, EASTERN CAPE

FINAL BASIC ASSESSMENT REPORT

DEDEAT REFERENCE NUMBER: EC08/C/LN1&3/M/18-2026

FOR DECISION MAKING



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DATE:

22 JULY 2026

TABLE OF DEFINITIONS
Basic Assessment Report – A tool used by the EAP to submit to the competent authority if listed activities is triggered in Regulations GNR 327 and GNR 324 as per NEMA to make a decision regarding a proposed development.
“development footprint” means any evidence of physical alteration as a result of the undertaking of any activity;
“coastal waters” means - (a) marine waters that form part of the internal waters or territorial waters of the Republic referred to in sections 3 and 4 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), respectively; and (b) subject to section 26, any estuary.
Composition of coastal protection zone (1) Subject to subsection (2), the coastal protection zone consists of - (a) land falling within an area declared in terms of the Environment Conservation Act, 1999 (Act No. 73 of 1989), as a sensitive coastal area within which activities identified in terms of section 21(1) of that Act may not be undertaken without an authorisation; (b) any part of the littoral active zone that is not coastal public property; (c) any coastal protection area, or part of such area, which is not coastal public property; (d) any land unit situated wholly or partially within one kilometre of the high-water mark which, when this Act came into force- (i) was zoned for agricultural or undetermined use; or (ii) was not zoned and was not part of a lawfully established township, urban area or other human settlement; (e) any land unit not referred to in paragraph (d) that is situated wholly or partially within 100 metres of the high-water mark; (f) any coastal wetland, lake, lagoon or dam which is situated wholly or partially within a land unit referred to in paragraph (d)(i) or (e); (g) any part of the seashore which is not coastal public property, including all privately owned land below the high-water mark; (h) any admiralty reserve which is not coastal public property; or (i) any land that would be inundated by a 1:50 year flood or storm event. (2) An area forming part of the coastal protection zone, except an area referred to in subsection (1)(g) or (h), may be excised from the coastal protection zone in terms of section 26.
“coastal wetland” means - (a) any wetland in the coastal zone; and (b) includes - (i) land adjacent to coastal waters that is regularly or periodically inundated by water, salt marshes, mangrove areas, inter-tidal sand and mud flats, marshes, and minor coastal streams regardless of whether they are of a saline, freshwater or brackish nature; and (ii) the water, the subsoil and substrata beneath, and bed and banks of, any such wetland;
Critical Biodiversity Area – Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.
“development” means the building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, which is necessary for the undertaking of a listed or specified activity,

[including any associated post development monitoring] but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint;
“development setback” means a setback line defined or adopted by the competent authority;
Environmental Assessment Practitioner – an individual responsible for the planning, management, coordination or review of environmental impact assessments, strategic environmental assessments and environmental management programmes.
Environmental Control Officer – A site agent who needs to ensure that all environmental authorisation and conditions are adhered to during the construction phase of the project
Ecological Support Area – Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs and are often vital for delivering ecosystem services.
Environmental Management Programme – an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced
“estuary” means a body of surface water - (a) that is part of a water course that is permanently or periodically open to the sea; (b) in which a rise and fall of the water level as a result of the tides is measurable at spring tides when the water course is open to the sea; or (c) in respect of which the salinity is measurably higher as a result of the influence of the sea.
“estuarine functional zone” means the area in and around an estuary which includes the open water area, estuarine habitat (such as sand and mudflats, rock and plant communities) and the surrounding floodplain area, as defined by the area below the 5 m topographical contour (referenced from the indicative mean sea level)”;
“indigenous vegetation” refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;
interested and affected party – a natural person whose name is recorded in the register opened for that application in terms of regulation 42 of NEMA regulations.
“interests of the whole community” means the collective interests of the community determined by- (a) prioritising the collective interests in coastal public property of all persons living in the Republic over the interests of a particular group or sector of society; (b) adopting a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable; and (c) taking into account the interests of other living organisms that are dependent on the coastal environment.
“local community” means any community of people living, or having rights or interests, in a distinct geographical area within the coastal zone;
“maintenance” means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint;
Maintenance Management Plan – means a maintenance management plan for maintenance purposes defined and adopted by the competent authority

National Environmental Management Act (Act 107 of 1998) as amended 2017 – national environmental legislation that provides principles for decision-making on matters that affect the environment.

Protected area - an area of land or sea that is formally protected by law and managed mainly for biodiversity conservation. Protected areas recognised in the National Environmental Management: Protected Areas Act (Act 57 of 2003) (hereafter referred to as the Protected Areas Act) are considered formal protected areas in the NPAES. The NPAES distinguishes between land-based protected areas, which may protect both terrestrial and freshwater biodiversity features, and marine protected areas.

TABLE OF ABBREVIATIONS

BAR	Basic Assessment Report
CARA	Conservation of Agricultural Resources Act (CARA, Act 43 of 1983)
CBA	CBA Critical Biodiversity Area
CMP	Coastal Management Plan
DEDEAT	Eastern cape Department of Economic Development, Environmental Affairs and Tourism
DFFE	Department of Forestry, Fisheries and the Environmental
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EFZ	Estuarine Functional Zone
EIA	Environmental Impact Assessment
EMP	Estuary Management Plan
EMPr	Environmental Management Programme report
ESA	Ecological Support Area
GA	General Authorisations
IAP	Interested and Affected Party/ies
KLM	Kouga Local Municipality
MMP	Maintenance Management Plan
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMPAA	National Environmental Management: Protected Areas Act (Act 57 of 2003)
NEMWA	National Environmental Management Waste Act (Act 59 of 2008)
NFA	National Forest Act (Act 84 of 1998)
PA	Protected Area
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SBDM	Sarah Baartman District Municipality
STR	Screening Tool Report

APPENDIX 1 OF EIA REGULATIONS	DESCRIPTION	CROSS REFERENCE IN BAR
3a	Details of the EAP and CV	Appendix G2

3b	Location of Activities	Section A1
3c	Layout Plan	Section A1; Appendices A - C
3d	Description of the scope of the proposed activity including the triggered and specified activities, associated structures and infrastructure and the way the proposed development relates to the triggered activities	Section A1 - 8
3e	Description of the policy and legislative context within which the development is proposed and how is each one applicable to the proposed activity	Section A10
3f	The motivation for the need and desirability (including the development at that specific location)	Section A9
3g	The motivation for the preferred site, activity, and technology alternative	Section A1 - 8
3h (i)	Details of all the alternatives considered	Section A1 - 8
3h (ii)	Details of the Public Participation Process (PPP) undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs Section 5	Section C
3h (iii)	A summary of the issues raised by interested and affected parties, and an indication of the way the issues were incorporated, or the reasons for not including them Section 5	Section C, Appendix E
3h (iv)	The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section B and Section D2
3h (v)	The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed, or mitigated;	Section D
3h (vi)	The methodology used in determining and ranking, nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives	Appendix G1
3h (vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section D2

3h (viii)	Possible mitigation measures that could be applied and the level of residual risk	Section D2; Appendix F
3h (ix)	Outcome of the site selection matrix	Section D2; Appendix F
3h (x)	If no alternatives, including alternative locations for the activity, were investigated, the motivation for not considering such	Section A1 - 8
3h (xi)	Concluding statement indicating the preferred alternatives, including the preferred location of the activity	Sections D4
3i	Full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including- (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and (ii) an assessment of the significance of each issue, risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures	Sections D
3k	Summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report	Sections D4
3l	Environmental impact statement containing a map and a summary of the positive and negative impacts of the proposed development and alternatives	Sections D4
3m	Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMP	Section D
3n	Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of the authorisation	Section D
3o	Description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed	Section A and Section D
3p	Reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation	Section D
3q	Where the proposed activity does not include operational aspects, the period for which the	Section A

EAP Services

	environmental authorisation is required, the date on which the activity will be concluded, and the post-construction monitoring requirements finalised	
3r	Undertaking under oath or affirmation by the EAP	Appendix G2
3s	Details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of adverse environmental impacts	Not applicable

EXECUTIVE SUMMARY

Introduction

Erf 1363 is an estimated 741.6 m² and situated on de Jager street in Paradys Strand (SG Code: C03400110000136300000) and falls within 100 meters of the high-water mark of the sea. Erf 1363 is located on the secondary dune (60 m landward from the primary dune closest to the beach).; a large part of the property slopes towards the south-east. There are smaller undulations on Erf 1363 and a frontal dune ~50 m towards the east.

The owner of the property is proposing to develop a dwelling. The design includes two level structure with a raised first storey with an estimated footprint of 181.88 m² and a ground level storey of 71.3 m² provided below the dwelling. A decking area of an estimated 43.8 m² is proposed. A raised walkway between the house and the timber platform is proposed; the walkway will be an estimated 5.5 meters in length and 1m in width. The platform will be approximately 33 m². The overall development will be an area of 329.9 m².

Approximate central coordinates: 34° 6'21.00"S; 24°53'16.07"E

Due to the dynamic nature of the site within a coastal environment, the dwelling has been recommended to be designed in such a way to prevent instability of the dunes and to prevent erosion. Maintaining a dense vegetation cover will trap and stabilise the sand to some extent and avoid the nuisance of sand encroachment. The house design should keep this in mind in terms of doorways and outside spaces. A raised structure would allow sand transport under the structure with less nuisance inside the buildings. The eastward part of the property could be raised (inundated by sand) in future years as the frontal dune migrates onto the property. The rate of movement is not known at this stage. To avoid possible shifts, it is advised that the foundations/pylons of the building on Erf 1363 extend down as far as possible along the southwestern side of the building (engineering advice recommended on depths). This will allow movements of the upper part of the dune without impacting the foundations of the building on Erf 1363. The risk of these shifts is less towards the north of Erf 1363.

Based on these design considerations, recommendations, and comments received during the process, two layout alternatives have been developed and assessed as part of the Basic Assessment process. Alternative 1 (Appendix A1) represents the original layout, while Alternative 2 (Appendix A2) represents the revised layout, which incorporates the relocation of the timber platform approximately 1 m further landward, refinement of the conceptual stormwater layout to direct runoff towards the north-western (road-side) portion of the erf, indication of the locations of the protected Milkwood trees, and the refinement of the proposed earthworks through the inclusion of calculated excavation and fill volumes. Both alternatives retain the raised dwelling design to minimise earthworks, accommodate natural sand movement beneath the structure, and reduce disturbance to the sensitive coastal dune system.

The geomorphological assessment concluded that the proposed development has been designed to accommodate the dynamic nature of the coastal environment while maintaining natural sediment transport processes. Importantly, all excavated dune sand (approximately 253 m³) will be retained and redistributed on-site, thereby maintaining the local sediment budget and creating an additional sand reserve available to future coastal processes. The proposed infill will reduce the gradient of the secondary dune, improving local slope stability while also providing a buffer against future erosional processes. The elevated deck design allows

continued aeolian sediment transport beneath the structure and avoids the creation of barriers that could disrupt dune dynamics. Accordingly, the development is not expected to adversely affect dune morphology or sediment dynamics and may result in a localised improvement in dune stability. The platform position in alternative A2 is preferred as it is positioned off the dune crest on the stabilised fill area.

The proposed development triggers activities in Listing Notice 1 and Listing Notice 3 of the Environmental Impact Assessment Regulations, 2014 (as amended, 2017) published in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) and therefore requires an environmental authorisation to be issued by the competent authority before development can commence. The competent authority for the application is the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism.

Environmental Sensitivities

A screening tool has been developed by the Department of Forestry, Fisheries and Environmental Affairs (DFFE). The Screening Tool identifies related exclusions and/ or specific requirements including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site. A geomorphological assessment was deemed necessary to be carried out and is provided in Appendix D1. [A heritage report has been compiled and is provided in Appendix D2.](#) A compliance statement (terrestrial biodiversity, animal, plant and aquatic themes) is provided in Appendix D3. The site verification report is provided as Appendix D4. The sensitivities identified and verified are provided in the table below.

Table 1: Verification of environmental sensitivity identified in DFFE screening tool report.

Specialist Study as per Screening Tool Report	Environmental sensitivity as per screening tool report	Verification of environmental sensitivity	
Agriculture Assessment	High	Low	The sensitivity rating provided by the Screening Tool Report is disputed. The rating is based on the land capability rating and cropland use. There is no agriculture practiced within the Paradys Strand residential area. The 741.6 m ² site is underlain by windblown sand, designated as residential 1 and not suited to agriculture.
Landscape/Visual Impact Assessment	NA	Low	The visual character of the study area consists of visually appealing natural coastal landscapes and modified landscapes including residential, tourism, roads and footpaths. The proposed dwelling design is considered to blend in with the natural environment and surrounding residential land uses and is not likely to deteriorate the visual quality of the area. No further assessment is deemed necessary based on the type of development and location of the dwelling. Mitigation measures to prevent visual impacts during the life cycle of the

Specialist Study as per Screening Tool Report	Environmental sensitivity as per screening tool report	Verification of environmental sensitivity	
			development are included in the EMPr submitted with the BAR.
Socio-Economic Assessment	NA	Low	No further assessment is deemed necessary; the proposed development will have a low positive impact on social and economic conditions and contribute towards rates and taxes in the area and employment of contractors and service providers and purchase of local goods. Mitigation measures are included in the EMPr submitted with the BAR
Animal Species assessment	Medium	Low	The site is underlain by windblown sand and is designated as residential 1 with the surrounding area being the seafront and other houses; the entire footprint is situated within transformed and degraded habitat. <i>Stephanoaetus coronatus</i> (crowned eagle) is not commonly spotted in the coastal area of Jeffreys Bay as the natural habitat includes indigenous forest and mountain areas. <i>Aneuryphymus montanus</i> (Yellow-winged Agile Grasshopper) is associated with fynbos vegetation and rocky habitats, none of which occurs on the site. Due to the small site, limited footprint the animal species theme for the site is considered to be a low sensitivity.
Aquatic Biodiversity Impact Assessment	Low	Low	No aquatic features were identified within close proximity (100 meters) to the site. Stormwater management and sewage management mitigation measures are included in the EMPr to prevent polluted and / or excessive runoff from the site.
Archaeological and Cultural Heritage Impact Assessment	Low	Low	A report has been compiled by Jenna Lavin which has accompanied the Notice of Intent submission to the ECPHRA. The area proposed for development is located within 100 m of the high-water mark and may therefore be at risk of impacting on shell-midden archaeological resources, especially in close proximity to rocky shores. However, no shell midden sites are known from this stretch of coastline. Based on the limited footprint of the proposed development as a small, single residential structure with limited associated excavations, it is unlikely that the proposed development will negatively impact on significant archaeological heritage.

Specialist Study as per Screening Tool Report	Environmental sensitivity as per screening tool report	Verification of environmental sensitivity	
			Should any fossil material or archaeological heritage be uncovered during the course of construction activities, work must cease and ECPHRA must be contacted regarding an appropriate way forward. Mitigation measures to prevent unnecessary impact on heritage resources are recommended and are included in the EMPr submitted with the BAR.
Paleontological Impact Assessment	Very High	Medium	A report has been compiled by Jenna Lavin which has accompanied the Notice of Intent submission to the ECPHRA. The area proposed for development is underlain by sediments of the Nanaga Formation of the Algoa Group (Wilken, 2026 as cited by Lavin, 2026) which notes that this formation mostly devoid of significant fossils, however, minute fragments of marine macro-organisms, foraminifera and occasional extant land gastropods are present. Based on the limited nature and scale of the proposed development, the likelihood that significant fossil heritage will be negatively impacted by the proposed development is low and as such, no further paleontological assessment is recommended. Should any fossil material or archaeological heritage be uncovered during the course of construction activities, work must cease and ECPHRA must be contacted regarding an appropriate way forward. Measures to prevent impact on paleontological resources are recommended and are included in the EMPr submitted with the BAR
Plant Species Assessment	Medium sensitivity	Low Sensitivity	The historical vegetation mapped on site is St Francis Dune Thicket (least concern) (NatVEG map, 2019) and verified to be representative of typical St Francis Dune thicket and not Southeastern Strandveld of the fynbos biome as mapped in the NATVEG map, 2024. There are no fynbos species on the erf. The owner of the property is proposing to develop a dwelling with an estimated development footprint of 296 m² which will include an estimated 43.8 m² decking area. A raised timber platform is also proposed which will be an estimated 33 m² and equipped with a walkway extending between the

Specialist Study as per Screening Tool Report	Environmental sensitivity as per screening tool report	Verification of environmental sensitivity	
			house and platform. The total area of the development will be 329.9 m². The erf is an estimated 741.6 m² in extent, which means approximately 45% of the erf will be developed and the remaining area will remain intact. No endemic and range restricted species were recorded as being present. Several species are known from the surrounding area, but unlikely to be affected by the proposed activity. No Endangered or Critically Endangered flora species were confirmed to be present nor known to be present in the affected area. Indigenous plant species protected in terms of the Eastern Cape Provincial Nature Conservation Ordinance occur within the site (i.e., <i>Carpobrotus spp.</i>, <i>Bulbine spp.</i> and <i>Agathosma spp.</i>) however, these species are common within the surrounding coastal dune system and are recommended for rehabilitation efforts. Milkwood trees are present on the erf, but these will not be affected by the development and will be retained. A 5-meter green corridor (KLM land) is also situated between erf 1363 and neighbouring northern erf. The limited development footprint minimises vegetation loss. Measures to prevent impact on flora are recommended and are included in the EMPr submitted with the BAR. The proposed development design and footprint avoids protected trees and allows for a significant amount of indigenous vegetation to be retained on the site. Removal and disposal of alien species and the replanting of indigenous vegetation removed during construction during rehabilitation efforts is encouraged. Based on the baseline data, location and site conditions and the nature and scale of the site and development the verified sensitivity of plant species is considered to be low.
Terrestrial Biodiversity Impact Assessment	Low	Low	The historical vegetation mapped on site is St Francis Dune Thicket (least concern) (NatVEG map, 2019) and verified to be representative of typical St Francis Dune thicket and not Southeastern Strandveld of the fynbos biome as mapped in the NATVEG map, 2024. There are no fynbos species occurring on the erf. The erf is an estimated 741.6 m² in extent and approximately 45% of

Specialist Study as per Screening Tool Report	Environmental sensitivity as per screening tool report	Verification of environmental sensitivity	
			the erf will be developed and the remaining area will remain intact which includes the secondary dunes situated on the eastern (coastal) side of the erf. Based on the baseline data, location and site conditions and the nature and scale of the site and development, the verified terrestrial biodiversity sensitivity is Low. Measures are included in the EMPr submitted with the BAR to minimise impacts on terrestrial biodiversity.
Geotechnical Assessment	NA	medium	A geomorphological assessment was carried out to address the impact of development in a dynamic coastal area. The specialist recommendations have been considered and incorporated in the design process. Mitigation measure recommended include, <i>inter alia</i> , a raised dwelling, appropriate foundation design, reuse of excavated material on site, revegetation of disturbed areas on the site, and minimal disturbance to the vegetation. to mitigate impacts on the coastal environment and to mitigate impacts of the coastal environment on the dwelling. The proposed development is deemed compatible with the site's geomorphic processes and acceptable from a geomorphological perspective.
Marine Impact Assessment	NA	medium	
Visual Assessment	NA	NA	Aspects related to visual impacts are addressed in the basic assessment; however no specific specialist study is deemed to be required.
Civil Aviation Assessment	High sensitivity	Low sensitivity	A civil aviation assessment / compliance statement is excluded as the nature of proposed development will not impact on civil aviation.
Defence theme	Low sensitivity	Low sensitivity	A defence theme compliance statement is excluded as the proposed development will not have an impact on the defense theme.

Impact Assessment summary

Several impacts were identified for construction phase, and a few identified in the planning and operational phase. Measures are recommended to mitigate anticipated impacts. The potential impacts associated with the proposed development are considered to be negative of low to medium significance without any mitigation. However, all potential impacts should readily be reduced to low significance provided the construction work and ongoing operation of the development are carried out with due diligence and the appropriate mitigation measures, as recommended in this report, are adhered to. No negative impacts of high or very high significance

were identified. The development is expected to have a positive impact on local employment and property value.

Public participation

The proposed application was advertised, and a 30-day registration process was provided to potential interested and affected parties.

Registration date for interested and affected parties: 15 January – 16 February 2026

The application for EA was submitted to the DEDEAT and accepted on 22 April 2026 (DEDEAT Reference number: EC08/C/LN1&3/M/18-2026).

The draft BAR has been provided to interested and affected parties for a 30-day comment and review period.

Comment and review on draft BAR: 1 June – 1 July 2026

The BAR has been updated with all comments received and responses, as required.

All updates are indicated in green.

The Final BAR is hereby submitted to the DEDEAT for decision making.

Conclusion

The basic assessment has assessed the no go option, Alternative Layout 1 (Appendix A1), Alternative Layout 2 (Appendix A2), the concept design (Appendix C) and proposed service options.

Alternative 2 is the preferred alternative as it incorporates the recommendations of the geomorphological specialist and comments received during the public participation process. The revised layout includes the relocation of the raised timber platform approximately 1 m further landward and off the dune crest, refinement of the conceptual stormwater layout to direct runoff towards the north-western (road-side) portion of the erf, confirmation of the protected Milkwood tree locations, and refinement of the proposed earthworks. Excavated material will, as far as practicable, be reused as fill on the north-eastern section of the erf, as recommended by the geomorphological specialist. This will assist in establishing a stable development platform, improving the stability of the eastern portion of the site and retaining sediment within the coastal dune system.

Measures are recommended to mitigate identified potential impacts, including input into the final SDP and detailed designs. With mitigation measures in place the majority of identified direct impacts are expected to be negative of negligible / low significance.

CONTENTS

EXECUTIVE SUMMARY	8
Section A: Activity information	21
1. Activity DESCRIPTION	21
2. FEASIBLE AND REASONABLE ALTERNATIVES	28
A.2.1 Site selection (alternatives and preferred)	28
A.2.2 Activity	29
A.2.3 The design and layout of the activity	29
A.2.4 - Technologies	30
A.2.5 - Operational aspects	30
A.2.6 The option of not implementing the activity	30
3. Activity POSITION	31
4. Physical size of the activity	31
5. Site Access	32
6. SITE OR ROUTE PLAN	33
7. Site PHOTOGRAPHS	33
8. FACILITY ILLUSTRATION	34
9. ACTIVITY MOTIVATION	34
10. Applicable legislation, policies and/or guidelines	36
11. Waste, effluent, emission and noise management	39
12. WATER USE	41
13. ENERGY EFFICIENCY	41
Section B: SITE/area/PROPERTY description	43
1. GRADIENT OF THE SITE	43
B.1 Gradient	43
2. LOCATION IN LANDSCAPE	45
3. Groundwater, Soil and Geological stability of the site	45
B.2 – Aquatic features	45
B.3 - Geology	46
B.4 Aeolian (wind-blown) sand	47
B.5 Wave direction and sediment transport	47
B.6 Dune dynamics	48
B.7 Dune and beach dynamics	51

4.	Groundcover.....	53
B.8	Terrestrial Biodiversity.....	53
	Terrestrial Biodiversity Sensitivity	56
	Indigenous flora on site	57
	Terrestrial Fauna.....	61
5.	Land use character of surrounding area.....	61
6.	Cultural/Historical Features.....	64
Section C: public participation		67
1.	ADVERTISEMENT	67
2.	Content of advertisements and notices	67
3.	Placement of advertisements and notices	68
4.	Determination of appropriate measures	68
5.	Comments and response report.....	68
6.	AUTHORITY PARTICIPATION	68
7.	CONSULTATION WITH OTHER STAKEHOLDERS	71
Section D: Impact Assessment		74
1.	Issues raised by interested and affected parties.....	74
2.	Impacts that may result from the planning and design, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE phaseS AS WELL AS PROPOSED MANAGEMENT OF identified IMPACTS AND PROPOSED mitigation measures.....	78
D.2.1	PLANNING AND DESIGN PHASE AND SUBSEQUENT CONSTRUCTION AND OPERATION AS APPLICABLE.....	79
D.2.2	CONSTRUCTION PHASE AND MAINTENANCE DURING OPERATIONS AS REQUIRED.....	88
D.2.3	OPERATIONAL PHASE	108
D.2.4	DECOMMISSIONING AND CLOSURE PHASE (ALTERNATIVE (PREFERRED ALTERNATIVE))	117
3	CLIMATE CHANGE ASSESSMENT	117
4.	Environmental impact statement.....	122
SECTION E. RecommendationS of practitioner		125
Section F: AppendiCes.....		126
Appendix A: Site plan(s)		
Appendix B: Photographs		
Appendix C: Facility illustration(s)		
Appendix D: Specialist reports		
Appendix E: Comments and responses report		

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

List of Figures

Figure 1: Location of erf 1363, Paradys beach.....	21
Figure 2: Erf 1363 showing approximate contour lines of the property	28
Figure 4: Design of the proposed dwelling on erf 1363 (adapted from Pure Design, June 2026) (Refer to Appendix A1).....	29
Figure 5: Design of the proposed dwelling on erf 1363 showing estimated excavation and fill material (adapted from Pure Design, July 2026) (Refer to Appendix A2 for preferred Alternative A2)	30
Figure 6: Oblique image indicating the likely processes in the future. The small red arrows indicate possible dune instabilities.....	44
Figure 7: Low aquatic sensitivity (DFFE STR).....	46
Figure 7: No aquatic CBA or ESA (ECBCP, 2019) mapped on site	46
Figure 8: Wind rose for Jeffreys Bay based on 30 years of hourly simulations (Source: MeteoBlue).....	47
Figure 9: Wave Rose for Cape St Francis for 15 years of data (PRDW 2009 presented in Illenberger and Schumann, 2022)	48
Figure 10: Dune zonation, vegetation cover, stability and sediment transport for a beach to back dune transect (Tinley, 1985)	49
Figure 11: Satellite image showing Erf 1363 (orange outline) in relation to the steep eroding foredunes (yellow dashed line) and blowouts (VAN DER WAAL, 2026).	50
Figure 12: Planned interventions in the adjacent coastal area which are included in EMPr and maintenance management plan prepared for KLM to trap sand with brushwood piles (blue circles) and establish pioneer dune vegetation (green highlight); no footpaths should be created in this area.....	50
Figure 13: Historical aerial images for 1942 and 1961 of the coastline in the area of Erf 1363 (estimate as red square)	51
Figure 14: Historical aerial images for 1985 and 2000 of the coastline in the area of Erf 1363 (estimate as red square)	52
Figure 15: Low sensitivity for terrestrial biodiversity theme (STR, 2025).....	53
Figure 16: No terrestrial CBA or ESA (ECBCP, 2019) mapped on site	54
Figure 17: No remnant ecosystems mapped on site (NBA, 2022)	55
Figure 18: No remnant ecosystems mapped on site (NBA, 2025)	55
Figure 19: STR - medium sensitivity – plant species (STR, 2025).....	57
Figure 20: Site falls within 100 meters of the High water mark of the sea; Vegetation mapped as southeastern Strandveld (NATVEG, 2024)	58
Figure 21: Vegetation mapped as St Francis Dune Thicket (least concern) (NatVEG map, 2019).....	58
Figure 22: Location of milkwood trees identified on the land portion	60
Figure 23: STR indicates a medium sensitivity for Animal species	61
Figure 24: Low sensitivity indicated for archaeological and cultural heritage theme.....	65
Figure 25: Medium sensitivity indicated for paleontology theme.....	66

List of Tables

Table 1: Verification of environmental sensitivity identified in DFFE screening tool report.....	9
--	---

Table 2: Verification of environmental sensitivity identified in DFFE screening tool report..... 23

BASIC ASSESSMENT REPORT

(For official use only)

File Reference Number:

NEAS Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014 as amended, promulgated in terms of the National Environmental Management Act, 1998(Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 as amended and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for. This report is current as of **1 OCTOBER 2022**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable or **black out** the boxes that are not applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority **unless indicated otherwise by the Department**.
7. No faxed or e-mailed reports will be accepted **unless indicated otherwise by the Department**.
8. The report must be compiled by an independent environmental assessment practitioner (EAP). The EAP must satisfy conditions 11 below.

9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
- 11.1 The Environmental Assessment Practitioner (EAP) must be registered in terms of S24H Regulations with the Registration Authority EAPASA as from 8 August 2022.
- 11.2. S24H (14) states that “only a person registered as an Environmental Assessment practitioner may perform tasks in connection with an application for an environmental authorisation contemplated in
 - (a) Chapter 5 of the Act read with the Environmental impact Assessment Regulations.
 - (b) Section 24G of the Act
 - (c) Chapter 5 of the National Environmental Management Waste Act 2008 (Act No 59 of 2008) read with the Environmental Impact Assessment Regulations
- 11.3. Tasks in regulation 14 may only be conducted by an EAP that is registered
- 11.4. Regulations 20 of S24H indicates the offences and penalties as indicated below:

“20. Offences and penalties
(1) A person is guilty of an offence if that person-
 - (a) contravenes regulation 14 of the Regulations; or*
 - (b) pretends to be a registered environmental assessment practitioner or registered candidate environmental assessment practitioner.*
(2) A person convicted of an offence in terms of subregulation (1) is liable to the penalties contemplated in section 49B(3) of the Act.”

Section 49B(3) of the Act states:
“A person convicted of an offence in terms of section 49A(1)(h), (l), (m), (n), (o) or (p) is liable to a fine or to imprisonment for a period not exceeding one year, or to both a fine and such imprisonment.”

SECTION A: ACTIVITY INFORMATION



Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS & TOURISM

Has a specialist been consulted to assist with the completion of this section?

YES

If YES, please complete form XX for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail

Introduction

Erf 1363 is an estimated 741.6 m² in extent and situated on de Jager Street in Paradys Strand (SG Code: C03400110000136300000) and falls within 100 meters of the high-water mark of the sea. The erf is located on a secondary dune approximately 60 m landward from the primary dune closest to the beach.

Approximate central coordinates: 34° 6'21.00"S; 24°53'16.07"E (Figure 1).

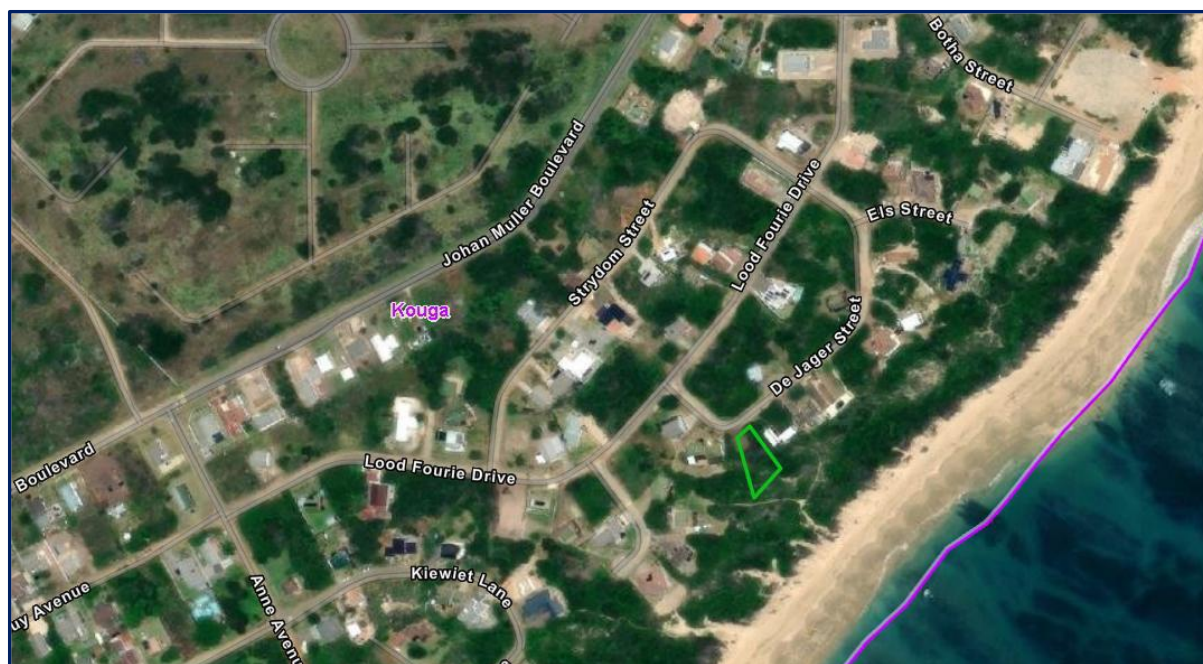


Figure 1: Location of erf 1363, Paradys beach.

The owner of the property is proposing to develop a dwelling. The design includes two level structure with a raised first storey with an estimated footprint of 181.88 m² and a ground level storey of 71.3 m² provided below the dwelling. A decking area of an estimated 43.8 m² is proposed. A raised walkway between the house and the timber platform is proposed; the walkway will be an estimated 5.5 meters in length and 1m in width. The platform will be approximately 33 m². The overall development will be an area of 329.9 m².

Due to the dynamic nature of the site within a coastal environment, the dwelling has been recommended to be designed in such a way so as to prevent instability of the dunes and prevent / minimise erosion. Maintaining a dense vegetation cover will trap and stabilise the sand to some extent and avoid the nuisance of sand encroachment. The

Version 1 October 2022

Page 21 of 127

house design should take this into account with regards to design of doorways and outside spaces. A raised structure would allow sand transport under the structure with less nuisance inside the buildings. The eastward part of the property could be raised (inundated by sand) in future years as the frontal dune migrates onto the property. The rate of movement is not known at this stage. To avoid possible shifts, it is advised that the foundations/pylons of the building on Erf 1363 extend down as far as possible along the southwestern side of the building (engineering advice recommended on depths). This will allow movements of the upper part of the dune without impacting the foundations of the building on Erf 1363. The risk of these shifts is less towards the north of Erf 1363.

The recommendations have been considered, and the proposed design includes a raised dwelling, allowing parking and storage to be placed underneath the dwelling and raising the living area off ground level. It is acknowledged that the foundations of the structures will require adequate reinforcement as required for the site.

Two layout alternatives (Appendix A1 and A2) have been developed and assessed as part of the Basic Assessment process. Alternative Layout 1 (Appendix A1) is the original layout; Alternative Layout 2 (Appendix A2) was developed following comments received during the public participation process.

Both layouts comprise the two-level structure. The garage (60 m²) is located at the lower level, with the main living areas elevated above it to accommodate the dune topography and minimise interference with natural sand movement. The architectural drawings indicate a ground-storey floor level of 16.3 m (survey elevation) and a roof apex of approximately 23.5 m, resulting in an overall building height of 7.2 m between the ground-storey floor level and the roof apex. The proposed design complies with the applicable 8.5 m municipal height restriction indicated on the Site Development Plans (Appendix A1 and A2).

The materials proposed to be used in the development include bricks and timber. Access to the proposed development area will be a driveway developed off de Jager Street. Bricks and concrete will be used for the development of access and garages on the western side (road section) of the erf. The garage area will be levelled, and a retaining wall will be put in place. A combination of timber, bricks and concrete will be used to construct the central and eastern section of the dwelling. The timber section of the dwelling will be raised using wooden poles / columns. Aluminium and glazing will be used for the windows and doors and windows and aluminium roof sheets are proposed. Suitable waterproofing measures have been included in the design (Refer to Appendix A).

The estimated volume of excavation required for the levelling is approximately 253 m³ which will be used as fill material on the steeper south-eastern section of the development area resulting in a maximum estimated fill height of 1.3m.

Alternative 2 shows the relocation of the platform approximately 1 m further landward and refinement of the conceptual stormwater layout. The location of the Milkwood trees and the excavation and fill estimates are indicated on Alternative Layout 2.

The development will be managed using self-generated electricity via a combination of solar power and gas. Stormwater management will be via correct placement of drainage pipes, stormwater catchment tanks, gradient and permeable paving and anti-erosion features where required. Measures will be implemented to ensure the stormwater will drain to the Kouga municipal stormwater system in the road servitude and not released in such a way to result in erosion. Water and waste (refuse) management services are provided by the Kouga municipality as it is zoned as residential 1 and relevant service fees will be included in the rates. Sewage will be treated by means of a conservancy tank which will be suitable sized and sealed and regularly serviced. The tank will be positioned to allow for easy access of the honey sucker service (i.e., the western section of the erf adjacent to the road).

Environmental Sensitivities

A screening tool has been developed by the Department of Forestry, Fisheries and Environment (DFFE). The Screening Tool identifies related exclusions and/ or specific requirements including specialist studies applicable to the proposed site and/or development, based on the national sector classification and the environmental sensitivity of the site. A screening report was generated for the proposed project (Appendix D). A geomorphological assessment was deemed necessary to be carried out and is provided in Appendix D1. A heritage report has been compiled and is provided in Appendix D2. A compliance statement (terrestrial biodiversity, animal, plant and aquatic themes) is provided in Appendix D3. The site verification report is provided as Appendix D4. The sensitivities identified and verified are provided in the table below.

Table 2: Verification of environmental sensitivity identified in DFFE screening tool report

Specialist Study as per Screening Tool Report	Environmental sensitivity as per screening tool report	Verification of environmental sensitivity	
Agriculture Assessment	High	Low	The sensitivity rating provided by the Screening Tool Report is disputed. The rating is based on the land capability rating and cropland use. There is no agriculture practiced within the Paradys Strand residential area. The 741.6 m ² site is underlain by windblown sand, designated as residential 1 and not suited to agriculture.
Landscape/Visual Impact Assessment	NA	Low	The visual character of the study area consists of visually appealing natural coastal landscapes and modified landscapes including residential, tourism, roads and footpaths. The proposed dwelling design is considered to blend in with the natural environment and surrounding residential land uses and is not likely to deteriorate the visual quality of the area. No further assessment is deemed necessary based on the type of development and location of the dwelling. Mitigation measures to prevent visual impacts during the life cycle of the development are included in the EMP _r submitted with the BAR.
Socio-Economic Assessment	NA	Low	No further assessment is deemed necessary; the proposed development will have a low positive impact on social and economic conditions and contribute towards rates and taxes in the area and employment of contractors and service providers and purchase of local goods. Mitigation measures are included in the EMP _r submitted with the BAR
Animal Species assessment	Medium	Low	The site is underlain by windblown sand and is designated as residential 1 with the surrounding area being the seafront and other houses; the entire footprint is situated within transformed and degraded habitat. <i>Stephanoaetus coronatus</i> (crowned eagle) is not commonly spotted in the coastal area of Jeffreys Bay as the natural habitat includes indigenous forest and mountain areas. <i>Aneuryphymus montanus</i> (Yellow-winged

			Agile Grasshopper) is associated with fynbos vegetation and rocky habitats, none of which occurs on the site. Due to the small site, limited footprint the animal species theme for the site is considered to be a low sensitivity.
Aquatic Biodiversity Impact Assessment	Low	Low	No aquatic features were identified within close proximity (100 meters) to the site. Stormwater management and sewage management mitigation measures are included in the EMPr to prevent polluted and / or excessive runoff from the site.
Archaeological and Cultural Heritage Impact Assessment	Low	Low	A report has been compiled by Jenna Lavin which has accompanied the Notice of Intent submission to the ECPHRA. The area proposed for development is located within 100 m of the high-water mark and may therefore be at risk of impacting on shell-midden archaeological resources, especially in close proximity to rocky shores. However, no shell midden sites are known from this stretch of coastline. Based on the limited footprint of the proposed development as a small, single residential structure with limited associated excavations, it is unlikely that the proposed development will negatively impact on significant archaeological heritage. Should any fossil material or archaeological heritage be uncovered during the course of construction activities, work must cease and ECPHRA must be contacted regarding an appropriate way forward. Mitigation measures to prevent unnecessary impact on heritage resources are recommended and are included in the EMPr submitted with the BAR.
Paleontological Impact Assessment	Very High	Medium	A report has been compiled by Jenna Lavin which has accompanied the Notice of Intent submission to the ECPHRA. The area proposed for development is underlain by sediments of the Nanaga Formation of the Algoa Group (Wilken, 2026 as cited by Lavin, 2026) which notes that this formation mostly devoid of significant fossils, however, minute fragments of marine macro-organisms, foraminifera and occasional extant land gastropods are present. Based on the limited nature and scale of the proposed development, the likelihood that significant fossil heritage will be negatively impacted by the proposed development is low and as such, no further paleontological assessment is recommended. Should any fossil material or archaeological heritage be uncovered during the course of construction activities, work must cease and ECPHRA must be contacted regarding an appropriate way forward. Measures to prevent impact on paleontological resources are recommended and are included in the EMPr submitted with the BAR

Plant Species Assessment	Medium sensitivity	Low Sensitivity	The historical vegetation mapped on site is St Francis Dune Thicket (least concern) (NatVEG map, 2019) and verified to be representative of typical St Francis Dune thicket and not Southeastern Strandveld of the fynbos biome as mapped in the NATVEG map, 2024. There are no fynbos species on the erf. The owner of the property is proposing to develop a dwelling with an estimated development footprint of 296 m² which will include an estimated 43.8 m² decking area. A raised timber platform is also proposed which will be an estimated 33 m² and equipped with a walkway extending between the house and platform. The total area of the development will be 329.9 m². The erf is an estimated 741.6 m² in extent, which means approximately 45% of the erf will be developed and the remaining area will remain intact. No endemic and range restricted species were recorded as being present. Several species are known from the surrounding area, but unlikely to be affected by the proposed activity. No Endangered or Critically Endangered flora species were confirmed to be present nor known to be present in the affected area. Indigenous plant species protected in terms of the Eastern Cape Provincial Nature Conservation Ordinance occur within the site (i.e., <i>Carpobrotus spp.</i>, <i>Bulbine spp.</i> and <i>Agathosma spp.</i>) however, these species are common within the surrounding coastal dune system and are recommended for rehabilitation efforts. Milkwood trees are present on the erf, but these will not be affected by the development and will be retained. A 5-meter green corridor (KLM land) is also situated between Erf 1363 and neighbouring northern erf. The limited development footprint minimises vegetation loss. Measures to prevent impact on flora are recommended and are included in the EMPr submitted with the BAR. The proposed development design and footprint avoids protected trees and allows for a significant amount of indigenous vegetation to be retained on the site. Removal and disposal of alien species and the replanting of indigenous vegetation removed during construction during rehabilitation efforts is encouraged. Based on the baseline data, location and site conditions and the nature and scale of the site and development the verified sensitivity of plant species is considered to be low.
Terrestrial Biodiversity Impact Assessment	Low	Low	The historical vegetation mapped on site is St Francis Dune Thicket (least concern) (NatVEG map, 2019) and verified to be representative of typical St Francis Dune thicket and not Southeastern Strandveld of the fynbos biome as mapped in the NATVEG map, 2024. There are no fynbos species occurring on the erf. The erf is an estimated 741.6 m² in extent and

			approximately 45% of the erf will be developed and the remaining area will remain intact which includes the secondary dunes situated on the eastern (coastal) side of the erf. Based on the baseline data, location and site conditions and the nature and scale of the site and development, the verified terrestrial biodiversity sensitivity is Low. Measures are included in the EMPr submitted with the BAR to minimise impacts on terrestrial biodiversity.
Geotechnical Assessment	NA	medium	A geomorphological assessment was carried out to address the impact of development in a dynamic coastal area. The specialist recommendations have been considered and incorporated in the design process. Mitigation measure recommended include, <i>inter alia</i> , a raised dwelling, appropriate foundation design, reuse of excavated material on site, revegetation of disturbed areas on the site, and minimal disturbance to the vegetation. to mitigate impacts on the coastal environment and to mitigate impacts of the coastal environment on the dwelling. The proposed development is deemed compatible with the site's geomorphic processes and acceptable from a geomorphological perspective.
Marine Impact Assessment	NA	medium	
Visual Assessment	NA	NA	Aspects related to visual impacts are addressed in the basic assessment; however no specific specialist study is deemed to be required.
Civil Aviation Assessment	High sensitivity	Low sensitivity	A civil aviation assessment / compliance statement is excluded as the nature of the proposed development will not impact on civil aviation.
Defence theme	Low sensitivity	Low sensitivity	A defence theme compliance statement is excluded as the proposed development will not have an impact on the defense theme.

Impact Assessment summary

Several impacts were identified for construction phase, and a few were identified in operational phase. Measures are recommended to mitigate anticipated impacts. The potential impacts associated with the proposed development are considered to be negative of low to medium significance without any mitigation; climate risk is considered to be negative medium impact for the site. The majority of potential impacts should be reduced to low significance provided the construction work and ongoing operation of the development are carried out with due diligence and the appropriate mitigation measures, as recommended in this report, are adhered to. No negative impacts of high or very high significance were identified. The development is expected to have a positive impact on local employment and property value.

Based on the scope of work, the preconstruction and planning phase is estimated to take 24 months to complete; the construction of the dwelling is expected to take between 6 – 24 months to complete.

The proposed development triggers activities in Listing Notice 1 and Listing Notice 3 of the Environmental Impact Assessment Regulations, 2014 (as amended, 2017) published in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) and therefore requires an environmental authorisation to be issued by the competent authority before development can commence. The competent authority for the application is the Eastern Cape Department of Economic Development, Environmental Affairs and Tourism (DEDEAT).

Detailed site layout plans and designs will be provided once an environmental authorisation is in place; the site layout and designs will align to the relevant conditions of the EA (if attained) and accompanying mitigation measures contained within an approved Environmental Management Plan Report (EMPr).

The draft basic assessment report was distributed to interested and affected parties for a 30-day review and comment period (1 June – 1 July 2026). The report has been updated to address all comments received and the final report will be submitted to the DEDEAT for a 107-day decision making phase. The report aims to provide all relevant information required for the competent authority to make an informed decision on the proposed NEMA EA application.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“alternatives”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

A.2.1 Site selection (alternatives and preferred)

The only suitably feasible site for the proposed development is Erf 1363 (estimated 741.6 m) and situated on de Jager street in Paradys Strand (SG Code: C03400110000136300000). Approximate central coordinates: 34° 6'21.00"S; 24°53'16.07"E.

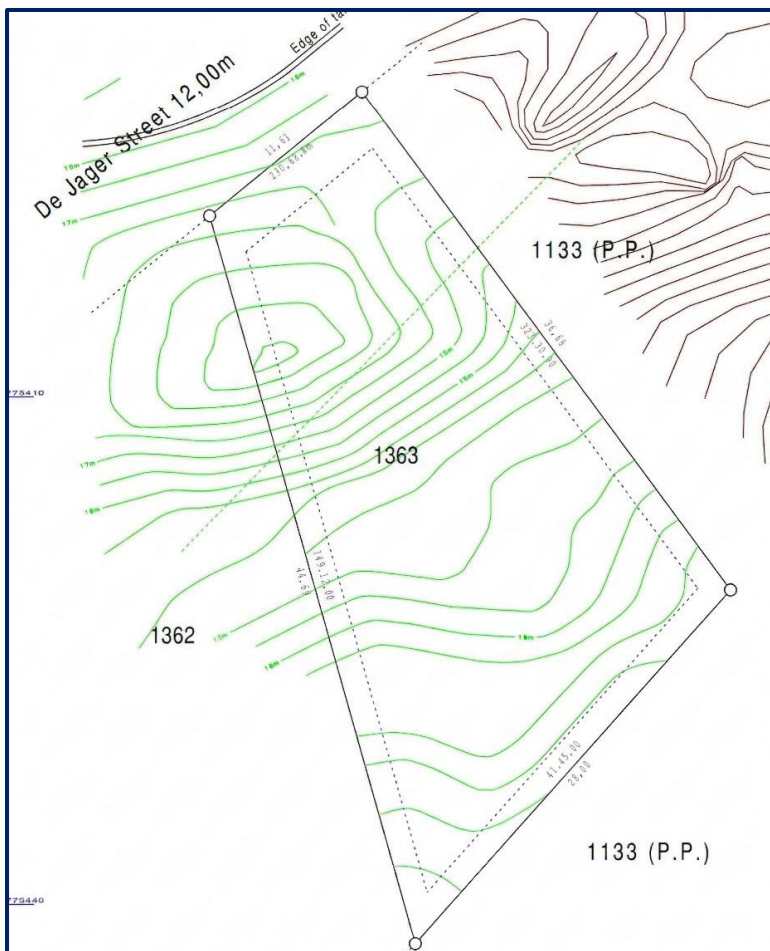


Figure 2: Erf 1363 showing approximate contour lines of the property

A.2.2 Activity

The activity refers to the development of a residential dwelling, decking area and a raised timber platform and walkway. The first storey will be raised and have an estimated footprint of 181.88 m², with a ground level storey of 71.3 m² provided below the dwelling. The decking area is an estimated 43.8 m². The walkway between the house and the timber platform is proposed to be raised with an estimated length of 5.5 meters and width of 1m. The proposed platform will be approximately 33 m². The overall development will be an area of 329.9 m².

A.2.3 The design and layout of the activity

Specialist studies have been carried out to determine the sensitivities on the site. The conceptual site layout plan and concept design of dwelling has been assessed. Recommendations are provided to reduce impacts on the eastern dune system of the erf. Based on the design considerations and recommendations, two layout alternatives were developed and assessed as part of the Basic Assessment process.

Both layouts comprise a raised two-level structure. The garage (60 m²) is located at the lower level, with the main living areas elevated above it to accommodate the dune topography and minimise interference with natural sand movement. The architectural drawings indicate a ground-storey floor level of 16.33 m (survey elevation) and a roof apex of 23.5 m, resulting in an overall building height of 7.2 m between the ground-storey floor level and the roof apex. The proposed design complies with the applicable 8.5 m municipal height restriction indicated on the Site Development Plans.

The materials proposed to be used in the development include bricks and timber. Access to the proposed development area will be a driveway developed off de Jager Street. Bricks and concrete will be used for the development of access and garages on the western side (road section) of the erf. The garage area will be levelled, and retaining walls will be put in place. A combination of timber, bricks and concrete will be used to construct the central and eastern section of the dwelling. The timber section of the dwelling will be raised using wooden poles / columns. Aluminum and glazing will be used for the windows and doors and windows and aluminum roof sheets are proposed. Suitable waterproofing measures have been included in the design. The estimated volume of excavation required for the levelling is approximately 253 m³ which will be used as fill material on the steeper south-eastern section of the development area resulting in a maximum estimated fill height of 1.3 m.

Alternative Layout 1 (Appendix A1) is the original layout; Alternative Layout 2 (Appendix A2) was developed following comments received during the public participation process. Alternative 2 shows the relocation of the platform approximately 1 m further landward and refinement of the conceptual stormwater layout. The location of the Milkwood trees and the excavation and fill estimates are indicated on Alternative Layout 2. The concept illustrative drawings are provided in Appendix C)

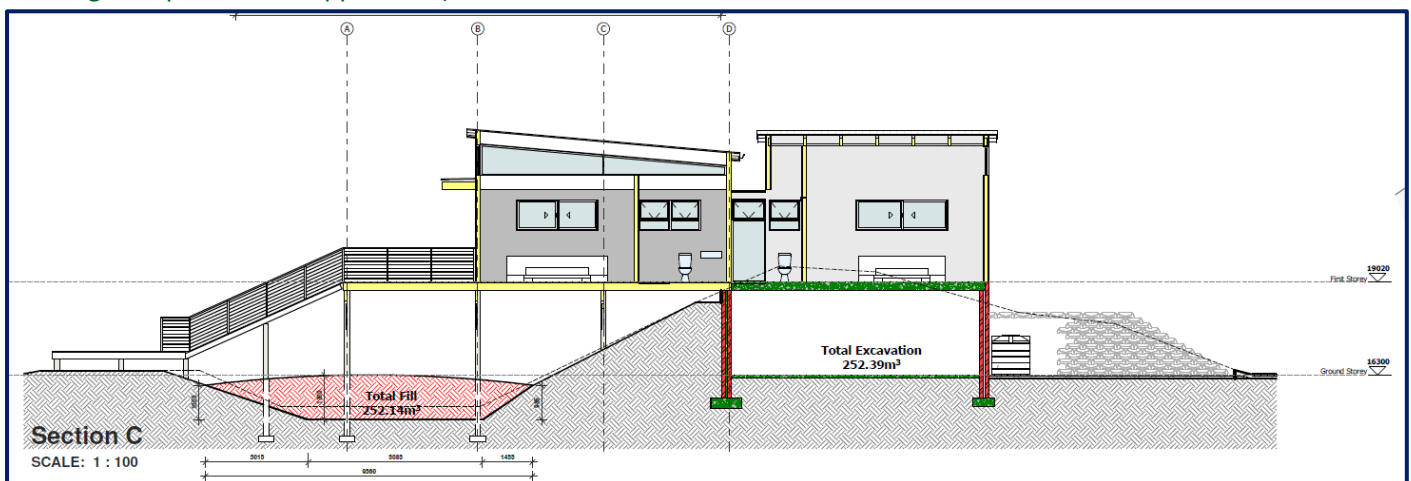


Figure 3: Design of the proposed dwelling on Erf 1363 (adapted from Pure Design, June 2026) (Refer to Appendix A1)

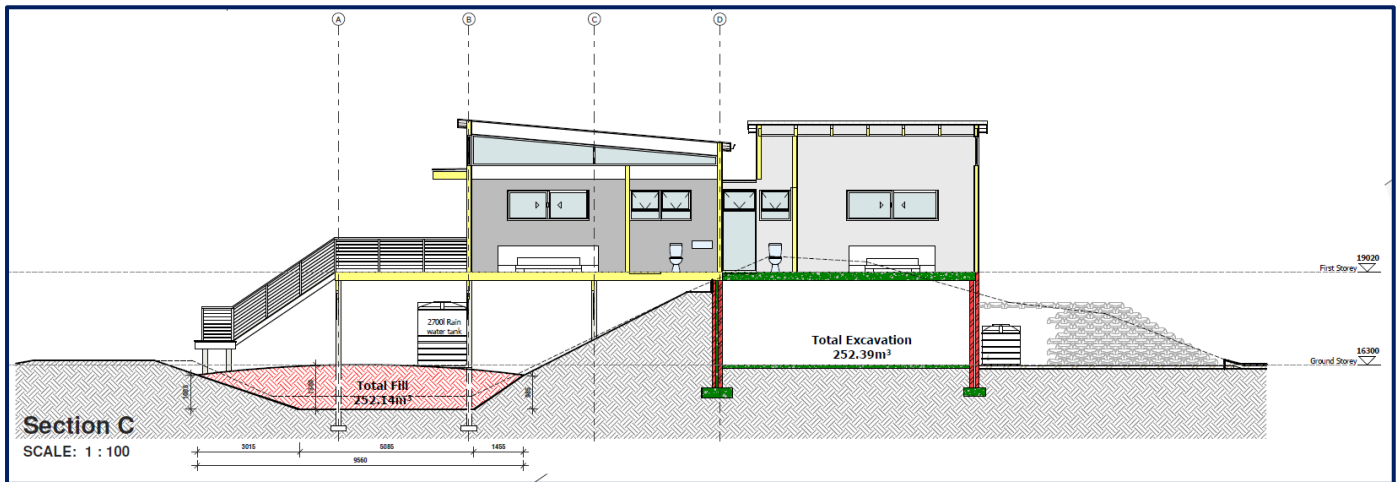


Figure 4: Design of the proposed dwelling on Erf 1363 showing estimated excavation and fill material (adapted from Pure Design, July 2026) (Refer to Appendix A2 for preferred Alternative A2)

A.2.4 - Technologies

The development will be managed using self-generated electricity via a combination of solar power and gas. Stormwater management will be via correct placement of drainage pipes, stormwater catchment tanks, gradient and permeable paving and anti-erosion features where required. The conceptual stormwater layout has been amended to direct runoff towards the north-western (road-side) portion of the erf, thereby avoiding concentrated discharge onto the south-eastern dune slope and reducing the potential for erosion, dune instability and disturbance to natural coastal processes. Measures will be implemented to ensure the stormwater will drain to the Kouga municipal stormwater system in the road servitude and not released in such a way to result in erosion. Water and waste management services are provided by the Kouga municipality as it is zoned as residential 1 and relevant service fees will be included in the rates. Sewage will be treated by means of a conservancy tank which will be suitable sized and sealed and regularly serviced. The tank will be positioned to allow for easy access of the honey sucker service (i.e., the western section of the erf adjacent to the road).

A.2.5 - Operational aspects

Operational aspects are assessed and recommendations provided.

A.2.6 The option of not implementing the activity.

The option of not implementing the proposed development is assessed.

Paragraphs 3 – 13 below should be completed for each alternative.

3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection. List alternative sites if applicable.

Alternative:

Alternative S1¹

Alternative S1²

Alternative S2 (if any)

Alternative S3 (if any)

In the case of linear activities:

Alternative:

Alternative S1 (preferred or only route alternative)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

34° 6'21.00"S;		24°53'16.07"E	
0	'	0	'
0	'	0	'

Latitude (S):

Longitude (E):

0	'	0	'
0	'	0	'
0	'	0	'

0	'	0	'
0	'	0	'
0	'	0	'

0	'	0	'
0	'	0	'
0	'	0	'

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1³ (originals)

Size of the activity:

Estimated development footprint of dwelling: 253.1 m²
 Estimated footprint of the deck: 43.8 m²
 Estimated footprint of platform: 33 m²

¹ "Alternative S.." refer to site alternatives.

² "Alternative S.." refer to site alternatives.

³ "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative A2 (preferred)

Alternative A3

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Total estimated area: 329.9m²
Estimated development footprint of dwelling: 253.1 m ²
Estimated footprint of the deck: 43.8 m ²
Estimated footprint of platform: 33 m ²
Total estimated area: 329.9m²

Length of the activity:

m
m
m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

741.6 m ²
m ²
m ²

5. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES	☐	☐	☐
Estimated meters	5		

Describe the type of access road planned:

Short access / driveway to the dwelling from the de Jager Street will be provided to access the garage area.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- 6.9 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.10 the positions from where photographs of the site were taken.

Refer to Appendix A:

Alternative 1 is provided as Appendix A1

Alternative 2 is provided as Appendix A2

7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Refer to Appendix B

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

Refer to Appendix C.

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

Unknown

What is the expected yearly income that will be generated by or as a result of the activity?

NA

Will the activity contribute to service infrastructure?

YES NO

Is the activity a public amenity?

YES NO

How many new employment opportunities will be created in the development phase of the activity?

Estimated 10

What is the expected value of the employment opportunities during the development phase?

Unknown
(will be awarded based on proposals received)

What percentage of this will accrue to previously disadvantaged individuals?

80%

How many permanent new employment opportunities will be created during the operational phase of the activity?

-

What is the expected current value of the employment opportunities during the first 10 years?

NA

What percentage of this will accrue to previously disadvantaged individuals?

NA

9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

The proposed development is an investment for the applicant. Jeffreys Bay is a popular destination, and the location of the land portion is located close to the beach and ocean, making it a good investment opportunity. The landowner would like to develop a coastal home to enjoy coastal activities (e.g. surfing, kite boarding).

The landowner will keep all vegetation on site outside the hard development footprint in order to minimise sand movement; the landowner has ensured that the dwelling has been designed in such a way to minimise disturbance on the dune system. The landowner further commits to ensure that no alien invasive species occurs on the site and remove any AIS on the site and replace the invasive plants with a local thicket vegetation species in order to maintain the soil binding effect the vegetation provides.

Ecological integrity of the area, ecosystems and biodiversity

The proposed development is located within a sensitive coastal dune environment supporting indigenous dune thicket vegetation. The development will result in a localised loss of vegetation and disturbance within the approved development footprint. The dwelling has been designed to minimise ecological disturbance by limiting the development footprint to approximately 45% of the erf, retaining approximately 55% of the property in its natural state, and incorporating a raised structural design that minimises earthworks and allows continued natural sand movement beneath the dwelling. Indigenous plant species protected in terms of the Eastern Cape Provincial Nature Conservation Ordinance occur within the site (i.e., *Carpobrotus spp.*, *Bulbine spp.* and *Agathosma spp.*) however, these species are common within the surrounding coastal dune system, and the limited development footprint minimises vegetation loss. Existing indigenous vegetation outside the approved footprint will be retained and disturbed areas rehabilitated with appropriate indigenous pioneer dune vegetation. Two protected (Milkwood) trees are located on the erf, and one just outside the boundary and all the trees are located outside the proposed development footprint.

The site is not in proximity to any non-perennial watercourses. There are no rivers present within 100 m of the development footprint. There are no wetlands present within 500 m of the development footprint. The site does not fall within an aquatic or terrestrial CBA or ESA.

Avoidance formed the primary design principle for the preferred alternative. The dwelling has been positioned within the more stable north-western portion of the erf, while the more dynamic dune environment towards the eastern portion of the property will remain largely undisturbed. The raised structural design reduces cut-and-fill requirements and disturbance to the dune profile.

The intention of the proposed raised platform and elevated walkway is to provide a single defined route and viewing area on the property. Rather than allowing unrestricted access across the undeveloped portion of the erf, the structures are intended to concentrate pedestrian movement along a single defined route, thereby reducing the likelihood of multiple informal footpaths, trampling of indigenous vegetation and unnecessary disturbance of the dune system. The platform will also provide a suitable location for activities such as cleaning surfing equipment, reducing the need for these activities to occur directly within the dune area.

Stormwater management to prevent concentrated runoff onto the dune slope, vegetation retention, rehabilitation and dune stabilisation measures have been included in the EMPr to minimise impacts. With the implementation of recommendations in the EMPr (including specialist recommendations), the ecological integrity of the site is expected to remain largely intact.

Resources

The proposed development is located within an established residential area where municipal services and road infrastructure are already available, thereby avoiding the need for the extension of new bulk service infrastructure. The scale and location of the development are compatible with the existing residential character of the area.

The dwelling has been designed to reduce dependency on external resources through the incorporation of rooftop solar photovoltaic panels, gas appliances (where appropriate), and a conservancy tank for wastewater management. Rainwater harvesting will also be incorporated to supplement non-potable water use where practicable. These measures promote resource efficiency and reduce demand on municipal electricity, water and sanitation infrastructure.

Socio-economic context of the area

The site is currently vacant and situated within Paradise Beach, a low-density coastal residential area within the Kouga Local Municipality. The property is zoned for residential purposes and is surrounded predominantly by existing residential development. The proposed use is therefore compatible with the existing character and

intended land use of the area and in line with the Kouga Local Municipality Spatial Development Framework (SDF) in terms of land use and zoning.

Limited impacts of dust and noise generation will affect the nearby land users, and will be temporary in nature for the construction phase.

The development will result in modest positive socio-economic benefits through temporary employment opportunities during construction, procurement of local goods and services, and ongoing contributions to the municipal rates base.

Indicate any benefits that the activity will have for society in general:

The proposed development will have a low positive impact on local businesses; construction is an economic activity that crosses over the primary, secondary and tertiary economic sectors. A few operational income opportunities will be created by the development.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

Construction work will be created; income will be generated for the suppliers of materials and services required during planning, construction and operational phases of the activity. Work opportunities (i.e., electricians, plumbers, gas specialists, service providers) will be created. Local contractors, service providers and suppliers will be sourced from the local area (i.e., St Francis, Humansdorp, Jeffreys bay) where possible. Once operational there will an increase in local rates and taxes, which will offer additional funds for upgrading/maintenance works on services and infrastructure within the local area.

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act and Environmental Impact Assessment Regulations	DEDEAT / DFFE	1998 / 2017
GN R. 327 (Listing Notice 1) Activity 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 —		

but excluding—

- (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour;
- (bb) 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;
- (cc) the development of temporary infrastructure or structures 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
- (dd) where such development occurs within an urban area.

GN R.327- Activity 18

The Planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square meters, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where —

- (i) the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or
- (ii) such planting of vegetation or placing of material will occur behind a development setback.

GN R.327- Activity 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 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

GNR 324 (Listing Notice 3) Activity 12.

The clearance of an area of 300 square metres or more of indigenous vegetation...

a. Eastern 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 the high water mark of the

sea, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;
 iv. Outside urban areas, within 100 metres inland from an estuarine functional zone; or
 v. 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.

Environmental Conservation Act (Act 73 of 1989)	DFFE	1989
Provincial Nature and Environmental Conservation Ordinance No 19 of 1974	DEDEAT	1974
National Heritage Resources Act 25 of 1999	SAHRA / ECPHRA	2008
National Environmental Management: Integrated Coastal Management Act, 2008	DFFE	2008
Coastal Management Programme SBDM	SBDM	2020
Kouga Spatial Development Framework	KLM	2020
National Environmental Management: Waste Act 2008	DFFE	2019
National Water Act (Act 36 of 1998)	DWS	1998
Conservation of Agricultural resources Act	DALRD	1983
National Environmental Management: Biodiversity Act 10 of 2004	DFFE	2004
National Forests Act 84 of 1998	DFFE	1998
Eastern Cape Biodiversity Conservation Plan (ECBCP)	DEDEAT	2007 / 2019
National Biodiversity Assessment (NBA)	DFFE	2004 / 2025
National Vegetation Map	DFFE	2003 / 2024

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	NO
10m ³	

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

Construction waste will be removed from the site by the appointed contractor to a registered waste disposal site. Excavated dune sand shall not be managed as construction waste, but rather shall be retained and reused within the approved infill and regrading area, as far as possible, subject to the final earthworks design.

Where will the construction solid waste be disposed of (describe)?

Closest registered transfer site

Will the activity produce solid waste during its operational phase?

YES	NO
1 dwelling x 2m ³	
2m ³	

If yes, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

The residential dwelling will be serviced by the KLM during operational phase.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	NO
-----	----

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO
-----	----

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

	NO
m ³	
	NO

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	
-----	--

If yes, provide the particulars of the facility:

Facility name:	Paradise Beach WWTW		
Contact person:	Mr A Botha		
Postal address:	P.O. Box 21, Paradise Beach		
Postal code:	6330		
Telephone:	042 200 2200	Cell:	
E-mail:	abotha@kouga.gov.za	Fax:	084 567 8989

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The dwelling will have a conservancy tank installed and sized accordingly. All effluent from the development will be reticulated, via newly installed connections, to an onsite conservancy tank system, which will be emptied via honey-sucker on a regular basis in line with municipal effluent management protocols. Relevant piping will need to be installed. The conservancy tank will need to be sealed at all times to prevent water pollution and serviced on a regular basis.

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

The development is proposed to entail the construction of a single residential dwelling including an access driveway, a timber platform, and service infrastructure (water supply, wastewater, electricity and stormwater). Construction activities will include site preparation, excavation and filling (estimated at approximately 253 m³), installation of foundations, service reticulation infrastructure and associated earthworks. Dust can be expected to be generated during construction activities, particularly during high wind conditions, until rehabilitation with vegetation is effective. Mitigation measures to control dust generation are included in the EMPr (Appendix F) which must be implemented to ensure that dust generation is minimised.

11(d) Generation of noise

Will the activity generate noise?

YES	NO
YES	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

Noise generated will mostly be from construction activities. All machinery will be within sound working order and will meet the necessary noise level requirements. Construction activities will be limited to daylight hours. Mitigation measures to control dust generation are included in the EMPr (Appendix F)

12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

municipal	water board	groundwater	river, stream, dam or lake	Other Rainwater tanks	the activity will not use water
------------------	-------------	-------------	----------------------------	--	---------------------------------

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month:

litres	
YES	NO

Does the activity require a water use permit from the Department of Water Affairs?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

A 2700 L rainwater harvesting tank, together with a water pump and filtration system, has been incorporated into the site development plan to harvest roof runoff, slightly reducing demand on the municipal water supply.

13. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

- Construction is to be carried out during regular working hours to reduce the use of artificial lighting.
- Contractors will be advised to schedule the transport required construction materials to / from site at the same time wherever possible
- Solar power has been included in the design
- Natural cooling and heating mechanisms (i.e., glazed windows) have been included in the design

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

A combination of gas and solar electricity will be used. Designs will incorporate orientation and insulation. Glazing and aluminium are proposed for the windows and doors to assist with energy efficiency and withstanding coastal elements. Low energy light fittings are recommended. Night lighting should be minimal and orientated to prevent visual impacts at night and on nocturnal fauna.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:



- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to create this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):

- Paragraphs 1 - 6 below must be completed for each alternative.

- Has a specialist been consulted to assist with the completion of this section?

YES	
-----	--

If YES, please complete form XX for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Refer to:

- Appendix D1 - Geomorphological assessment (van der Waal, 2026)
- Appendix D2 - A heritage report (Lavin, 2026)
- Appendix D3 - Compliance statement (terrestrial biodiversity, animal, plant and aquatic themes)
- Appendix D4 - Site verification report

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

B.1 Gradient

Erf 1363 is located on the secondary dune (60 m landward from the primary dune closest to the beach).; a large part of the property slopes towards the south-east. There are smaller undulations on Erf 1363 and a frontal dune ~50 m towards the east. Dune instabilities are possible along the face of the dune due to increased loadings (buildings and wet periods with saturated sands), thus with a possible movement in a south easterly direction.

The depth of instability is likely to be shallow (sub-meter to several meters) and the design of the foundations of the building should take this into account.

The beach and primary dunes migrate westwards as the sea level rises and a westward extension of the frontal dune is likely. The eastward part of the property could be raised (inundated by sand) in future years as the frontal dune migrates onto the property. The rate of movement is not known at this stage.

South of Erf 1363 is a pan-handle erf that will access the property from de Jager Street. This development can lead to excavations to grade the driveway exposing several meters of dune sand adjacent to Erf 1363. Retaining features will likely be put in place along the driveway, but shifts of the dune layers are possible over time, especially under wet saturated conditions. These shifts can affect the stability of the dune on Erf 1363.

To avoid these possible shifts, it is advised that the foundations/pylons of the building on Erf 1363 extend down as far as possible along the southwestern side of the building (engineering advice recommended on depths). This will allow movements of the upper part of the dune without impacting the foundations of the building on Erf 1363. The risk of these shifts is less towards the north of Erf 1363.

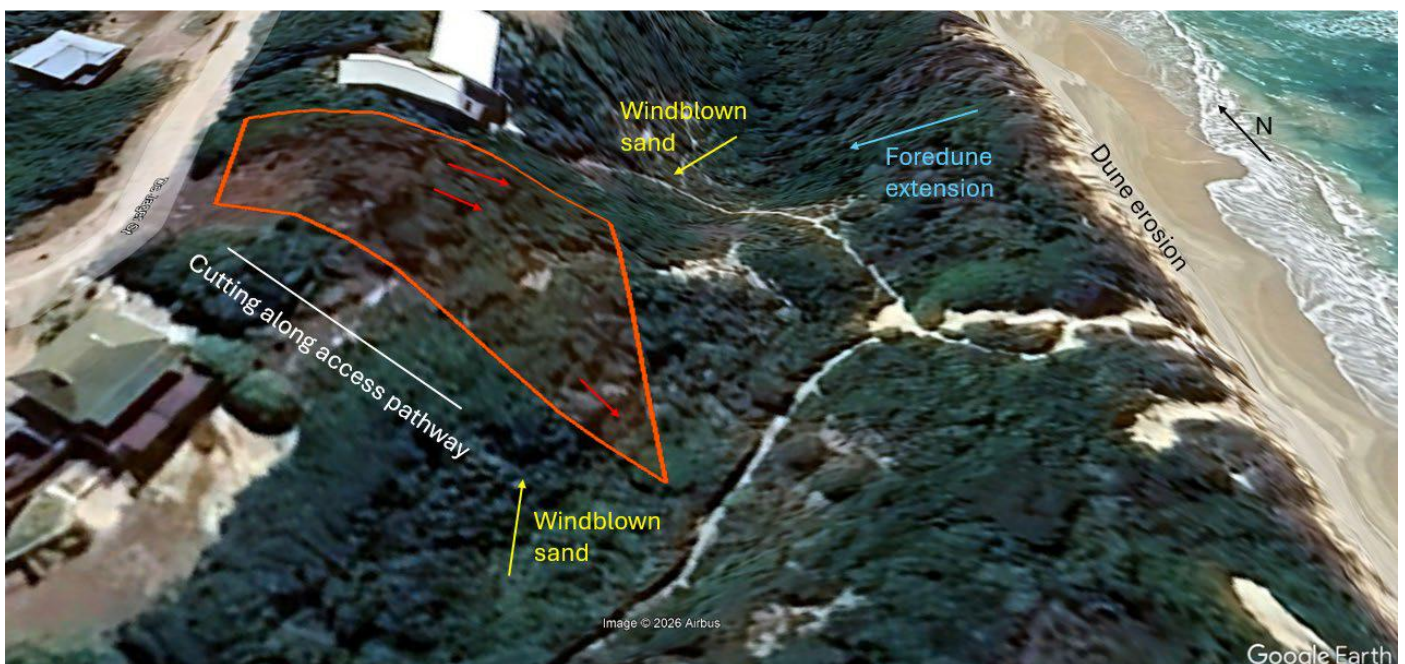


Figure 5: Oblique image indicating the likely processes in the future. The small red arrows indicate possible dune instabilities.

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

- 2.1 Ridgeline
- 2.2 Plateau
- 2.3 Side slope of hill/mountain
- 2.4 Closed valley
- 2.5 Open valley
- 2.6 Plain
- 2.7 Undulating plain / low hills
- 2.8 Dune**
- 2.9 Seafront**

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

Alternative S1:

Alternative S2 (if any):

Alternative S3 (if any):

Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

B.2 – Aquatic features

The study area is not part of a Strategic Water Source Area (surface or groundwater); no aquatic features were identified within close proximity (100 meters) to the site. The screening tool report generated for the site indicates a low sensitivity for the site. Verification is low sensitivity for the site.



Figure 6: Low aquatic sensitivity (DFFE STR)



Figure 7: No aquatic CBA or ESA (ECBCP, 2019) mapped on site

B.3 - Geology

The site is underlain by the Nanaga Formation. The Nanaga Formation is underlain by a wave-planed Ceres subgroup made up of resistant shale and fine-grained sandstone layers that form a shallow seaward-sloping rock platform (Toerien and Hill, 1989). The dunes and beaches are composed of shell fragments and quarzitic sands originating from

the Cape Supergroup rocks. Most of the coastal zone around the site consists of erodible aeolian sediment of fine to medium sand size, making the coastline vulnerable to degradation and slumping. (VAN DER WAAL, 2026)

B.4 Aeolian (wind-blown) sand

Dominant and strong wind directions drive aeolian transport across the shore in a north-easterly direction (south-westerly wind) and in a westerly direction (easterly wind) (Theron and Rossouw, 2008). Theron and Rossouw calculated that an increase of wind speed by 10 % can result in a wave height increase of ~ 26 % and a sediment transport rate increase of ~49 to 100%. Historical measurements and future predictions indicate an increased intensity and frequency of storm events (Guastella and Rossouw, 2009).

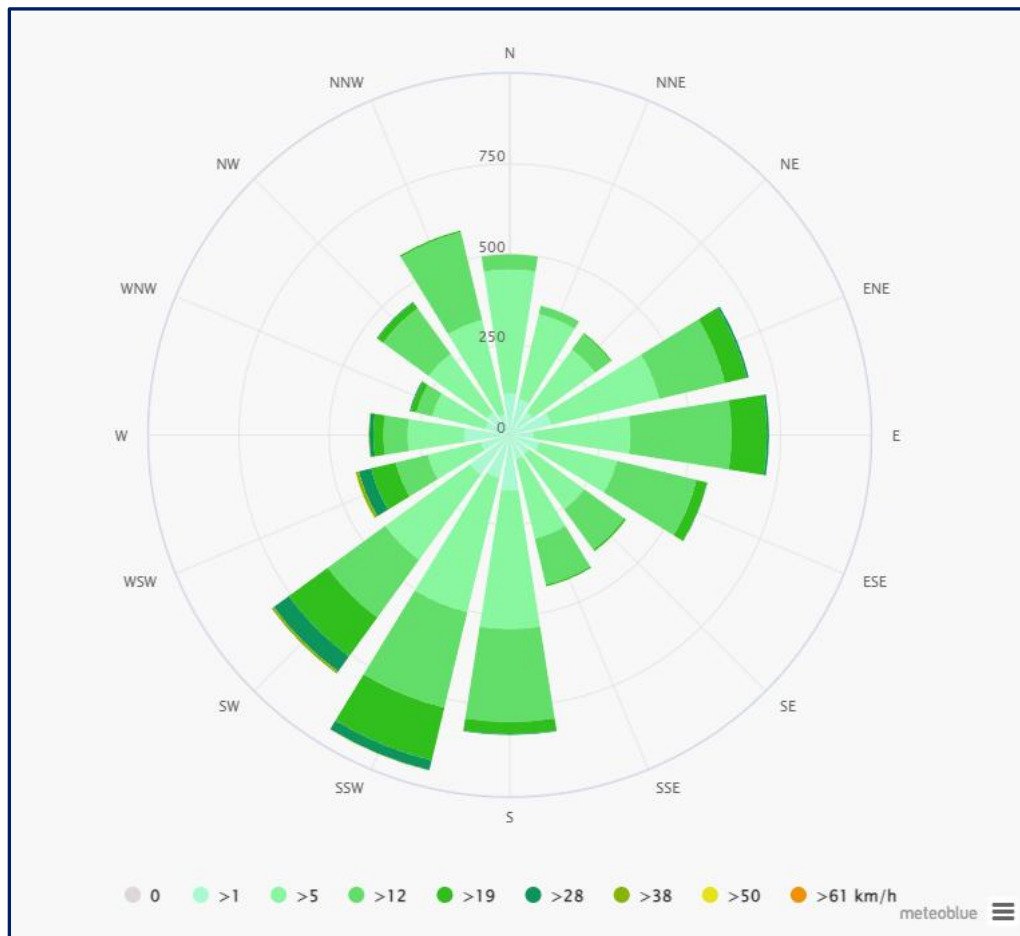


Figure 8: Wind rose for Jeffreys Bay based on 30 years of hourly simulations (Source: MeteoBlue)

B.5 Wave direction and sediment transport

The majority of the waves experienced along the Paradise Beach coastline generate in the Southern Ocean due to the predominant westerly winds occurring further south in the gale belt of the ‘Roaring Forties’. These approach the coast from a south-westerly direction and have a long wave period. As a result of refraction effects around the Cape St Francis point, the waves approach the coast at an oblique angle which drives longshore currents and associated sediment transport. The longer-period waves often move sand from the offshore sandbank to the beach (Illenberger and Schumann, 2022).

Erosional events occur in summer during cutoff lows when locally produced large waves associated with strong easterly winds drive high energy waves from an easterly direction into these east-facing bays (Illenberger and

Schumann, 2022). These high-energy waves drive beach erosion, moving beach sand towards the offshore sand bars during high-wave events (Illenberger and Schumann, 2022).

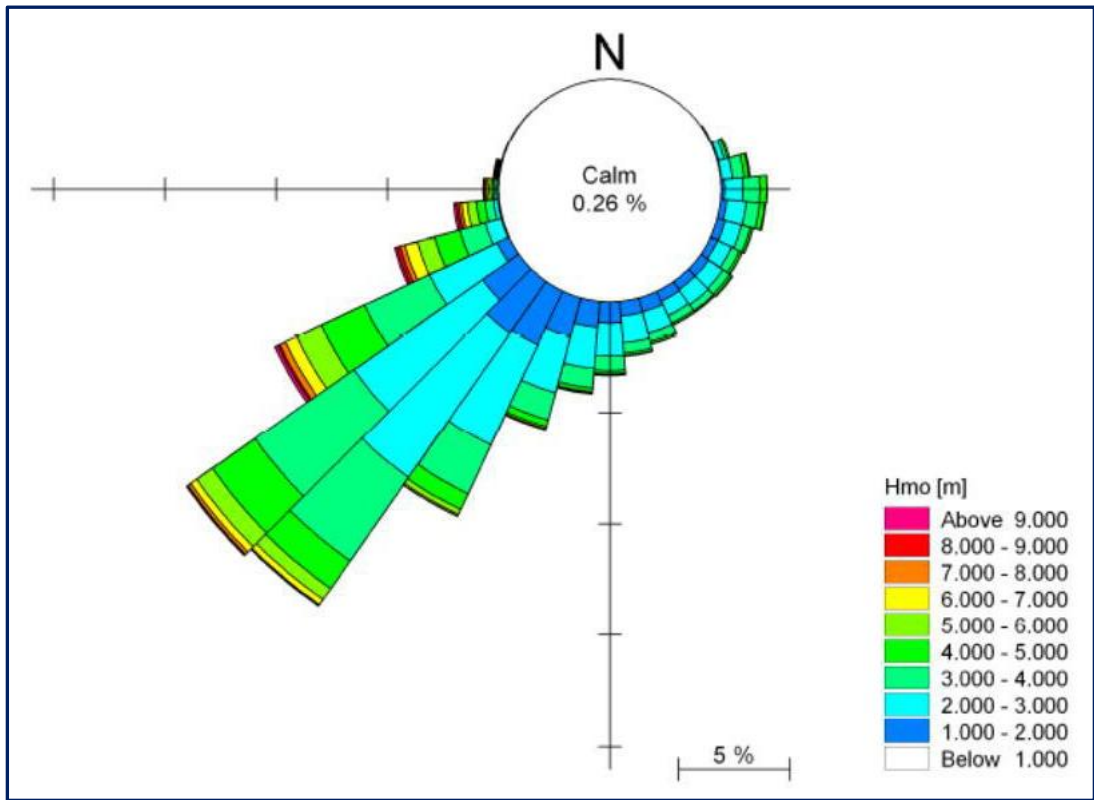


Figure 9: Wave Rose for Cape St Francis for 15 years of data (PRDW 2009 presented in Illenberger and Schumann, 2022)

B.6 Dune dynamics

Most of the South African coastline consists of sandy beaches backed by dunes which are generally a mixture of modern and ancient lithified dune systems. The dunes act as a sediment store for these dynamic landscapes.

The dynamic zone should ideally not be stabilised so that coastal processes such as sand migration, storage and erosion continues without impacting infrastructure. Indigenous coastal vegetation is adapted to these dynamic landscapes; pioneer to climax vegetation structures develop around the coastal morphodynamics and resultant habitat dynamics. Invasive plants are known to outcompete native species and form dense vegetation which stops sediment transport. Soft sandy coastlines, as seen at the site, are constantly changing due to wave and wind action, the changing sand input from the rivers, near-shore environment as well as sea level rise. Reductions in sand availability in the littoral zone, due to dune bypass stabilisation and dams trapping terrigenous sediment, drive foredune erosion to supplement the sand budget. (Tinley, 1985 as cited by VAN DER WAAL, 2026)

Coastal beach-dune systems are unstable dynamic zones due to interactions of wave and aeolian sediment erosion and transport (Knight and Burningham, 2021). The level of dune stability increases landward and the foreshore and backshore experiencing frequent changes (hours to weeks); the fixed dunes experience change on a monthly to decadal+ timescale (Tinley, 1985)(VAN DER WAAL, 2026)

The typical progression of vegetation cover, stability and sediment transport activity for a beach and dune is shown below in Figure 10 . Beach-dune systems show a gradient in dune and vegetation stability due to how often each area is affected: foreshore and backshore are frequently reworked, foredunes only during larger, less common events, and central/back dunes during rare major occurrences like sea level changes. This progression should be reinstated where possible to reduce damage to infrastructure within the dune zone.

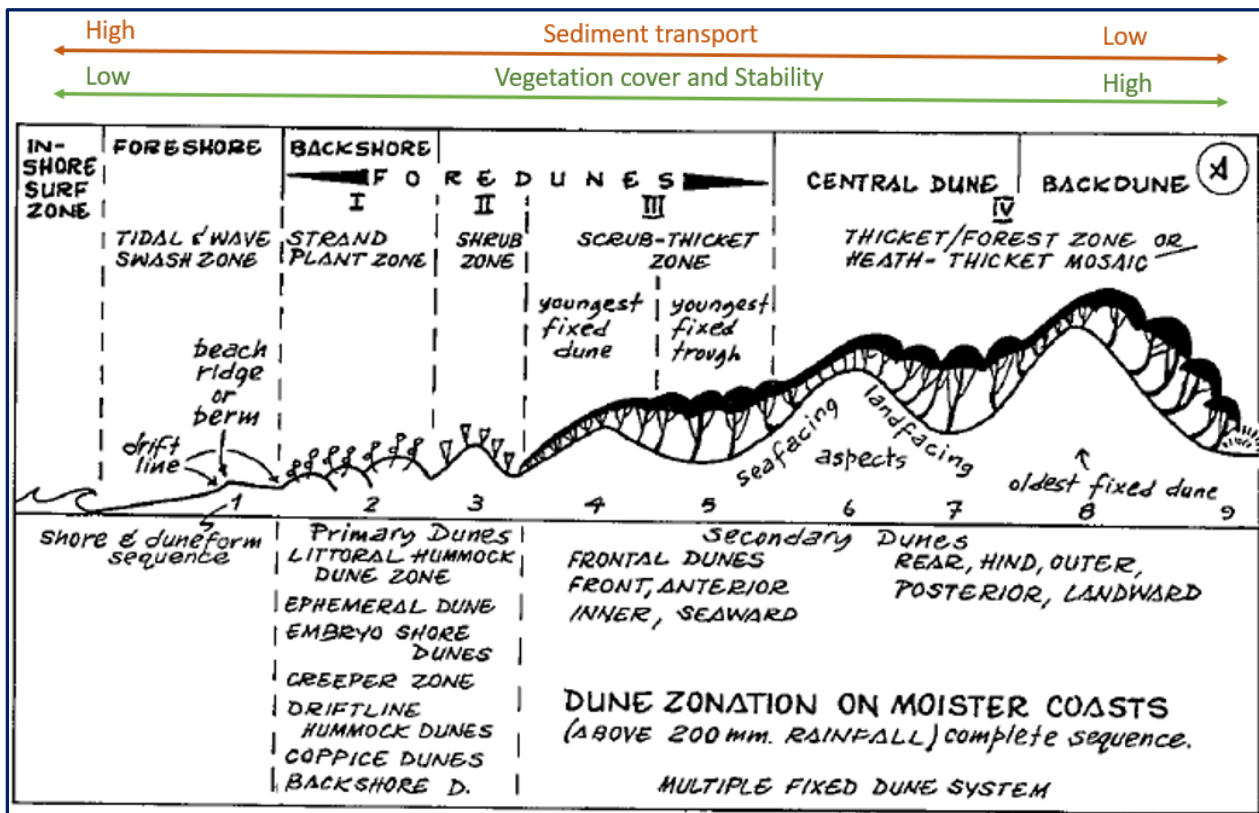


Figure 10: Dune zonation, vegetation cover, stability and sediment transport for a beach to back dune transect (Tinley, 1985)

Blowouts can develop as a result of:

- destruction of protective vegetation on a foredune or dune ridge when winds are very strong or
- the ridge becomes excessively steep
- fires destroying dune vegetation
- footpaths and vehicle access paths on retention ridges (Illenberger and Schumann, 2022).

These poorly vegetated patches act as a source of sand for parabolic dune formation (Illenberger and Schumann, 2022). The parabolic dunes often migrate inland, posing threats of sand inundation to infrastructure. Several blowouts are visible on the steep eroding foredune in the area of Erf 1363 (Figure 11).

The Kouga LM has commissioned a Basic Assessment (BA) and Environmental Maintenance Management Plan (EMMP) to respond to problems and enable management in their area of jurisdiction. A basic assessment process has been followed to implement a maintenance management plan for the coastal and estuary environment falling in the coastal area between the Kromme and Kabeljous beaches, including the Seekoei Estuarine Functional Zone (EFZ). This study area includes the dune and coastal area immediately east of the Erf 1363. A number of footpaths are in place; beach access pathways can alter the vegetation cover, structural roughness and wind pattern. Beach access areas should be of such character that it does not funnel the dominant winds (south-westerly and easterly winds) towards infrastructure; the KLM propose to make use of interventions (i.e., sand traps) in this area (FBAR, CEN IEM Unit, 2024). The Kouga Maintenance Management Plan for the Coastal Area between the Kromme and Kabeljous beaches, and the Seekoei Estuarine Functional Zone, indicates that dune restoration - sand traps, brush packing and sand barriers is a high priority and should start within 1 – 2 years of the approval of the environmental authorisation and the maintenance management plan. Refer to Figure 12.



Figure 11: Satellite image showing Erf 1363 (orange outline) in relation to the steep eroding foredunes (yellow dashed line) and blowouts (VAN DER WAAL, 2026).

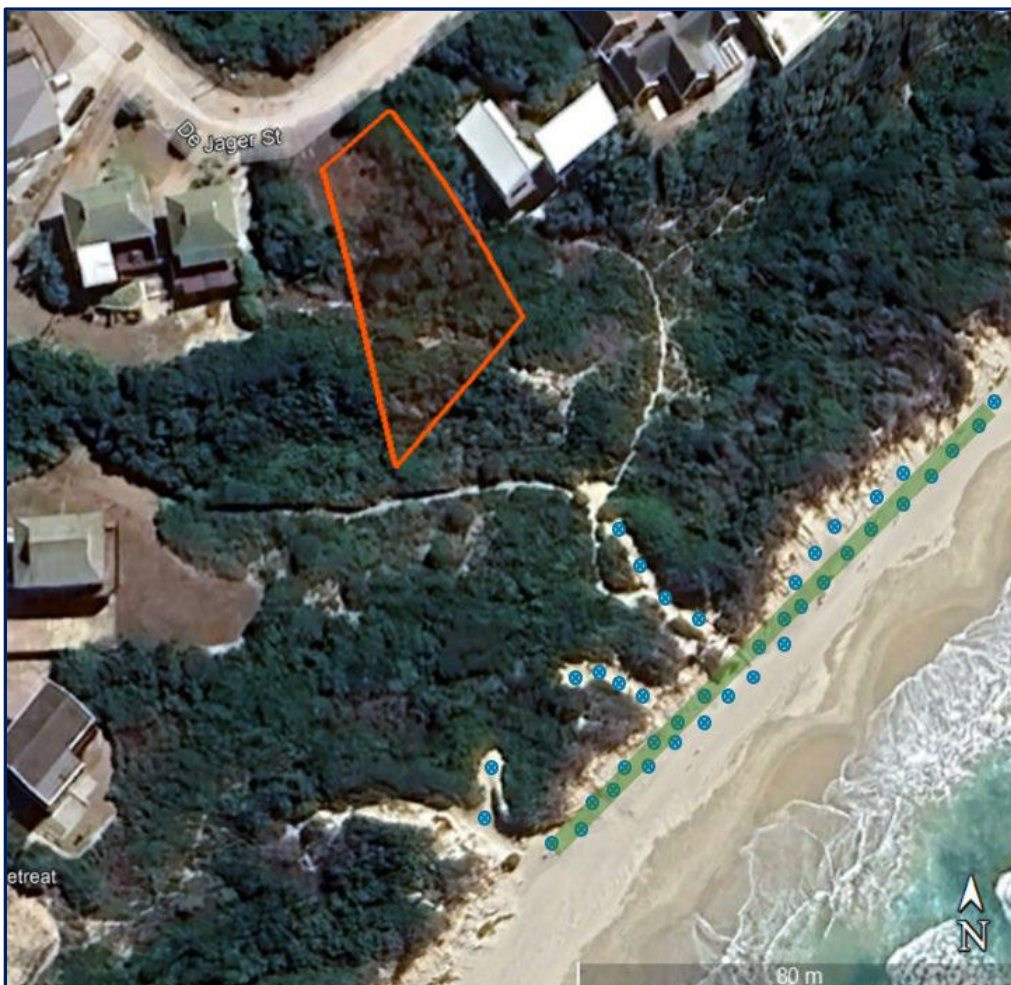


Figure 12: Planned interventions in the adjacent coastal area which are included in EMPr and maintenance management plan prepared for KLM to trap sand with brushwood piles (blue circles) and establish pioneer dune vegetation (green highlight); no footpaths should be created in this area.

B.7 Dune and beach dynamics

Historical images from 1942 onwards shows that the dunes were less vegetated and more mobile in the past and the beach seems to be wider, possibly supporting a larger foredune sequence as a result of unconstrained sediment supply. It is estimated that the current sediment supply is $\sim 1/3$ of the historic volumes resulting in beach narrowing and dune erosion (Illenberger and Schumann, 2022; Schroeder, 2015).

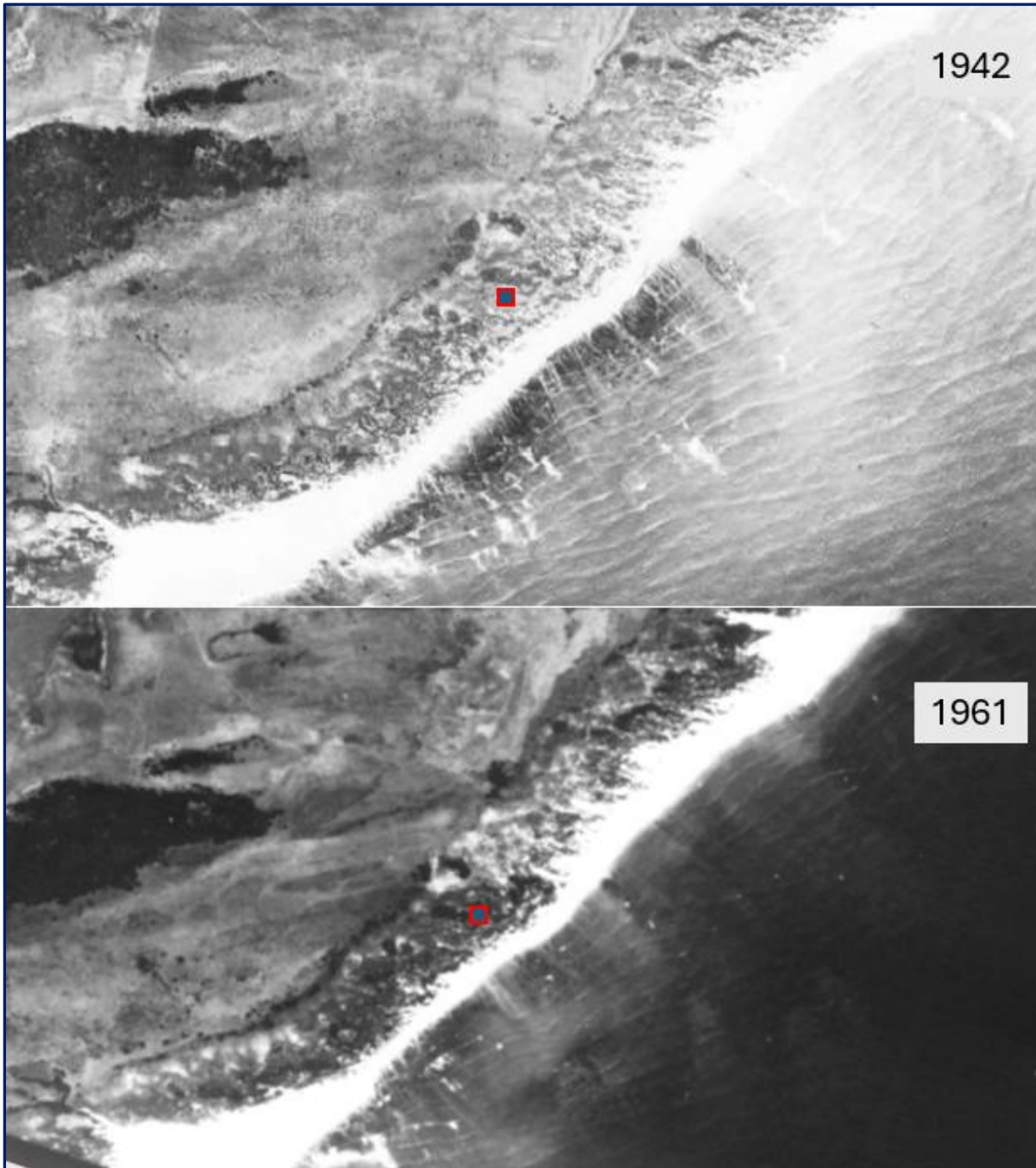


Figure 13: Historical aerial images for 1942 and 1961 of the coastline in the area of Erf 1363 (estimate as red square)

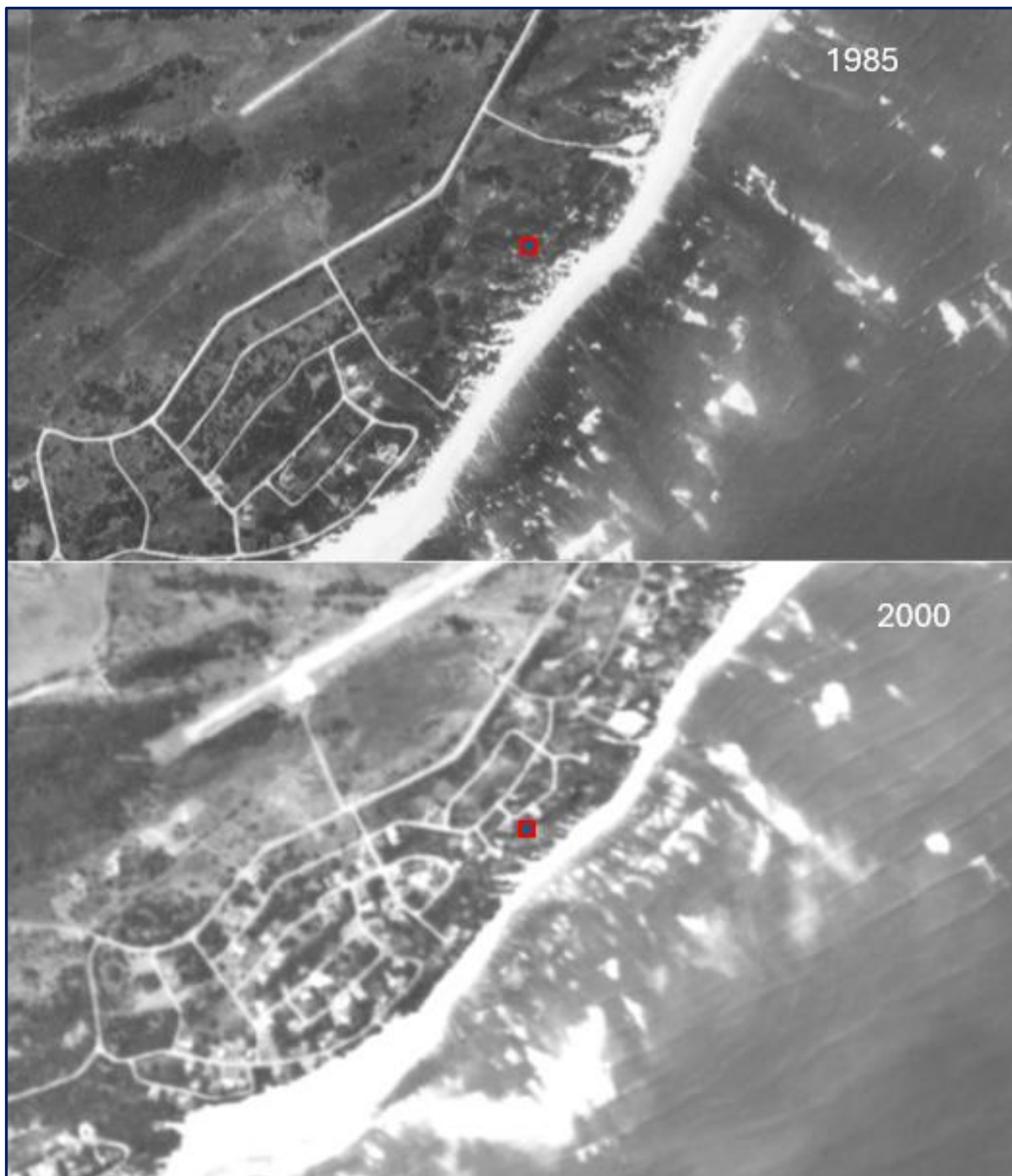


Figure 14: Historical aerial images for 1985 and 2000 of the coastline in the area of Erf 1363 (estimate as red square)

Province of the
EASTERN CAPE

ECONOMIC DEVELOPMENT,
ENVIRONMENTAL AFFAIRS & TOURISM


 Province of the
EASTERN CAPE
 ECONOMIC DEVELOPMENT,
 ENVIRONMENTAL AFFAIRS & TOURISM

4.2 Natural veld – scattered aliens E

4.3 Natural veld with heavy alien infestation E

4.5 Gardens

4.6 Sport field

4.7 Cultivated land

4.8 Paved surface

4.9 Building or other structure

4.10 Bare soil

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

B.8 Terrestrial Biodiversity

Version 1 October 2022

In terms of the CBA classification (ECBCP 2019), no designated terrestrial Critical Biodiversity Areas or Ecological Support Areas overlap with the site (Figure 16 and Figure 7).



Figure 16: No terrestrial CBA or ESA (ECBCP, 2019) mapped on site

In terms of the National Vegetation Map, 2024, the vegetation on the site is mapped as southeastern Strandveld, however, in terms of the National vegetation Map, 2019, the vegetation is mapped as St Francis Dune Thicket (least concern). The National Biodiversity Assessment (NBA) is the primary tool for monitoring and reporting on the state of biodiversity in South Africa and informs policies, strategic objectives, and activities for managing and conserving biodiversity more effectively. Ecosystem protection level is an indicator of how well represented an ecosystem type is in the protected area network. It has been used as a headline indicator in national reporting in South Africa since 2005. **In terms of the NBA, 2025**, St Francis dune thicket has an ecosystem status of least threatened and Southeastern Strandveld has an ecosystem status of endangered. In terms of the National Biodiversity Assessment, no remnant ecosystems are mapped on site (NBA 2022 and **2025**) (Figure 17 and **Figure 18**)



Figure 17: No remnant ecosystems mapped on site (NBA, 2022)

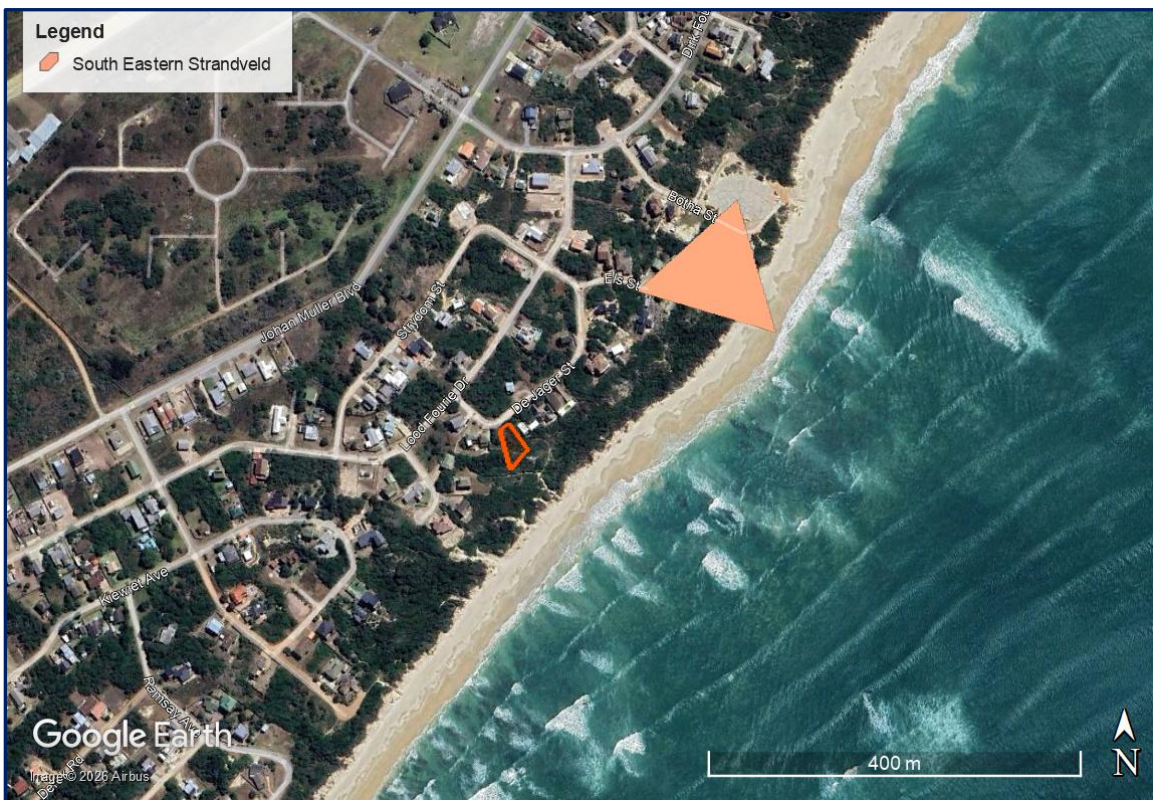


Figure 18: No remnant ecosystems mapped on site (NBA, 2025)

Terrestrial Biodiversity Sensitivity

Erf 1363 is located on the secondary dune (60 m landward from the primary dune closest to the beach) and within 100 meters of the HWM; the HWM generally corresponds to areas of seashore vegetation, and the site is typical of st Francis Dune thicket, with some alien invasive infestation and no aquatic features on the site or within 100 meters of the site. The sensitivity was verified through a desktop assessment, review of biodiversity datasets and a site inspection.

An overall vulnerability assessment of site, incorporating key vegetation and ecological indicators was undertaken and includes the following key criteria:

- relative levels of *intactness* in terms of overall loss of indigenous vegetation cover.
- presence, diversity, and abundance of *species of special concern* (weighted in favour of local endemic species).
- extent of *invasion* (severity and overall ecological impact), as well as the degree to which successful rehabilitation could take place.
- overall degradation incorporating above factors.
- relative importance of the vegetation communities relative to regional conservation status - indicated as vulnerability of the area because of loss.

Intactness

Three basic classes are differentiated as follows:

- **Low:** > 75 % of original vegetation has been removed or lost; and/or no species of special concern present that are critically endangered, endangered, or endemic with highly localised distribution.
- **Moderate:** 25 - 75 % of original vegetation has been removed/lost; and or presence of species of special concern but not having high conservation status or high levels of endemism or highly localised distributions.
- **High:** < 25 % of original vegetation has been removed or lost; and or presence of species with a highly endemism and or high conservation status (endangered or critically endangered).

Intactness for the site is **Moderate**.

INTACTNESS	INVASION		
	LOW	MODERATE	HIGH
High	Pristine	Near Pristine	Moderately Degraded
Moderate	Near Pristine	Moderately Degraded	Severely Degraded
Low	Moderately Degraded	Severely Degraded	Transformed

Alien Invasion

Three classes are differentiated as follows:

- **Low:** no or few scattered individuals.
- **Moderate:** individual clumps of invasives present but cover less than 50% of original area.
- **High:** dense, impenetrable stands of invasives present, or cover > 50 % of area with substantial loss functioning. Rehabilitation will most likely require specialised techniques over an extended period (> 5 years).

Alien invasion for the site is **LOW**.

Degradation

Overall Degradation is determined from the above alien invasion and intactness scores, according to the following matrix:

Degradation for the site is **Low to medium** (slightly transformed)

Overall Sensitivity score

Overall vulnerability (or Sensitivity) of the vegetation within the site is calculated according to the following matrix which combines degradation and overall conservation status of the vegetation units of the site.

Overall sensitivity is moderate.

DEGRADATION	CONSERVATION STATUS			
	LEAST THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED
Severely degraded/Transformed	Very Low	Low	Moderate	Moderate - High
Moderately degraded	Low	Moderate	High	High
Ecologically Pristine or near Pristine	Moderate	Moderate - High	High	Very High (No-Go area)

The erf is an estimated 741.6 m² in extent and approximately 45% of the erf will be developed and the remaining area will remain intact which includes the secondary dunes situated on the eastern (coastal) side of the erf. Based on the baseline data, location and site conditions and the nature and scale of the site and development, the verified terrestrial biodiversity sensitivity is Low.

Indigenous flora on site

The STR indicates a medium sensitivity for the plant species theme (Figure 19).

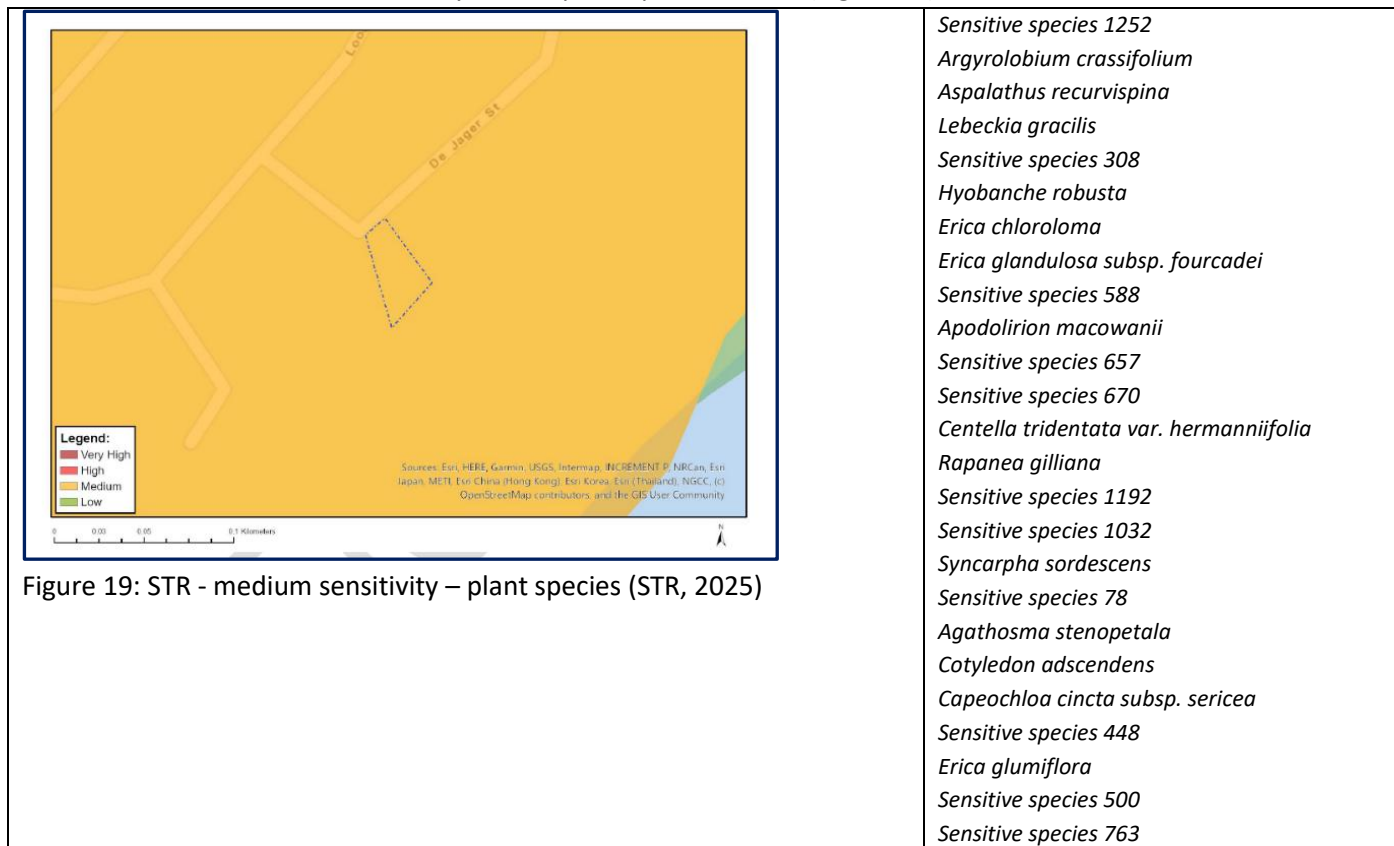


Figure 19: STR - medium sensitivity – plant species (STR, 2025)

The site comprises an existing residential erf situated within the coastal residential area of Paradise Beach. In terms of the National Vegetation Map, 2024, the vegetation on the site is mapped as southeastern Strandveld (Figure 20); in

terms of the National vegetation Map, 2019, the vegetation is mapped as St Francis Dune Thicket (least concern) (Figure 21).

Land cover and remnant vegetation data reflects the site is comprised of natural and degraded St Francis dune thicket vegetation, no fynbos species are present and therefore the site is not representative of southeastern Strandveld of the fynbos biome; the vegetation present is typical St Francis Dune Thicket (as mapped in terms of the National Vegetation Map, 2019) and not fynbos, with indigenous dune shrubs and succulent characteristic of the vegetation type.



Figure 20: Site falls within 100 meters of the High water mark of the sea; Vegetation mapped as southeastern Strandveld (NATVEG, 2024)

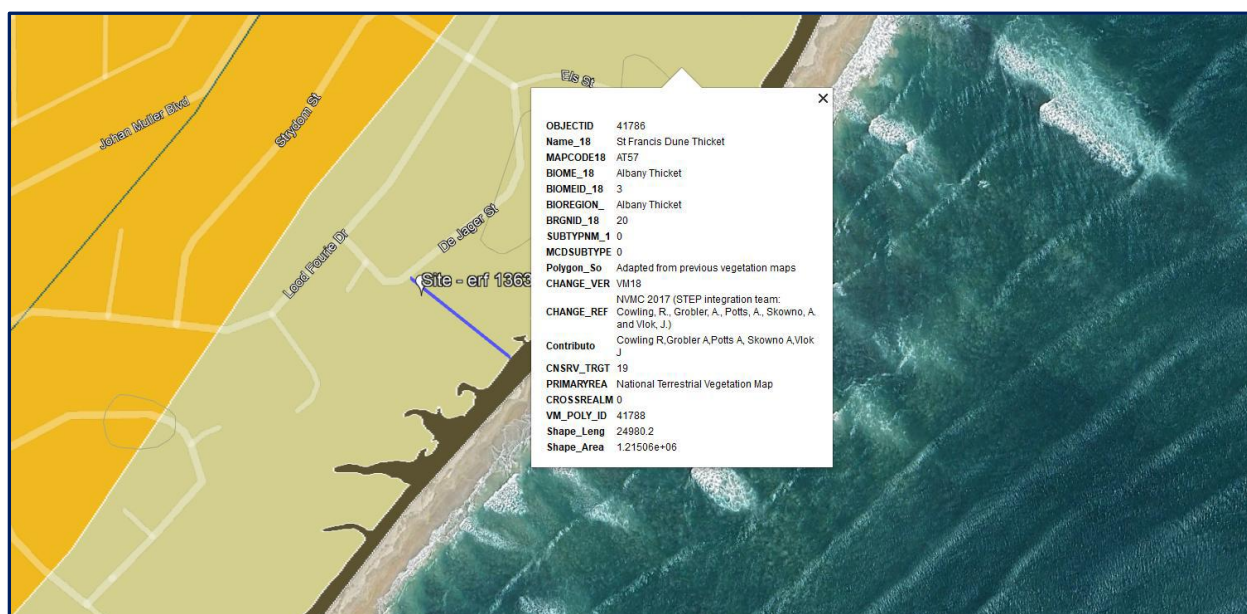


Figure 21: Vegetation mapped as St Francis Dune Thicket (least concern) (NatVEG map, 2019)

St Francis Dune Thicket (NBA, 2022)

Type history: STEP map - Algoa Dune Thicket (36 %), Colchester Strandveld (20 %), St. Francis Dune Thicket (38 %); 2012 VEGMAP – AZs 1 Algoa Dune Strandveld (88 %), FFd 11 Southern Cape Dune Fynbos (7 %)

Distribution: This thicket unit occurs in the Eastern Cape Province. In coastal stretches from near the Tsitsikamma River Mouth (west of Oyster Bay) eastward to the Sundays River Mouth.

Vegetation and Landscape Features: Flat to moderately undulating coastal dunes. A mosaic of low (1 - 3m) thicket, occurring in small bush clumps dominated by small trees and woody shrubs, in a mosaic of low (1 - 2 m) asteraceous fynbos. Thicket clumps are best developed in fire-protected dune slacks, and the fynbos shrubland occurs on upper dune slopes and crests. The fynbos component in the vegetation diminishes from west to east, with *Portulacaria afra* occurring occasionally east of Port Elizabeth.

Geology and Soils: The vegetation type is mostly restricted to the Schelm Hoek Formation with the main land types being Ha and Ia.

Climate: The MAP is between 397 mm and 868 mm. The mean monthly maximum is 25.21 °C in February and the mean monthly minimum is 8.31 °C in July. Altitude ranges from 0 - 221 masl.

Conservation Target: 19 %; Conserved in Cape Recife Nature Reserve, Sardinia Bay Nature Reserve, Nelson Mandela Bay Metropolitan University Private Nature Reserve, Rebelsrus Private Nature Reserve

Area transformed: 14.13 %

Threat activities: Mining, alien invasions by *Acacia cyclops*, urban sprawl, erosion low

Protection Level: Poorly protected

Important Taxa: (d=dominant, e=South African endemic, et=possibly endemic to a vegetation type)

Small tree

Olea capensis, *Pterocelastrus tricuspidatus* (d), *Sideroxylon inerme* (d), *Tarchonanthus littoralis* (d)

Succulent shrub

Cotyledon adscendens, *Carpobrotus acinaciformis* (e), *Cotyledon orbiculata* (e), *Crassula nudicaulis*, *Euphorbia mauritanica*, *Gasteria acinacifolia* (e), *Portulacaria afra*, *Zygophyllum morgsana*, *Aloe africana* (d)

Low shrub

Coleonema pulchellum (d), *Erica chloroloma*, (e), *Erica glumiflora* (d), *Erica zeyheriana* (e), *Eriocephalus africanus* var. *paniculatus* (e), *Felicia echinata* (e), *Morella cordifolia* (d), *Muraltia spinosa* (d), *Phyllica ericoides* (d), *Syncarpha sordescens* (d)

Graminoid

Andropogon eucomus, *Cymbopogon pospischilii*, *Cynodon dactylon* (d), *Ehrharta calycina*, *Eustachys paspaloides*, *Digitaria eriantha*, *Pentasmeris heptameris*, *Pentameris pallida*, *Restio eleocharis* (d), *Stenotaphrum secundatum*, *Thamnochortus cinereus* (e), *Themeda triandra* (d), *Tristachya leucothrix*, *Imperata cylindrica* (d)

Tall shrub

Azima tetracantha (d), *Carissa bispinosa* (d), *Mystroxydon aethiopicum* subsp. *aethiopicum* (e), *Cassine peragua*, *Cussonia thyrsiflora* (d), *Euclea racemosa* (d), *Grewia occidentalis*, *Gymnosporia buxifolia*, *Gymnosporia capitata* (e), *Lycium cinereum*, *Lycium ferocissimum*, *Maytenus procumbens*, *Metalasia muricata* (d), *Olea exasperata* (d), *Osteospermum moniliferum* (d), *Passerina rigida* (d), *Putterlickia pyracantha* (d), *Robsonodendron maritimum* (e), *Searsia crenata* (d), *Searsia glauca* (e), *Searsia pterota* (e), *Rapanea gilliana* (d)

Geophytic herb

Brunsvigia littoralis (e)

Herb

Pelargonium suburbanum subsp. *suburbanum* (e), *Agathosma stenopetala* (e), *Aspalathus cliffortiifolia* (et), *Aspalathus recurvispina* (et), *Othonna rufibarbis* (et)

Herbaceous climber

Cynanchum natalitium (e), *Rhoicissus digitata*, *Solanum africanum* (e) Woody succulent climber, *Cynanchum viminalis* (e)

Woody climber

Land cover and remnant vegetation data reflects the site is comprised of natural and degraded St Francis dune thicket vegetation, no fynbos species are present and therefore the site is not representative of southeastern Strandveld of the fynbos biome. Thicket plants such as *Olea capensis*, *Sideroxylon inerme* (d), *Rhus longispina*, *Pelargonium sp.* *Agathosma sp* (e), *Cussonia thyrsiflora* (d), *Euclea racemosa* (d), *Grewia occidentalis* and *Carpobrotus* and *Crassula sp.* occur on site. Some invasive Rooikrans (*Acacia cyclops*) trees occurs in the surrounding area.

The five (5) meter area (Erf 1133) between the development site and the north eastern neighbour is designated to be retained as open space area and is owned and managed by the KLM.

No endangered or Critically Endangered plant species were recorded within the proposed development footprint. Indigenous plant species protected in terms of the Eastern Cape Provincial Nature Conservation Ordinance occur within the site (i.e., *Carpobrotus* spp., *Bulbine* spp. and *Agathosma* spp) however, these species are common within the surrounding coastal dune system, and the limited development footprint minimises vegetation loss. A permit will be required from the DEDEAT for removal and relocation of plants protected in terms of the PCNO.

There is one Milkwood tree which occurs adjacent to the open space area, just outside the boundary of Erf 1363; A second Milkwood tree occurs on the south-eastern section of the erf; a third Milkwood tree occurs on the western boundary of Erf 1363 (Refer to **Figure 22**). The Milkwood tree is protected in terms of the National Forest Act (Act 84 of 1998) (NFA); the Milkwood trees occurring on the site fall outside the development footprint and will be retained and will not be disturbed by the proposed development (Refer to Alternative Layout 2 in Appendix A2)

ID	Approximate coordinates
Milkwood A	34° 6'20.53"S; 24°53'15.98"E
Milkwood B	34° 6'21.33"S; 24°53'16.58"E
Milkwood C	34° 6'21.05"S; 24°53'15.75"E



Figure 22: Location of milkwood trees identified on the land portion

Terrestrial Fauna

The STR indicates a Medium sensitivity for the animal species theme (Figure 23).

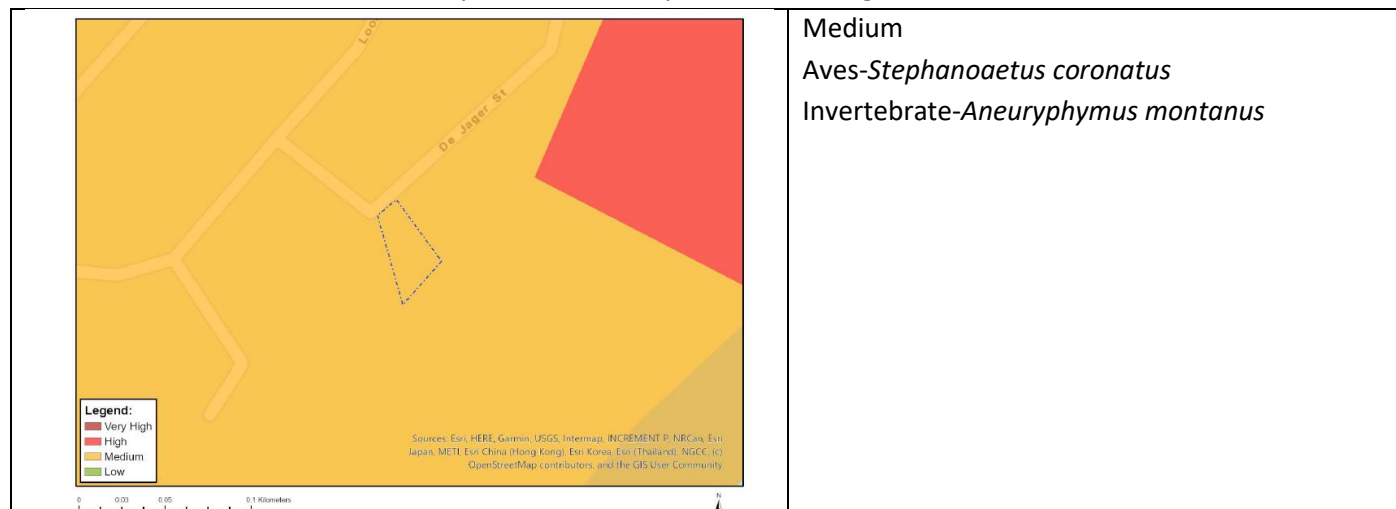


Figure 23: STR indicates a medium sensitivity for Animal species

The site comprises a small residential erf supporting coastal dune vegetation. The site is underlain by windblown sand and is designated as residential 1 with the surrounding area being the seafront and other houses. Faunal use is expected to be limited to common indigenous birds, reptiles and small mammals associated with the surrounding dune system. These animals are likely to occur as transient visitors due to the existing coastal residential character of the area. Species identified by the Screening Tool are not likely occurring on the site.

Stephanoaetus coronatus (crowned eagle) is not commonly spotted in the coastal area of Jeffreys Bay as the natural habitat includes indigenous forest and mountain areas.

Aneuryphymus montanus (Yellow-winged Agile Grasshopper) is associated with fynbos vegetation and rocky habitats, none of which occurs on the site.

The site is not located within a Key Biodiversity Area or Important Bird Area. No Endangered or Critically Endangered fauna species were recorded during the site assessment, and no suitable breeding or critical habitat occurs within the limited development footprint.

The proposed activity comprises a single residential dwelling with a limited hard footprint and the remainder of the dwelling raised off the ground. The proposed development is not expected to significantly affect habitat availability or faunal movement. Suitable habitat remains within the surrounding coastal landscape. The verified faunal sensitivity associated with the proposed activity is considered Low.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area

5.2 Low density residential

5.3 Medium density residential

5.4 High density residential

5.5 Informal residential

5.6 Retail commercial & warehousing

5.7 Light industrial

EAP Services

- 5.8 Medium industrial ^{AN}
- 5.9 Heavy industrial ^{AN}
- 5.10 Power station
- 5.11 Office/consulting room
- 5.12 Military or police base/station/compound
- 5.13 Spoil heap or slimes dam^A
- 5.14 Quarry, sand or borrow pit
- 5.15 Dam or reservoir
- 5.16 Hospital/medical centre
- 5.17 School
- 5.18 Tertiary education facility
- 5.19 Church
- 5.20 Old age home
- 5.21 Sewage treatment plant^A
- 5.22 Train station or shunting yard ^N
- 5.23 Railway line ^N
- 5.24 Major road (4 lanes or more) ^N
- 5.25 Airport ^N
- 5.26 Harbour
- 5.27 Sport facilities
- 5.28 Golf course
- 5.29 Polo fields
- 5.30 Filling station ^H
- 5.31 Landfill or waste treatment site
- 5.32 Plantation
- 5.33 Agriculture
- 5.34 River, stream or wetland
- 5.35 Nature conservation area
- 5.36 Mountain, koppie or ridge
- 5.37 Museum
- 5.38 Historical building
- 5.39 Protected Area
- 5.40 Graveyard
- 5.41 Archaeological site

5.42 Other land uses (describe) – Dune and coastal

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:

If YES, specify:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:

If YES, specify:



6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including

Archaeological or palaeontological sites, on or close (within 20m) to the site?

YES	NO
No	

If YES, explain:

The STR indicates a low sensitivity for the archaeological and cultural heritage theme. The STR indicates a Features with a Very High paleontological sensitivity. A single residential dwelling will be developed on the erf.

A report has been compiled by Jenna Lavin which has accompanied the Notice of Intent submission to the ECPHRA.

The area proposed for development is located within 100 m of the high-water mark and may therefore be at risk of impacting on shell-midden archaeological resources, especially in close proximity to rocky shores. However, no shell-midden sites are known from this stretch of coastline. Based on the limited footprint of the proposed development as a small, single residential structure with limited associated excavations, it is unlikely that the proposed development will negatively impact on significant archaeological heritage.

The area proposed for development is underlain by sediments of the Nanaga Formation of the Algoa Group (Wilken, 2026 as cited by Lavin, 2026) which notes that this formation mostly devoid of significant fossils, however, minute fragments of marine macro-organisms, foraminifera and occasional extant land gastropods are present. Based on the limited nature and scale of the proposed development, the likelihood that significant fossil heritage will be negatively impacted by the proposed development is low and as such, no further paleontological assessment is recommended.

Should any fossil material or archaeological heritage be uncovered during the course of construction activities, work must cease and ECPHRA must be contacted regarding an appropriate way forward.

Measures to prevent impact on paleontological resources are recommended and are included in the EMPr submitted with the BAR.

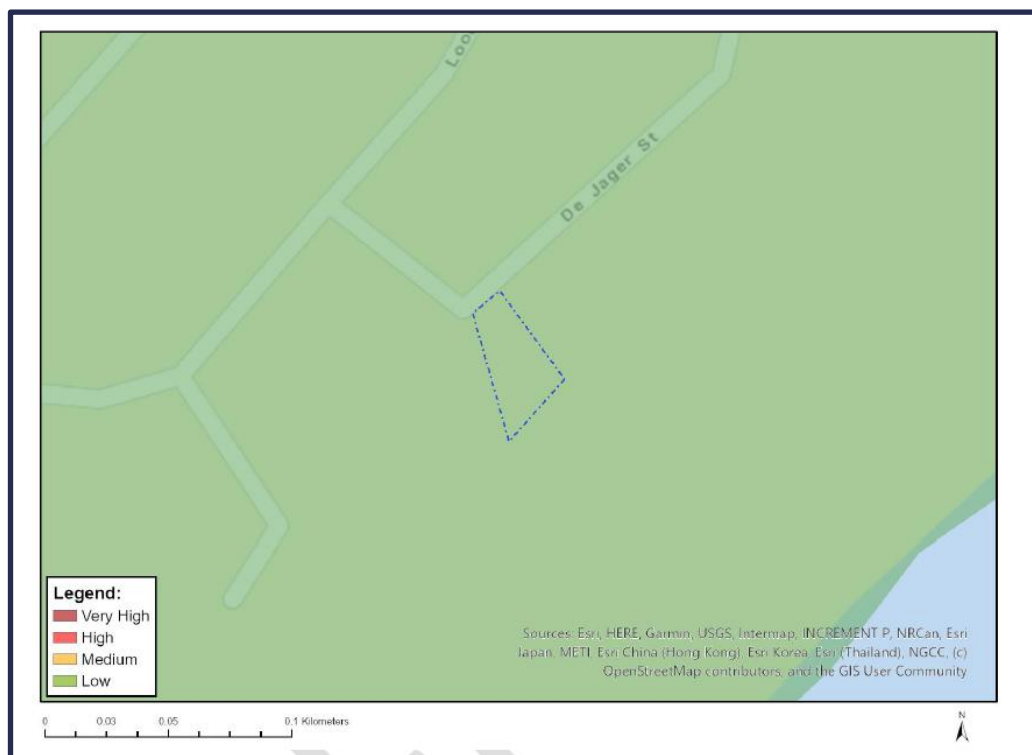


Figure 24: Low sensitivity indicated for archaeological and cultural heritage theme



Figure 25: Medium sensitivity indicated for paleontology theme

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

Based on the limited footprint of the proposed development as a small, single residential structure with limited associated excavations, it is unlikely that the proposed development will negatively impact on significant archaeological heritage.

Based on the limited nature and scale of the proposed development, the likelihood that significant fossil heritage will be negatively impacted by the proposed development is low and as such, no further paleontological assessment is recommended.

Will any building or structure older than 60 years be affected in any way?

YES

NO

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES

NO

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

Note: The ECPHRA has responded to the NID to confirm that no additional assessments are required for this development.

ECPHRA acknowledges receipt of the NID (Notice of Intent to Develop), Draft BAR and the EMPr submitted for the proposed development. Upon review, the proposed development is not expected to impact heritage resources therefore it is exempted from undertaking further heritage assessments, in line with Section 38(2b) of the NHRA.

This has been included in Appendix E – Public Participation and comments and response report

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
 - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) **one local newspaper**; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation;
- (b) and state—
 - (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;

- (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
- (iii) the nature and location of the activity to which the application relates;
- (iv) where further information on the application or activity can be obtained; and
- (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

Notice of intention to submit an application for an EA in terms of the NEMA and encourage registration of interested and affected parties (IAPS) have been distributed as follows:

- Two notice boards will place on site - 15 January to 16 February 2026;
- Adverts will be placed in The Kouga Express : 15 January to **16 February 2026**
- Notice of intent to develop or submit EA application were sent to the landowner, adjacent landowners, relevant state departments, stakeholders and other identified potential IAPs. .
- A 30-day registration has been provided: 15 January to 16 February 2026;
- The post application draft BAR will be distributed to all IAPs for a 30 day review and comment period: 1 June – 1 July 2026

Refer to Appendix E: Comments and Response Report

6. AUTHORITY PARTICIPATION

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the

EAP Services

environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

List of authorities informed:

Department	Email
DFFE - Forestry	BLayini@dffe.gov.za
DWS	TshatshuP@dws.gov.za BloemM@dws.gov.za jackv@dws.gov.za
DFFE Oceans and Coast	XMyanga@dffe.gov.za OCEIA@dffe.gov.za NJSithole@dffe.gov.za tmhlana@dffe.gov.za
ECPHRA	ayanda.mncwabe-mama@ecsrac.gov.za lungiswam@ecphra.org.za
EC Roads	Randall.Moore@ectransport.gov.za; Monde.Manga@ectransport.gov.za
Dept of Agriculture (EC)	Ruffus.Maloma@drdar.gov.za Masixole.matinise@drdar.gov.za
DEDEAT	Andries.Struwig@dedea.gov.za dayalan.govender@dedea.gov.za Indira.George@dedea.gov.za
SANBI	V.Zikishe@sanbi.org.za
KLM - Infrastructure and Engineering - Planning, Development and Tourism - Community Services - Environmental	jdutoit@kouga.gov.za abotha@kouga.gov.za aswart@kouga.gov.za fkettledas@kouga.gov.za nsiwela@kouga.gov.za; ymlindazwe@kouga.gov.za; mengelbrecht@kouga.gov.za
Ward 12	ward12@kouga.gov.za
Sarah Baartman DM	kmakgoka@sbdm.co.za zsomi@cacadu.co.za ksanyamandwe@sbdm.co.za mmbanga@sbdm.co.za cmabindla@sbdm.co.za ted@sbdm.co.za pmkate@sbdm.co.za

List of authorities from whom comments have been received:

Notice of intention to submit an application for an EA in terms of the NEMA and encourage registration of interested and affected parties (IAPS) have been distributed as follows:

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- Notice of intent to develop of submit EA application were sent to the landowner, adjacent landowners, relevant state departments, stakeholders and other identified potential IAPs. .
- A 30-day registration has been provided: 15 January to 16 February 2026;
- The post application draft BAR will be distributed to all IAPs for a 30 day review and comment period: 1 June – 1 July 2026

Refer to Appendix E: Comments and Response Report

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application at least 30 (thirty) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES

NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Notice of intention to submit an application for an EA in terms of the NEMA and encourage registration of interested and affected parties (IAPs) have been distributed as follows:

- Two notice boards will place on site - 15 January to 16 February 2026;
- Adverts will be placed in The Kouga Express : 15 January to 16 February 2026
- Notice of intent to develop of submit EA application were sent to the landowner, adjacent landowners, relevant state departments, stakeholders and other identified potential IAPs. .
- A 30-day registration has been provided: 15 January to 16 February 2026;
- The post application draft BAR will be distributed to all IAPs for a 30 day review and comment period: 1 June – 1 July 2026

Refer to Appendix E: Comments and Response Report

Registration received: Oceans and Coast;

Comments received on draft BAR

ECPHRA:

NID has been submitted in response to comment.

The ECHPRA has responded to the NID to confirm that no additional assessments are required for this development.

ECPHRA acknowledges receipt of the NID (Notice of Intent to Develop), Draft BAR and the EMPPr submitted for the proposed development. Upon review, the proposed development is not expected to impact heritage resources therefore it is exempted from undertaking further heritage assessments, in line with Section 38(2b) of the NHRA.

DFFE:

1. During the site visit conducted on 26 June 2026, it was noted that sand excavated from the proposed garage footprint is intended to be reused to fill depressions within the site. However, the Draft BAR does not clearly indicate the total volume of sand to be excavated, the extent and spatial location of deposition areas, or the methodology for handling and redistributing the material. The Applicant is therefore required to provide a detailed earthworks plan that clearly outlines these aspects, in order to demonstrate that such activities will not adversely affect dune morphology, sediment dynamics, or overall site stability.
2. A number of protected Milkwood trees (*Sideroxylon inerme*) were observed on the property. However, the Draft BAR does not clearly indicate the location and distribution of these trees within the site, nor whether these individuals fall within or adjacent to the proposed development footprint. It is therefore recommended that all protected trees be accurately surveyed and clearly mapped on the Site Development Plan (SDP). Should the removal of any such trees be unavoidable, the applicant must obtain the necessary permit from the relevant authority prior to undertaking any work.
3. The Branch is of the view that the position of the lookout point and the elevated walkway may interfere with natural dune dynamics, including aeolian sand transport and vegetation stabilisation processes. Such encroachment may exacerbate erosion

risks, contribute to blowout formation, and undermine ongoing dune rehabilitation measures.

4. Accordingly, it is recommended that the lookout point and elevated walkway should not extend to, or be positioned above, the foredune, and must be located landward of this sensitive feature to ensure the protection of dune stability and coastal processes. Furthermore, it is recommended that disturbed areas be progressively rehabilitated with indigenous vegetation following construction to promote infiltration, reduce runoff velocities and maintain dune stability.
5. Consideration must be given to Section 58 of the ICM Act, which empowers the competent authority to issue directives for removal or relocation of structures that are threatened by dynamic coastal processes or that may contribute to coastal instability.

In this context, the applicant must acknowledge this provision and clearly demonstrate that the proposed development has been designed in a manner that avoids exposure to coastal risks, including erosion, dune and sea level rise. The proposal must further show that it will not give rise to future instability or risks that could necessitate intervention by the competent authority in terms of Section 69.

6. The Stormwater Management Plan must demonstrate that stormwater runoff from the proposed development will not be directed towards or discharged onto the dune system in a manner that could cause erosion, dune destabilisation or disruption of natural aeolian sand transport processes. Stormwater should preferably be directed towards the front of the property and managed through appropriate attenuation and dispersion measures.

DEDEAT:

- The Activity Description does not include the building material to be used for the proposed residential dwelling;
- The section to be infilled is not shown on the layout plan, kindly do so and provide an estimation of how much soil will be used to infill;
- Provide an estimation of excavation that will be done for foundation work;
- Provide an estimation of how much soil will be removed to prepare for the construction of the proposed dwelling;
- The Milkwood tree on site that will not be removed need to be included in the Layout Plan; and
- Please note that it is unlikely the Department will authorise the proposed Timber Decking on the dune

Refer to appendix E – Public participation and Comments and Response Report

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 as amended, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Notice of intention to submit an application for an EA in terms of the NEMA and encourage registration of interested and affected parties (IAPS) have been distributed as follows:

- Two notice boards will place on site - 15 January to 16 February 2026;
- Adverts will be placed in The Kouga Express : 15 January to 16 February 2026
- Notice of intent to develop of submit EA application were sent to the landowner, adjacent landowners, relevant state departments, stakeholders and other identified potential IAPs. .
- A 30-day registration has been provided: 15 January to 16 February 2026;
- The post application draft BAR has been distributed to all IAPs for a 30 day review and comment period: 1 June – 1 July 2026.

Main issued raised:

- Building material to be used
- Quantity and location of excavated material and infill ; indicate that such activities will not adversely affect dune morphology, sediment dynamics, or overall site stability.
- All protected trees clearly mapped on the Site Development Plan (SDP). Should the removal of any such trees be unavoidable, the applicant must obtain the necessary permit from the relevant authority prior to undertaking any work.
- Proposed Timber Decking on the dune
 - Elevated walkway may interfere with natural dune dynamics, including aeolian sand transport and vegetation stabilisation processes and the encroachment may exacerbate erosion risks, contribute to blowout formation, and undermine ongoing dune rehabilitation measures.
 - It is recommended that the lookout point and elevated walkway should not extend to, or be positioned above, the foredune, and must be located landward of this sensitive feature to ensure the protection of dune stability and coastal processes.
 - Progressive rehabilitation of disturbed areas with indigenous vegetation
- Design of structures in a manner that avoids exposure to coastal risks and not give rise to future instability or risks that could necessitate intervention by the competent authority in terms of Sections 53 and 69 of the NEM:ICMA.
- Stormwater runoff
 - It is recommended that the runoff from the proposed development is not directed towards or discharged onto the dune system and be directed towards the front of the property and managed through appropriate attenuation and dispersion measures.

Refer to appendix E – Public Participation And Comments And Response Report

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report):

Response to main issued raised:

- **Building material to be used**

The proposed dwelling comprises a raised two-level structure. The garage (60 m²) is located at the lower level, with the main living areas elevated above it to accommodate the dune topography and minimise interference with natural sand movement. The architectural drawings indicate a ground-storey floor level of 16.3 m (survey elevation) and a roof apex of 23.5 m, resulting in an overall building height of 7.2 m between the ground-storey floor level and the roof apex. The design complies with the applicable 8.5 m municipal height restriction indicated on the Site Development Plan (Appendix A; Alternatives 1 and 2).

The materials proposed to be used in the development include bricks and timber. Access to the proposed development area will be a driveway developed off de Jager Street. Bricks and concrete will be used for the development of access and garages on the western side (road section) of the erf. The garage area will be levelled, and a retaining wall will be put in place. A combination of timber, bricks and concrete will be used to construct the central and eastern section of the dwelling. The timber section of the dwelling will be raised using wooden poles / columns. Aluminum and glazing will be used for the windows and doors and windows and aluminum roof sheets are proposed. Suitable waterproofing measures have been included in the design (Refer to Appendix A1 and Appendix A2; Alternatives 1 and 2).

- **Quantity and location of excavated material and infill ; indicate that such activities will not adversely affect dune morphology, sediment dynamics, or overall site stability.**

Earthworks associated with the proposed development will be limited primarily to the north-western portion of the erf to establish a level platform for the garage and driveway. The remainder of the dwelling has been designed as a raised structure supported on columns to minimise disturbance to the dune environment and allow for continued natural sand movement beneath the building. The estimated volume of excavation is estimated at 253 m³. This represents a preliminary estimate only, as the actual excavation depth will vary across the footprint in response to the existing ground levels and the final engineering design. Excavated material suitable for reuse will be utilised on site for backfilling and landscaping where practical, while any surplus material will be removed to an appropriately authorised disposal facility.

The geomorphological assessment (Appendix D1) concluded that the low-profile elevated deck will allow natural aeolian sand transport processes to continue beneath the structure, thereby avoiding obstruction of sediment movement across the site. In addition, all excavated sand (approximately 253 m³) will, as far as possible, be retained on-site and placed on the eastern portion of the property, maintaining the local sediment budget and reducing the slope of the secondary dune, which is expected to improve slope stability while providing a future sand store for ongoing coastal processes. The proposed development does not involve hard coastal protection structures, foredune stabilisation, or interventions that would interrupt longshore sediment transport, alter shoreline processes, or constrain natural dune migration. The geomorphologist concluded that, subject to the implementation of the recommended mitigation measures, including retention and revegetation of the redistributed sand and minimisation of vegetation disturbance, natural sand transport processes will continue to function across the site and the development is not expected to result in significant adverse impacts on dune morphology, sediment dynamics, or overall site stability.

- **All protected trees clearly mapped on the Site Development Plan (SDP). Should the removal of any such trees be unavoidable, the applicant must obtain the necessary permit from the relevant authority prior to undertaking any work.**

The final BAR has been updated to include the coordinates and location of the Milkwood trees on and adjacent to the property; all of these trees are located outside the development footprint and will not be disturbed as a result of the development. (Refer to Alternative 2 provided in Appendix A2)

- **Proposed Timber Decking on the dune**

Elevated walkway may interfere with natural dune dynamics, including aeolian sand transport and vegetation stabilisation processes and the encroachment may exacerbate erosion risks, contribute to blowout formation, and undermine ongoing dune rehabilitation measures.

It is recommended that the lookout point and elevated walkway should not extend to, or be positioned above, the foredune, and must be located landward of this sensitive feature to ensure the protection of dune stability and coastal processes.

Progressive rehabilitation of Disturbed areas with indigenous vegetation

Design of structures in a manner that avoids exposure to coastal risks and not give rise to future instability or risks that could necessitate intervention by the competent authority in terms of Sections 58 and 69 of the NEM:ICMA.

The preferred development has been specifically designed to respond to the site's sensitive coastal dune environment and the recommendations of the geomorphological specialist. The dwelling has been positioned within the more stable north-western portion of the erf, with earthworks largely confined to the garage platform and driveway adjacent to de Jager Street. The more dynamic eastern portion of the property, comprising the secondary dune environment, will remain largely undisturbed. The dwelling incorporates a raised structural design, thereby minimising the extent of cut-and-fill earthworks, reducing disturbance to the dune profile, and allowing continued natural wind-driven sand movement beneath the structure. This design approach reduces interference with natural coastal processes while accommodating the site's dynamic geomorphological conditions and reducing the long-term risk associated with dune instability and sand movement.

The proposed raised timber walkway and platform have similarly been designed as low-impact structures. The walkway provides a single defined route to an area designated for recreation and maintaining surfing equipment thereby concentrating pedestrian movement within a limited area and reducing the potential for the formation of multiple informal footpaths through the sensitive coastal dune vegetation. The walkway and platform structure has also been designed so that it can be removed in future should post-construction monitoring indicate that it is adversely affecting sediment transport, dune dynamics, erosion or localised sand accumulation.

The orientation of the structures are generally in a south-easterly direction, consistent with the geomorphological specialist's recommendation for structures within the dune environment to reduce the potential for wind funnelling and associated sand propagation. (Alternatives 1 and 2).

Following specialist and authority comments received during the public participation process, the raised platform has been repositioned approximately 1 m further landward and is positioned off the secondary dune crest on the proposed infill area. The revised layout indicates the stormwater directed towards the north-western (road-side) portion of the erf, in accordance with the recommendations, to avoid concentrated discharge onto the south-eastern dune slope. (Refer to Alternative 2 provided in Appendix A2) The dwelling maintains its raised structural design to minimise earthworks and accommodate natural sand movement beneath the structure, while the raised platform and elevated walkway continue to provide a

designated recreational area that concentrates pedestrian movement and reduces the potential for informal footpaths on the dune vegetation.

Overall, Alternative 2 represents the environmentally preferred layout as it incorporates specialist recommendations and comments received during the public participation process through a refined platform location and improved stormwater management, while maintaining the design principles of avoidance, minimisation and protection of the long-term stability, geomorphological functioning, and ecological integrity of the coastal dune system.

- **Stormwater runoff**

It is recommended that the runoff from the proposed development is not directed towards or discharged onto the dune system and be directed towards the front of the property and managed through appropriate attenuation and dispersion measures.

The layout has been amended to indicate that runoff will be towards the north-western (road-side) portion of the erf, in accordance with the recommendations, to avoid concentrated discharge onto the south-eastern dune slope (Alternative 2)

Refer to appendix E – Public participation and comments and response report

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

Alternative (preferred alternative)

Direct impacts:

Indirect impacts:

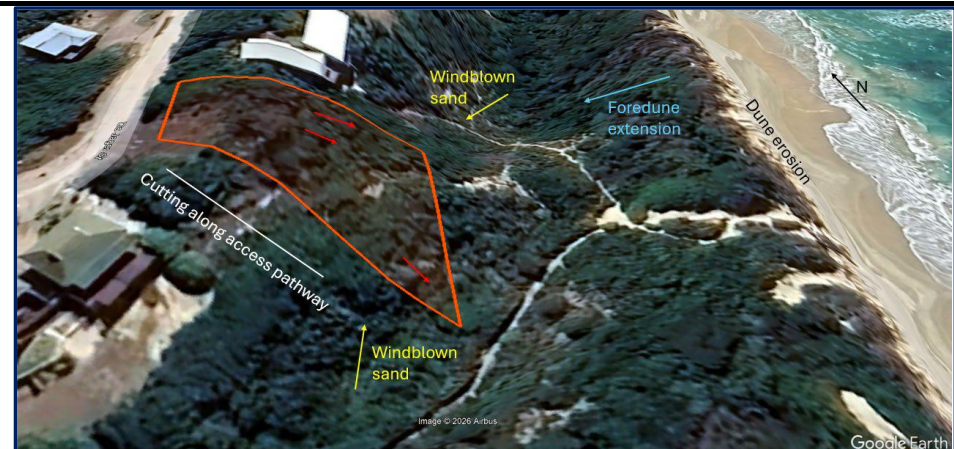
Cumulative impacts:

D.2.1 PLANNING AND DESIGN PHASE AND SUBSEQUENT CONSTRUCTION AND OPERATION AS APPLICABLE

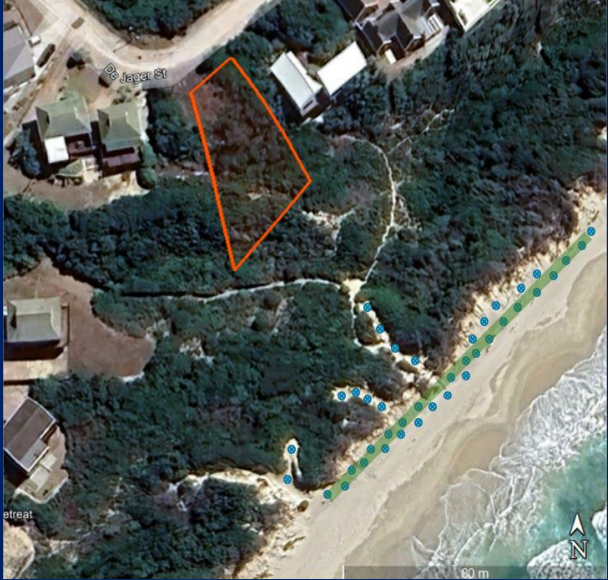
Activity:	Development of residential dwelling within a dynamic coastal area
NEMA LN Activity	EA prior to development within 100m of HWM; clearance indigenous vegetation
NEMBA/ PNCO / NFA	Permits for SCC and / or protected trees if and as required
HRA Section 38	Permit for any archaeological, palaeontological resource that may be uncovered during construction / maintenance activities if and as required
NEMWA	Waste management hierarchy – avoid, reduce, reuse, recycle, dispose
NEMBA, CARA	AIS to be removed by landowner
NEM: ICMA	Activity within the 100m inland high-water mark of the sea
Aspect	Site Selection, development area and design – dune instability and coastal erosion
Based on the current understanding of the drivers influencing coastal processes, it is apparent that coastal erosion is expected to remain a persistent issue. The factors contributing to this phenomenon include rising sea levels, limited sediment supply, and the low elevation of the existing dune systems. As a result, the retreat of both the shoreline and associated dunes are anticipated to continue in response to ongoing changes in sea level and the dynamics with the underlying geology. These processes collectively indicate that coastal erosion will be an enduring challenge for the area. The dominant wind directions are from the south-west and east. Windblown sand is likely to be transported from these directions, especially from unvegetated patches. Erf 1363 is partly located on a dune crest with a large part of the property that will be developed sloping towards the south-east. There are smaller undulations on the Erf 1363 and a frontal dune ~ 50 m towards the east. Dune instabilities are possible along the face of the dune due to increased loadings (buildings and wet periods with saturated sands), thus movement in a south easterly direction. The depth of the instability is likely to be shallow (sub-metre to several metres); Design of the foundations of the building should take this into account. The westward extension of the frontal dune is likely as the beach and primary dunes migrate westwards as the sea level rises. The eastward part of the property could be raised (inundated by sand) in future years as the frontal dune migrates onto the property. The rate of movement is not known at this stage. Maintaining a dense vegetation cover will trap and stabilise the sand to some extent and avoid the nuisance of sand encroachment. The house design should keep this in mind in terms of doorways and outside spaces. A raised structure would allow sand transport under the structure with less nuisance inside the buildings. There is a pan-handle erf to the south of Erf 1363 that will access the property from de Jager Street. Its development can lead to excavations to grade the driveway exposing several metres of dune sand adjacent to Erf 1363. Retaining features will need to be put in place along the driveway, but shifts of the dune layers are possible over time, especially under wet saturated conditions. These shifts can affect the stability of the dune on Erf 1363. To avoid these	

possible shifts, it is advised that the foundations/pylons of the building on Erf 1363 extend down as far as possible to an elevation like that of the lowest point of the driveway excavations/property to a depth as advised by an engineer. This will allow movements of the upper part of the dune without impacting the foundations of the building on Erf 1363. The risk of these shifts is less towards the north of Erf 1363.

Beach access areas should be of such character that it does not funnel the dominant winds (south-westerly and easterly winds) towards infrastructure. Pathways should be at right angles/perpendicular to the prevailing and strongest wind directions to limit sand propagation along the pathway (Tinley, 1985). Based on the wind data, beach access pathways and structures should be constructed in a south-easterly direction for Paradise Beach. (van der Waal, 2026). It must be noted that the Kouga Maintenance Management Plan for the Coastal Area between the Kromme and Kabeljous beaches, indicates that the implementation dune restoration measures (sand traps, brush packing and sand barriers) are expected to start within 1 – 2 years of the approval of the maintenance management plan (CEN, IEM Unit, 2024). The number of beach access pathways are to be reduced with a single convenient/accessible pathway for several properties in a ~500m range selected that meets the directional criteria, the other pathways are recommended to be abandoned and revegetated. If beach access pathways are formalised with infrastructure, low-impact ecologically friendly and recyclable materials are recommended as they are built within the dynamic zone and are likely to be damaged/removed by infrequent high seas. This will limit the onsite and off-site damage if the structures are impacted. Beach access structures with a minimalist design and more frequent maintenance can be more dynamic in the future as the coastal zone adapts to future water levels and storm intensity. A section of this maintenance area included in the Kouga Maintenance Management Plan includes the coastal area adjacent to Erf 1363 where sand traps are recommended in this area to minimise coastal erosion.



Oblique image indicating the likely processes in the future.
The small red arrows indicate possible dune instabilities

Satellite image showing Erf 1363 (orange outline) in relation to the steep eroding foredunes (yellow dashed line) and blowouts (van der Waal, 2026).		
	Planned interventions (included in the EMPr and maintenance management plan prepared for KLM CEN IEM Unit, 2025) along the coast to trap sand with brushwood piles (blue circles) and establish pioneer dune vegetation (green highlight); no footpaths should be created in this area.	
Description of impact	The design, orientation and layout of the proposed development has been informed by the geomorphological assessment to respond to the site's sensitive coastal dune environment. The dwelling and associated raised elevated walkway and platform have been orientated in a generally south-easterly direction in accordance with the recommendations of the geomorphological specialist to minimise interference with prevailing wind patterns and natural aeolian sand transport processes. The dwelling has been positioned within the more stable north-western portion of the erf, with earthworks largely confined to the garage and driveway area adjacent to the existing road. The eastern portion of the property, which comprises the more dynamic dune environment, remains largely undeveloped. The dwelling incorporates a raised structural design, thereby reducing the extent of cut-and-fill earthworks and allowing continued natural sand movement beneath the structure. This approach reduces interference with natural coastal processes, limits disturbance to the dune profile and indigenous vegetation, and accommodates natural dune processes and reduces the long-term risk associated with dune movement and erosion.	

	The proposed timber walkway and platform have been designed as low-impact structures which are raised off the ground. This will provide a designated area for passive recreation, including a viewing area, maintenance of surfing equipment , and use of this space on the erf whilst avoiding disturbance to the underlying vegetation and sand. By providing a single defined route and viewing point within the property, the walkway is intended to concentrate pedestrian movement by residents and their visitors, thereby reducing the likelihood of informal trampling and the creation of multiple footpaths through the sensitive dune vegetation. The raised design will allow wind and sand to pass beneath the structure, thereby maintaining natural aeolian sand transport. The structure has also been designed so that it can be removed in future should post-construction monitoring indicate that it is adversely affecting sediment transport, dune dynamics, causing erosion or localised sand accumulation. Two site development plans have been developed. Alternative 1 shows the platform to be placed on the secondary dune with stormwater runoff shown to be directed to both the northern western and south-eastern sections of the erf. Alternative 2 has been developed in response to comments received from DFFE Oceans and Coast and the DEDEAT. Alternative 2 shows the platform moved approximately 1 m landward which places it off the secondary dune crest and positioned on the proposed infill area. This further reduces the potential for impacts on coastal processes and dune stability. The revised layout indicates that runoff will be directed towards the north-western (road-side) portion of the erf, thereby avoiding concentrated discharge onto the south-eastern dune slope and reducing the potential for erosion, dune instability and disturbance to natural coastal processes. Alternative 2 has been developed in response to comments received from DFFE Oceans and Coasts, DEDEAT and the recommendations of the geomorphological specialist. The revised layout relocates the raised platform approximately 1 m further landward, positioning it off the secondary dune crest and onto the proposed fill area. Excavated material will, as far as practicable, be reused as fill on the north-eastern section of the erf (as recommended by the specialist) and assist in improving the stability of the eastern portion of the site while retaining sediment within the local dune system. The revised layout indicates that runoff will be directed towards the north-western (road-side) portion of the erf, thereby avoiding concentrated discharge onto the south-eastern dune slope. Collectively, these design refinements further reduce the potential for erosion, disturbance of dune stability, and impacts on natural coastal processes. Overall, the preferred alternative represents a design-led approach to environmental impact avoidance by limiting the development footprint, retaining the majority of the erf in its natural state, minimising earthworks, accommodating natural dune processes through a raised structural form, placement of the platform on the infill area, and concentrating the residential use within a defined area.
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	These design features form the primary mitigation measures for protecting the long-term stability and ecological functioning of the coastal dune system.						
Impact 1:	Placement of structures and infrastructure within a sensitive coastal dune environment resulting in increased susceptibility to coastal erosion and sand inundation						
Nature of impact:	Direct (disturbance to the coastal dune system) and cumulative (adjacent development and future coastal processes may exacerbate dune instability, erosion and sand movement).						
Alternative 1 – Original Layout - The platform is shown to be placed on the secondary dune, and stormwater runoff is shown to the northern western and south-eastern sections of the erf.							
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Short term	2	Short term	2
	Frequency			Rare	1	Rare	1
	Intensity			High	5	Medium high	4
	Severity			Negative Medium	8	Negative medium	7
	Consequence			Negative medium	10	Negative Low	8
	Probability			Expected	5	Plausible	3
	Impact Significance	Negligible		Negative medium	15	Negative Medium	11
	Mitigation	Possible					
	Confidence	High					
Alternative 2 – Preferred Layout (Revised) - In response to comments received from DFFE Oceans and Coast and the DEDEAT, the platform has been moved approximately 1 m landward off secondary dune crest. Fill is recommended on the SE section of the erf. In response to comments received from DFFE Oceans and Coast and the DEDEAT, the stormwater is shown to be directed towards the north-western section of the property (road side) which will prevent stormwater erosion impacts on the dune side of the erf.							
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Short term	2	Short term	2
	Frequency			Rare	1	Rare	1
	Intensity			High	5	Medium	3

	Severity			Negative Medium	8	Negative Low	6
	Consequence			Negative medium	10	Negative Low	7
	Probability			expected	5	Plausible	3
	Impact Significance	Negligible		Negative medium	15	Negative Low	10
	Mitigation	Possible					
	Confidence	High					
Impact 2	Potential damage to the proposed dwelling resulting from dune instability						
Nature of impact:	Direct (site, proposed dwelling and associated infrastructure) and cumulative (adjacent development and future coastal processes may exacerbate dune instability and erosion).						
Alternative 1 – Original Layout - The platform is shown to be placed on the secondary dune crest, and stormwater runoff is shown to the northern western and south-eastern sections of the erf.							
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation (proposed site layout 1)		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Short term	2	Short term	2
	Frequency			Rare	1	Rare	1
	Intensity			High	5	Medium high	3
	Severity			Negative Medium	8	Negative Low	6
	Consequence			Negative medium	10	Negative Low	7
	Probability			Probable	4	Plausible	3
	Impact Significance	Negligible		Negative medium	14	Negative Low	10
	Mitigation	Possible					
	Confidence	High					
Alternative 2 – Preferred Layout (Revised) - In response to comments received from DFFE Oceans and Coast and the DEDEAT, the platform has been moved approximately 1 m landward off secondary dune crest. Fill is recommended on the SE section of the erf. In response to comments received from DFFE Oceans and Coast and the DEDEAT, the stormwater is shown to be directed towards the north-western section of the property (road side) which will prevent stormwater erosion impacts on the dune side of the erf.							
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Short term	2	Short term	2
	Frequency			Rare	1	Rare	1

	Intensity			High	5	Medium	3
	Severity			Negative Medium	8	Negative Low	6
	Consequence			Negative medium	10	Negative Low	7
	Probability			Probable	4	Plausible	3
	Impact Significance	Negligible		Negative medium	14	Negative Low	10
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	• The proposed raised structural design of the dwelling is recommended to allow continued natural sand movement beneath the structure and minimise disturbance to the dune system. Foundation depths and structural support columns shall be designed by a suitably qualified engineer, taking into account the geomorphological recommendations and site-specific ground conditions. • Obtaining further geotechnical data and comprehensive structural engineering analysis regarding foundation depth within the development footprint will provide valuable insights to enhance the foundation design process. • No footpaths to be created on the erf or in surrounding coastal areas; formal footpaths should be used at all times; the walkway is intended to concentrate pedestrian movement by residents and their visitors, thereby reducing the likelihood of informal trampling and the creation of multiple footpaths through the sensitive dune vegetation • The structures should be constructed in a south-easterly direction. • Limit dune vegetation disturbance as much as possible from cutting, harvesting and developing multiple pathways. • Reintroducing pioneer dune vegetation; Encourage dense indigenous vegetation cover on the property • DFFE Oceans and coasts recommends that the elevated platform and walkway should not extend to, or be positioned above, the foredune, and must be located landward of this sensitive feature to ensure the protection of dune stability and coastal processes. Alternative 2 is therefore recommended as it is placed on the infill area and off the secondary dune crest. • During planning and design phase, ensure that no concentrated stormwater runoff is discharged onto the south-eastern dune slope or frontal dune area to minimise erosion and disturbance to the coastal dune system. A stormwater management plan is to be compiled by a suitably qualified civil engineer detailing the stormwater management infrastructure (including roof drainage and gutter system) and demonstrating that runoff from the proposed development will be directed towards the north-western (road-side) portion of the erf. • Install rainwater harvesting tanks to capture runoff from roof surfaces. • Driveways and paved areas shall incorporate appropriate stormwater management measures to encourage infiltration. Permeable paving is recommended where practicable.						

	- It is recommended to encourage smaller dunes to form to store sand and form a buffer during erosive events on Erf 1363 where necessary. Parabolic dunes move westward and can threaten infrastructure with sand inundation. The best way to mitigate its development is to stabilise the bare sand immediately towards the east of the area affected by sand inundation through a network of hummock dunes. This should be initiated with anchored brushwood clumps (alien tree biomass that does not contain seeds; ~1 to 5 m diameter brush packs) at roughly 5 to 10 m spacings in a grid-type pattern. 5 m spacings should be used where blowouts are to be rehabilitated and larger 10 m spacings where dune hummocks are to be established. The brushwood area should be planted with indigenous sand-binding pioneer dune vegetation that will allow some sediment movement but will reduce the rate of transport. - The private landowner should not clear dune vegetation and replant with lawns outside of the accepted fire break corridor; lawn grass has very shallow roots compared to the natural deeper-rooted dune vegetation, and it changes local near-ground wind profiles (accelerating sand transport). The longer roots of the indigenous dune vegetation help to anchor and stabilise the dunes, especially near the beach-dune interface where dune erosion is often a problem. Properties close to the beach should aim to have dense indigenous dune vegetation around their perimeter to slow any erosional threats despite the obstruction of the view.					
Aspect	Sewage Treatment					
Impact 1:	Treatment of sewage generated					
Nature of impact:	Direct; cumulative					
Description of impact	There is no municipal sewage treatment service provided for the land portion. Sewage therefore needs to be managed by the landowner on site. An increase in nutrients levels such as phosphates and/or nitrates in run-off during floods (both surface and groundwater) to the adjacent dune system could occur due to leaks or spillages from or inundations of the conservancy tank storing domestic sewage from the proposed new dwelling. These impacts could take place during both the construction and operational phases. The impact is rated as negative low with mitigation in place.					
Impact Rating Direct impact	Impact Status	Negligible Impact		Negative Impact		Negative Impact
	Impact Criteria	Baseline (no go alternative)		Without mitigation		With mitigation
	Spatial	none		Activity	1	Activity 1
	Duration			Very short term	1	Very short term 1

	Frequency			Infrequent	2	Infrequent	2
	Intensity			Low to medium	2	Low to medium	2
	Severity			Negative low	6	Negative low	6
	Consequence			Negative low	7	Negative low	7
	Probability			Plausible	3	Slight	2
	Impact Significance	Negligible Impact		Negative low	10	Negative low	9
	Mitigation	Possible					
	Confidence	High					
Impact Rating Cumulative	Impact Status	Negative Impact					
	Impact Criteria	Cumulative (site and baseline)					
	Spatial	Local	3				
	Duration	Long term	5				
	Frequency	Regular	4				
	Intensity	low	1				
	Severity	Negative medium	10				
	Consequence	Negative medium high	13				
	Probability	Slight	2				
	Impact Significance	Negative medium	15				
	Confidence	High					
Mitigation Measures	- Septic tanks are not recommended; a conservancy tank must be suitably sized for number of persons expected and managed correctly - A service level agreement must be in place for regular servicing of conservancy tank - Proof of service is to be kept of record for life of operation - The proposed on-site conservancy tank should be constructed, operated and maintained and sealed at all times according to the design specifications to prevent leakage and emptied regularly to prevent overtopping, - Care should be taken, particularly during rainfall events and flooding events when the conservancy tank may be inundated to prevent nutrient-rich water from flowing into surrounding dune system - To ensure access for servicing the conservancy tank, it should be placed in close proximity to the road to ensure access for						

D.2.2 CONSTRUCTION PHASE AND MAINTENANCE DURING OPERATIONS AS REQUIRED

Alternative:	Dwelling within dynamic coastal area
NEMA LN Activity	EA prior to development within 100m of HWM; clearance indigenous vegetation
NEMBA/ PNCO / NFA	Permits for SCC and / or protected trees if and as required
HRA Section 38	Permit for any archaeological, palaeontological resource that may be uncovered during construction / maintenance activities if and as required
NEMWA	Waste management hierarchy – avoid, reduce, reuse, recycle, dispose
NEMBA, CARA	AIS to be removed by landowner
NEM: ICMA	Activity within the 100m of high-water mark of the sea
Aspect	Preconstruction and preoperational Planning requirements
Description:	The land portion falls within 100 meters of HWM of the sea and within the dynamic coastal environment and therefore requires an environmental authorisation to be issued as part of the planning phase of the project. Part of the EA process is the draft EMPR which requires approval from the CA (DEDEAT). If the EA is obtained, then the EMPR is legally binding, and the applicant must ensure that EM requirements are included in the budget at proposal phase. The dwelling is planned to be used by the applicant as it is close to the sea for coastal activities such as surfing and kiteboarding. The conditions of the EA are to be legally binding on the owner. Monitoring must be undertaken by an appointed ECO during construction, and appointment should commence prior to construction so there is a clear understanding of baseline conditions to which comparisons can be made at a later point.
Impact	Inadequate planning and <i>Non-compliance with Conditions of the Environmental Authorisations</i>
Nature of impact:	Direct / Indirect / cumulative as applicable
Description of impact	Budget allocated for environmental management tends to be inadequate for construction projects. Organisational Structure – implementing agents may or may not have adequate capacity and competency to ensure appropriate and adequate environmental management. Poor environmental management planning and / or lack of budget for mitigation and management (EMPR requirements) “ <i>without mitigation</i> ” impacts can be expected during construction / operational phase.
Impact Rating	As per impacts identified for planning, construction / operational phase as applicable without / with mitigation implemented
Mitigation Measures	An Environmental Control Officer (ECO) should be appointed prior to the start of construction phase to ensure all preconstruction requirements required in terms of the EA (if attained) are in place

	• Prior to commencement of construction, during the site establishment phase, the ECO must work closely with the design and construction team (i.e. architect, appointed contractor, resident engineer, site surveyor as applicable) to ensure designs, location of structures, location of construction laydown areas and no-go areas are aligned to conditions of EA (if attained) prior to start of construction. • Carry out flora and fauna search and rescue prior to the start of construction; • Ensure permits are in place timeously – allow at least 3 months before commencement. • Environmental Awareness and training– Ensure all labour are informed and plant operators are aware of risks, issues, do's and don'ts and no-go areas • ECO to audit the site monthly during construction • The development area is to include: ○ First storey will be raised and have an estimated footprint of 181.88 m² ○ Raised decking with an estimated development footprint of 43.8 m² ○ Raised walkway (estimated width of 1 meter; estimated length of 5.5 meters) leading to a raised timber platform (33 m²) equipped with safety poles ○ The overall development area of 329.9 m². ○ Rainwater harvesting (proposed 2700 liters) ○ Stormwater management measures will be designed by a suitably qualified engineer during the detailed design phase. The type, sizing and footprint of the stormwater management infrastructure is to be informed by the final engineering design. It is recommended that stormwater runoff is collected and directed towards the north-western (roadside) portion of the erf and discharged in a controlled manner to the municipal stormwater system, where appropriate. It is recommended that no concentrated stormwater runoff is to be discharged onto the south-eastern dune slope or frontal dune area. Measures are to be implemented to prevent erosion, scour and sediment transport associated with stormwater discharge. ○ Placement of conservancy tank and suitable service vehicle access to tank; conservancy tank to be sized by suitably qualified engineer. ○ Placement of electrical reticulation requirements; solar power is recommended instead of unreliable and high impact coal power
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	○ Placement of waste management area recommended to manage waste and recyclables ○ Laydown area for contractors are to be rehabilitated at end of construction stage as required. The sequence of events recommended is as follows: ▪ Approval of final designs of dwelling ▪ Contractor laydown area selected taking into account dune area and small size of site; sequence of events and planning prior to construction is recommended to take place in conjunction with the appointed ECO and landowner. The laydown area should include designated areas for waste management facilities, hazardous substances facilities, ablution facilities, subsoils, topsoil and vegetation and building material ▪ Pegging of dwelling, access, walkway, platform, laydown area ▪ Application for permits if required; Search of SCC within pegged areas and rescue ▪ Laydown designated areas established (waste management, hazardous substances, ablution facilities, subsoils, topsoil, vegetation; building material) ▪ Construction and Installation of services as per engineer recommendations ▪ Rehabilitation of laydown area and any disturbed areas - Rehabilitation with indigenous thicket vegetation to take place as required
Aspect	Site clearing, excavations, construction, installation
Impact 1:	Loss of heritage, archaeological, palaeontological resources.
Nature of impact:	Direct (loss of resource / damage to resource / collection of resource)
Description of impact	The STR indicates a low sensitivity for heritage and very high sensitivity for palaeontology. The proposed development will require excavation within a limited footprint, with a total excavation volume of approximately 252 m³. Excavation activities can unearth archaeological / palaeontological resources and result in unnecessary disturbance if management measures are not in place; mitigation measures are provided to prevent unnecessary impacts. The area proposed for development is located within 100 m of the high-water mark and may therefore be at risk of impacting on shell-midden archaeological resources, especially in close proximity to rocky shores. However, no shell-midden sites are known from this stretch of coastline. Based on the limited footprint of the proposed development as a small, single residential structure with limited associated excavations, it is unlikely that the proposed development will negatively impact on significant archaeological heritage (Lavin, 2026). The area proposed for development is underlain by sediments of the Nanaga Formation of the Algoa Group (Wilken, 2026 as cited by Lavin, 2026) which notes that this formation mostly devoid of significant fossils, however, minute fragments of marine macro-

	organisms, foraminifera and occasional extant land gastropods are present. Based on the limited nature and scale of the proposed development, the likelihood that significant fossil heritage will be negatively impacted by the proposed development is low and as such, no further paleontological assessment is recommended (Lavin, 2026). Should any fossil material or archaeological heritage be uncovered during the course of construction activities, work must cease and ECPHRA must be contacted regarding an appropriate way forward.						
Impact Rating	Impact Status	Negligible		Negative Impact		Positive Impact	
	Impact Criteria	No go alternative		Without mitigation		With mitigation	
	Spatial	-	-	Activity	1	Activity	1
	Duration	-	-	Very short	1	Very short	1
	Frequency			rare	1	Rare	1
	Intensity			Low	1	Low	1
	Severity			Negligible	3	Negligible	3
	Consequence			Negligible	4	Negligible	4
	Probability			Plausible	3	Plausible	1
	Impact Significance	Negligible		Low	7	Low	7
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	• The project proponent/representative must notify ECPHRA of the date of commencement of the project • A chance finds procedure (CFP), must be adhered to. It must outline stop-work procedures, emergency protection measures, reporting protocols, contact details for ECPHRA and approved heritage specialists, guidance on recognising heritage materials and graves. • The CFP must be available on site at all times. • Induction / Pre-construction training to be done with construction workers on importance of notifying site foreman and ECO and landowner to any potential findings of palaeontological / archaeological resources • Heritage induction and training for all ground crew, must include identification of archaeological, palaeontological, historical, and burial-related material. This ensures lawful heritage compliance during all phases of the project. • There must be heritage monitoring during vegetation clearing and excavations; Monitoring during excavations to be done on ongoing basis by the construction team and any sites exposed to be reported to the ECO and landowners and include photographs and coordinates, who must report the find to the ECPHRA. • Steps provided by ECPHRA in the CFP regarding the find to be followed.						

	If any heritage resources, including graves or human remains, are encountered they must be reported to ECPHRA immediately.						
Impact 2:	Unnecessary loss of vegetation and disturbance to fauna						
Nature of impact:	Direct (loss of vegetation, disturbance to fauna)						
Description of impact	Unnecessary clearing and disturbance result in a number of environmental impacts if not managed correctly. The vegetation on the proposed development site, in particular the proposed footprint is common and widespread in the surrounding area. The footprint is small and only that vegetation which is necessary to be cleared will be. Assembling of structures of the dwelling will take place offsite for some of the components and will be installed with minimal interference to the dune system and intact vegetation. The aim of the development is to keep the dune system intact as far as possible. No Sensitive plant or Animal species identified as per the National Environmental Screening Tool were found to be present or likely to be present or would be affected by the proposed activity. The site is not designated CBA or ESA. Indigenous plant species protected in terms of the Eastern Cape Provincial Nature Conservation Ordinance occur within the site (i.e., <i>Carpobrotus spp.</i> , <i>Bulbine spp.</i> and <i>Agathosma spp.</i>) however, these species are common within the surrounding coastal dune system, and the limited development footprint minimises vegetation loss. These plants are also suitable to retain and use for rehabilitation of the fill area and disturbed areas. Existing indigenous vegetation outside the approved footprint will be retained and disturbed areas rehabilitated with appropriate indigenous pioneer dune vegetation. Three milkwood species occur on the site, however these fall outside the development footprint and disturbance areas. All AIS (rooikranz is common on dunes) should be removed but immediately replaced with a small thicket tree or shrub (soil binding) and interplanted with <i>carpobrotus / bulbine</i> spp. or similar succulent for additional soil binding activity.						
Impact Rating	Impact Status	Negligible		Negative Impact		Negative Impact	
	Impact Criteria	No go alternative (baseline)		Without mitigation		With mitigation	
	Spatial	Activity	1	Site	2	Activity	1
	Duration	Long term	5	Long term	5	Long term	5
	Frequency	rare	1	Seldom	3	rare	1
	Intensity	Low	1	Low	1	Low	1
	Severity	Low	7	Medium	9	Low	7
	Consequence	Low	8	Medium	11	Low	8
	Probability	Slight	2	Plausible	3	Slight	2
	Impact Significance	Low	10	Medium	14	Low	10

	Mitigation	Possible
	Confidence	High
Mitigation Measures	Construction and maintenance as required (include in training to contractors and subcontractors) • Search and rescue to be carried out prior to construction and relevant permits applied for. • Relocate flora and retain suitable species for rehabilitation, store and reuse / dispose as required. • Ground-dwelling animals /nests / eggs must be searched for prior to commencement of construction. • No clearing outside of the identified development area footprint is to take place. No go areas include the remaining area outside the designated dwelling footprint and laydown area. • The importance of No-go areas must be clearly communicated to site workers and contractors through a site induction, which is required each time new workers enter the site. No stockpiling, dumping, littering or traversing this sensitive area is permitted and should be cordoned off for the during of the construction period. Fines should be imposed for non-compliance to this condition / measure. • No animals are to be harmed or killed during the course of operations. Workers are NOT allowed to snare any faunal species. Contractual fines to be imposed on any employee who is found attempting to harm fauna on site or in surrounding areas. • If any animals are seen on site, a photo / video should be taken if possible (to assists in identification) and all fauna encountered on site should be reported to the ECO immediately. This is important when: ○ An animal is harmed or compromised in any way during construction. ○ Any animal with limited mobility is found on site (e.g. tortoises, moles, chameleons). ○ Any potentially dangerous animal is encountered. This includes any potentially venomous animal (e.g. snakes, scorpions) ○ For any assistance with snake removals/relocations, identifications or bite treatment contact the African Snakebite Institute. • As far as possible, work should be undertaken by hand using spades, pickaxes etc. However, it is acknowledged that some use of heavy vehicles for safe construction may be required; this must be restricted as far as practically possible and remain within development area at all times. • Check delineated footprints area not exceeded	
Impact 3:	Stormwater Runoff Causing Erosion	
Nature of impact:	Direct (loss of vegetation and soil, erosion) and cumulative (disturbance to dune system)	

Description of impact	Elevated erosion and sediment mobilisation is possible due to clearing of vegetation, destabilization of the dune adjacent to the proposed development during construction, as well as during operation. Increased runoff from the site to the dune system and ponding as a result of heavy rains, high tides and storm surges must be prevented through effective stormwater management during construction and operations so the average flow is not exacerbated by hard surface runoff. The type, sizing and footprint of the stormwater management infrastructure shall be informed by the final engineering design. Measures shall be implemented to prevent erosion, scour and sediment transport associated with stormwater discharge. Intact vegetation with minimal bare soil will be a helpful mitigation measure against floodwaters and increased storm activity expected with climate changes. .						
Impact Rating	Impact Status	Negligible		Negative Impact		Negative Impact	
	Impact Criteria	No go alternative (baseline)		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Short	2	Very short	1
	Frequency			Seldom	3	Infrequent	2
	Intensity			Low – medium	2	Low	1
	Severity			Medium	7	Negligible	4
	Consequence			Medium	9	Negligible	5
	Probability			Expected	5	Plausible	3
	Impact Significance			Medium	14	Low	8
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	- Stormwater runoff is recommended to be collected and directed towards the north-western (road-side) portion of the erf and that no stormwater runoff is discharged onto the south-eastern dune slope or frontal dune area - During the construction phase it may be necessary to construct temporary stormwater containment and control measures (e.g. temporary cut-off berms) to prevent erosion and sediment-laden water causing erosion and dune impacts. - All erodible areas within the construction site should be stabilised using appropriate (best practice) methodologies and erosion protection works and all disturbed areas should be rehabilitated with appropriate indigenous vegetation. - Particular attention should be given to prevention of damage to the adjacent dune systems and to stabilising any sign of erosion, preferably by establishing dense stands of suitable indigenous vegetation acting as sand traps. - Ensure that heavy machinery does not compact soil or disturb vegetation outside of the demarcated footprint areas;						

	• Ensure stockpiled materials and other mobile materials are bundled with sandbags to prevent their loss during rainfall and covered / wetted to prevent windblown dust. • Ensure that construction activities do not cause any preferential flow paths and concentrated surface runoff during rainfall events. • Do not blanket clear the site; ensure that vegetation clearing is conducted in parallel with the construction progress of the planned sequence of events to minimise erosion and runoff. • Reduce transport of sediment from development area through use of mulch fencing/ biodegradable coir logs / soil saver biodegradable matting • Consider that materials, temporary toilets, leaked fuel and litter can be washed away during heavy rainfall and must therefore be bundled, secured and covered. The ECO must inspect these areas for compliance. • Check weather reports for rainfall predictions on a weekly and daily basis. Postpone work during rainfall and ensure the site has been prepared to prevent wash off of materials as required • Progressively place back subsoil, then topsoil and mulch and revegetate exposed areas once construction has been completed in the area with suitable indigenous vegetation.
Impact 4:	Soil and coastal dune disturbance
Nature of impact:	Direct (soil erosion, soil loss, damage to soil structure, disturbance to the coastal dune system); Indirect (sedimentation, impacts on surrounding vegetation and dune stability).
Description of impact	Mismanagement of soils during construction may result in damage to soil structure, soil loss, erosion and the mobilisation of sediment, which may adversely affect surrounding vegetation and the adjacent coastal dune system. The proposed dwelling has been designed to minimise site disturbance by utilising prefabricated/assembled building components where practicable, thereby reducing the need for extensive on-site construction activities, vegetation clearing and the use of heavy earthmoving equipment. Earthworks associated with the proposed development will be limited primarily to the north-western portion of the erf to establish a level platform for the garage and driveway. The remainder of the dwelling has been designed as a raised structure supported on columns to minimise disturbance to the dune environment and allow for continued natural sand movement beneath the building. Excavated material suitable for reuse will be utilised on site for backfilling and landscaping as far as possible. The material would not be placed as a uniform fill platform but rather used for localised regrading beneath and around the elevated structure. The estimated volume of excavation is approximately 253 m³ which represents a preliminary estimate only, as the actual excavation

	depth will vary across the footprint in response to the existing ground levels and the final engineering design. The average fill depth is expected to be approximately 1m, although the actual depth would vary across the site depending on the existing ground levels and the final engineering design. The geomorphological specialist has confirmed that the excavated material may be reused as fill material, given that the dwelling is supported on stilts. The excavated sand has been recommended to be deposited on the low-lying eastern part of Erf 1363 to stabilise the dune face where the construction will take place and act as a sand store for future coastal sand transport processes. The specialist has confirmed that there is sufficient space to place the sand between the secondary dune and the spur extending to the east. This deposit (of maximum 1.3 m depth) will reduce the slope of the secondary dune (improve slope stability) and provide a sand store for future sand transport and act as buffer against erosional processes or slope instabilities. It also maintains the sand onsite, limiting the change to the sand budget of Erf 1363. The raised design significantly reduces the extent of earthworks required compared to a conventional slab-on-ground dwelling, thereby minimising disturbance to the natural coastal dune system. With appropriate mitigation this impact could readily be reduced to low significance.						
Impact Rating	Impact Status	Negligible		Negative Impact		Negative Impact	
	Impact Criteria	Baseline / no go		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Very short	1	Very short	1
	Frequency			Regular	4	Seldom	3
	Intensity			Low – medium	2	Low	1
	Severity			Medium	7	Negligible	6
	Consequence			Medium	9	Negligible	7
	Probability			Plausible	3	Plausible	3
	Impact Significance			Medium	12	Low	10
	Mitigation	Possible					
Confidence	High						
Mitigation Measures	- Construction disturbance to be strictly confined to the development area footprint. - Earthworks associated with the proposed development is to be limited primarily to the north-western portion of the erf to establish a level platform for the garage and driveway.						

	- The site should be cleared in a phased manner and suitably stockpiled / reused within boundaries of the erf (i.e., filling, levelling, rehabilitation) as required. - The estimated volume of excavation is approximately 253 m³; excavated material shall be reused on site as far as practicable for controlled backfilling and localised regrading beneath and adjacent to the raised dwelling, thereby reducing the need for off-site disposal and loss of sand in the area. - The excavated sand is recommended to be deposited on the low-lying eastern part of Erf 1363 to stabilise the dune face where the construction will take place and act as a sand store for future coastal sand transport processes. The specialist has confirmed that there is sufficient space to place the sand between the secondary dune and the spur extending to the east. - The infill should be revegetated to slow erosional processes and stabilise the dunes. - Cover stockpiles with shade cloth to prevent loss of soil/ erosion / dust generation. - Stockpile soil at a maximum 1.5-meter height - Practise 'first out, last in' for soil excavated. Topsoil (250mm) is highly valuable for use in landscaping at the end of the construction activity. Replace subsoil first, followed with the stored topsoil and composted vegetation. - No driving on the south / south-eastern dune area of the site should take place and - Limit worker movement to the active construction area away from the south-eastern area of the erf; workers are not to traverse the erf to the coastal area - Hand-tools are to be used as far as practically possible and recommended to only be used for installation of the walkway and platform.							
Impact 5:	<i>AIS Displacing indigenous flora and fauna</i>							
Nature of impact:	Direct and indirect and cumulative (Aquatic; terrestrial)							
Description of impact	During construction, alien invasive species / weeds currently not on site could be introduced through the construction process. During construction, a negligible impact is expected with mitigation in place. Regular monitoring and early eradication should enable a cost-effective control of alien invasive species. A weed and AIS management programme is recommended after construction to counter the weed proliferation that would be expected after construction.							
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negligible / Negative Impact		
	Impact Criteria	No go / baseline		Without mitigation		With mitigation		
	Spatial	Activity	1	Local	3	Activity	1	
	Duration	Medium	3	Medium to long	4	Very short	1	

	Frequency	Seldom	3	Seldom	3	Seldom	3
	Intensity	Low	1	Low	1	Low	1
	Severity	Medium	7	Medium	8	Negligible	5
	Consequence	Medium	8	Medium	11	Low	6
	Probability	Slight (in process of removing)	2	Plausible	3	Plausible	3
	Impact Significance	Low	10	Medium	14	Low	9
	Mitigation	Possible					
	Confidence	High.					
Mitigation Measures	Construction and maintenance as required (include in training to contractors and subcontractors) • Ensure the site kept is free of AIS seeds and plants • Ensure topsoil that is purchased is weed free • Check for weed regrowth in stockpiles and within development area and pull-out plant as soon as it is detected to avoid expensive AIS management in the long term; make use of guideline provided during training to identify the common AIS in the area. • All AIS within the site construction footprint to be removed on an ongoing basis (as required) by the appointed construction team. • Any required removal of AIS within this footprint / any required rehabilitation with suitable indigenous vegetation / grass seed will remain the responsibility of the appointed contractor; Budget for this task must be included in the quote to landowner for carrying out the required scope of works. • All AIS removed must be placed in a designated area on site and removed offsite as quickly as possible to a suitably licensed general waste site. • When removing AIS, ensure the area is not left bare; Make use of mulch, indigenous seeds and thicket plants local to the area where the AIS is removed, to hold soil in place (have mulch, seeds, plants ready prior to removal of the AIS)						

AIS common in area	Biological control	Mechanical control	Chemical control	Specific management measure
 Western coastal rooikrans (<i>Acacia cyclops</i>)	Seed feeding weevils (<i>Melanterius servulus</i>)– reduces seed production; Midge -(<i>Dasineura diels</i>) induces galls on the ovary, introduce and can control seed production.	Hand pulling seedlings; Pulled out either by hand or using a tree popper. This is the most preferred method of control.	YES – after cutting apply herbicide to stumps to prevent growth	Plants MUST be pulled out roots and all for this method to be effective. Minimise soil disturbance to reduce seed germination. Regular follow-up treatments are necessary to control seedlings and regrowth.
 Castor Oil Plant (<i>Ricinus communis</i>)		Yes – hand remove prior to seed, bag and dispose	Yes	
Impact 6:	General Waste pollution			
Nature of impact:	Direct and indirect and cumulative (Sensitive Coastal environment, disturbance to flora and fauna; health impacts, visual impacts)			
Description of impact	This impact mainly concerns the proper management of construction related waste materials.			
Impact Rating	Impact Status	Negligible	Negative Impact	Negative Impact

	Impact Criteria	No go / baseline – no waste impacts from construction		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			short	2	Very short	1
	Frequency			Regular	4	Seldom	3
	Intensity			Low	1	Low	1
	Severity			Medium	7	Low	5
	Consequence			Medium	9	Low	6
	Probability			Possible	4	Plausible	3
	Impact Significance			Medium	13	Low	9
	Mitigation	Possible					
	Confidence	High					
Impact 7:	<i>Hazardous materials management</i>						
Nature of impact:	Direct and indirect and cumulative (Sensitive Coastal environment, disturbance to flora and fauna; health impacts, visual impacts).						
Description of impact	The following hazardous materials require strict management and disposal: • Chemical pollutants (e.g. hydrocarbons, paint and cleaning fluids) associated with site clearing, excavation and installation of columns for the raised dwelling, and the use of earth-moving machinery. • Hazardous materials & chemical pollutants stored on site and used in construction • Uncured concrete and dry cement powder - It is important to note that uncured cement is highly alkaline and could significantly raise the pH of any water to levels lethal to aquatic life. • Spillages of diesel, petrol, oil, paints, clears and other harmful chemicals; these substances may potentially enter the surrounding environment. During construction there will be a short-term risk of chemical pollution, which could potentially result in impacts of low to moderate significance.						
Impact Rating	Impact Status	Negligible		Negative Impact		Negative Impact	
	Impact Criteria	No go / baseline		Without mitigation		With mitigation	
	Spatial	-	-	Local	2	Activity	1
	Duration	-	-	short	2	Very short	1
	Frequency	-	-	Regular	4	Seldom	3
	Intensity	-	-	Low to medium	2	Low to medium	2
	Severity	-	-	Medium	8	Low	6
	Consequence	-	-	Medium	10	Low	7

	Probability	-	-	Expected	5	Plausible	3
	Impact Significance	-	-	Medium	15	Low	10
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	Waste management • Waste management must follow waste hierarchy – avoid, reduce, reuse, recycle, dispose • Construction waste streams shall be separated where practicable and include: ○ excavated material not reused on site; ○ construction rubble (concrete, bricks and masonry); ○ general domestic waste generated by construction personnel; and ○ hazardous waste (e.g. waste oils, paint containers, contaminated absorbent material and cement-contaminated waste). • A designated waste management area is recommended to be established within the north-western (road-side) construction area. No waste storage or disposal is to occur within the south-eastern dune area. • A waste management area to be designated on site and include appropriate waste management facilities for collection, separation and storage of waste streams (secure facilities with lockable lids for small general waste items; skip for rubble with tarpaulin for covering; hazardous material storage area; emergency response spill kits, required drip trays, cement mixing containers; hazardous waste storage receptacle; and sanitation (cleaning drinking, washing water and toilets as required). • Keep rubble separate from stockpiles of soils. • Under no circumstances may solid waste be burnt or buried on site / surrounding area; • No Littering; consider implementing fines for litter • All solid waste collected must be disposed of at a registered waste disposal site on a regular basis; waste materials must be removed from site as quickly as possible and not stockpiled on site. Waste disposal records must be kept on record. • The site shall be kept free of litter throughout the construction period, and all construction waste shall be removed upon completion of the works. • An incident/complaints register must be established and maintained on-site. Corrective action must be undertaken immediately if a complaint is received. Hazardous materials management						

	- Only the minimum quantities of fuels, oils, paints, solvents and other hazardous materials required for construction shall be stored on site. - Hazardous materials shall be stored in sealed containers within a secure, roofed and bunded storage area. - Refuelling and maintenance of construction equipment shall take place only within designated areas using drip trays and spill containment measures. - Cement mixing shall be undertaken in suitable mixing trays to prevent contamination of surrounding soils and the adjacent dune environment. - Drip trays shall be placed beneath stationary plant and equipment where there is a risk of hydrocarbon leakage. - Spill kits shall be available on site at all times. Any spills shall be contained immediately, contaminated material removed, and disposed of at an appropriately authorised hazardous waste facility. - Machinery and equipment shall be maintained in good working order to minimise leaks and pollution.						
Impact 8:	Water Quality – Elevated Nutrient and Bacterial Levels through incorrect sewage management on site						
Nature of impact:	Direct / Indirect / cumulative as applicable						
Description of impact	During the construction there will be a low risk of sewage effluent entering the surrounding area, which could potentially result in impacts of moderate significance in the receiving environment. However, with appropriate mitigation and management this potential impact could readily be reduced to low significance.						
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	No-go / baseline		Without mitigation		With mitigation	
	Spatial			Local	3	Activity	1
	Duration			Very short	1	Very short	1
	Frequency			Infrequent	2	Rare	1
	Intensity			Low to medium	2	Low	1
	Severity			Low	5	Negligible	3
	Consequence			Low	8	Negligible	4
	Probability			Plausible	3	Slight	2
	Impact Significance			Medium	11	Low	6
	Mitigation	Possible					
	Confidence	High					

Mitigation Measures	- Adequate ablution facilities must be provided for all construction staff and strict supervision provided to ensure sewage contamination of the site does not take place. - Ablution facility to be provided as necessary at a ratio of 1:10; ablution facility must be secured to prevent being blown over and must be placed within development / laydown area; - Ablution facility to be regularly serviced registered company on a regular basis. Service slips to be kept on record by site manager for audit purposes. - The proposed on-site conservancy tank should be constructed according to the design specifications - Ensure items that can cause blockages / malfunctioning of system is not flushed down toilets.						
Impact 9:	Unintentional and uncontrolled fires can have high significant impacts on the social and natural environment						
Nature of impact:	Direct (fire) and indirect (visual, smoke, smog)						
Description of impact	Unintentional and uncontrolled fires can have high significant impacts on the social and natural environment. Site is approximately 741.6 m² in extent and comprised of intact thicket vegetation, aeolian sands and dune systems. Some Rooikrantz is growing in surrounding dune areas. Thicket is not fire driven and the site is considered to have a moderate fire risk. Clearing rooikrans and ongoing indigenous revegetation will decrease the fire risk.						
Impact Rating	Impact Status	Negative		Negative Impact		Negative Impact	
	Impact Criteria	No go / baseline		Without mitigation		With mitigation	
	Spatial	Site	2	Local	3	Site	2
	Duration	Very short	1	Very short	1	Very short	1
	Frequency	Rare	1	Rare	1	Rare	1
	Intensity	Low to medium	2	Medium	3	Low to medium	2
	Severity	Low	4	Low	5	Low	4
	Consequence	Medium	6	Medium	8	Low	6
	Probability	Plausible	3	Plausible	3	Plausible	3
	Impact Significance	Low	9	Medium	11	Low	9
	Mitigation	Possible					
	Confidence	High.					
Mitigation Measures	Construction and maintenance as required (include in training to contractors and subcontractors) No cigarette butts or burning substances are permitted to be released into the environment. All cigarette butts to be extinguished first and then disposed of in a waste receptacle provided.						

	- No burning of waste – put in place waste management measures to ensure waste is moved off site timeously, particularly AIS slashed material which can be a fire risk if it is not chipped and spread. - Fire response measures to be in place (i.e., fire extinguishers, fire emergency response water) - If a fire is detected it must be attended to immediately. - Fire emergency response training to take place. - Ensure emergency numbers are on hand for fire response in the area. - Contractors are encouraged to be in close contact with South African weather Services at all times to receive early warning details of floods, droughts, high winds and potential fires in the area and plan accordingly						
Impact 10:	Traffic and road - Personnel vehicles, construction vehicles, deliveries / collections, machinery						
Nature of impact:	Direct and cumulative						
Description of impact	The development area is located in a residential area. Access to the land portion is via de Jager Road. Construction will involve transporting of workers to and from the site on a daily basis; delivery of building materials and site visits by relevant service providers. With mitigation in place, the impact is expected to be low to negligible.						
Impact Rating	Impact Status	Negligible		Negative Impact		Negative Impact	
	Impact Criteria	No go alternative (baseline)		Without mitigation		With mitigation	
	Spatial	-	-	Activity	1	Activity	1
	Duration	-	-	Very short	1	Very short	1
	Frequency	-	-	Seldom	3	infrequent	2
	Intensity	-	-	Low	1	Low	1
	Severity	-	-	Low	5	Low	4
	Consequence	-	-	Low	6	Low	5
	Probability	-	-	Probable	4	Slight	2
	Impact Significance	-	-	Low	10	Low	7
	Mitigation	Possible					
	Confidence	High					
	- Entrance to the site only permitted from designated access point provided by landowner - Ensure strict access control to and from the construction site at all times. - All construction vehicles are to be monitored to ensure they are not overly full so the likelihood of spillage of debris is prevented. Ensure any debris spilled onto roads is cleared up. - Any loose materials transported to / from site must be covered.						

	- Surrounding area and roads should be monitored for debris and materials associated with the proposed development and cleaned up as soon as such becomes apparent. - All materials to be delivered in a safe manner at designated delivery area located within footprint of the development site; ensure sufficient space is allocated in the construction site plan to provide safe turning for larger trucks. - Speed travelled by construction vehicles must be kept to a minimum and speed limits enforced; contractors and service providers are to travel slowly and avoid collisions with wildlife. - No transport of construction machinery / materials to or from the site to take place on public holidays or weekends. - Contractor to minimise trips to and from site as far as practically possible. - All vehicles are to be in good working order and equipped with spare parts (tyre etc) to avoid breakdowns along the private road and disrupting other users of the road.																																																																																			
Impact 11:	Noise impacts																																																																																			
Nature of impact:	Noise impacts disturbing nearby residents																																																																																			
Description of impact	The site is located in a residential area with the nearest neighbouring dwelling is located approximately 10 meters from the development site. The beach is south of the development, and the dunes prevent line of sight from the beach to the development area. Sources of noise during construction phase include construction personnel, vehicles and any machinery used for clearing of vegetation, levelling, and excavation. Any noise generated is likely to be experienced by those close to the construction activity. With mitigation measures in place, the noise impacts will be short-lived and considered to be negative and of low significance.																																																																																			
Impact Rating	<table><tr><td>Impact Status</td><td>Negative</td><td colspan="2">Negative Impact</td><td colspan="2">Negative / Negligible Impact</td></tr><tr><td>Impact Criteria</td><td colspan="2">No go / baseline – not applicable</td><td colspan="2">Without mitigation</td><td colspan="2">With mitigation</td></tr><tr><td>Spatial</td><td></td><td></td><td>Activity</td><td>1</td><td>Activity</td><td>1</td></tr><tr><td>Duration</td><td></td><td></td><td>Very short</td><td>1</td><td>Very short</td><td>1</td></tr><tr><td>Frequency</td><td></td><td></td><td>Seldom</td><td>2</td><td>Rare</td><td>1</td></tr><tr><td>Intensity</td><td></td><td></td><td>Low to medium</td><td>2</td><td>Low</td><td>1</td></tr><tr><td>Severity</td><td></td><td></td><td>Low</td><td>5</td><td>Negligible</td><td>3</td></tr><tr><td>Consequence</td><td></td><td></td><td>Low</td><td>6</td><td>Negligible</td><td>4</td></tr><tr><td>Probability</td><td></td><td></td><td>Plausible</td><td>3</td><td>Slim</td><td>1</td></tr><tr><td>Impact Significance</td><td></td><td></td><td>Low</td><td>9</td><td>Negligible</td><td>5</td></tr><tr><td>Mitigation</td><td colspan="6">Possible</td></tr><tr><td>Confidence</td><td colspan="6">High.</td></tr></table>	Impact Status	Negative	Negative Impact		Negative / Negligible Impact		Impact Criteria	No go / baseline – not applicable		Without mitigation		With mitigation		Spatial			Activity	1	Activity	1	Duration			Very short	1	Very short	1	Frequency			Seldom	2	Rare	1	Intensity			Low to medium	2	Low	1	Severity			Low	5	Negligible	3	Consequence			Low	6	Negligible	4	Probability			Plausible	3	Slim	1	Impact Significance			Low	9	Negligible	5	Mitigation	Possible						Confidence	High.					
	Impact Status	Negative	Negative Impact		Negative / Negligible Impact																																																																															
	Impact Criteria	No go / baseline – not applicable		Without mitigation		With mitigation																																																																														
	Spatial			Activity	1	Activity	1																																																																													
	Duration			Very short	1	Very short	1																																																																													
	Frequency			Seldom	2	Rare	1																																																																													
	Intensity			Low to medium	2	Low	1																																																																													
	Severity			Low	5	Negligible	3																																																																													
	Consequence			Low	6	Negligible	4																																																																													
	Probability			Plausible	3	Slim	1																																																																													
	Impact Significance			Low	9	Negligible	5																																																																													
	Mitigation	Possible																																																																																		
	Confidence	High.																																																																																		
Impact 12:	Visual impacts																																																																																			

Nature of impact:	Direct (receptors)						
Description of impact	Sources of visual impacts during construction phase include poor housekeeping and poor waste management. Construction will take approximately 6 - 24 months to complete. Receptors of visual impacts during construction includes the neighbouring residents in the area. Strict implementation of all mitigation measures will minimise visual impacts.						
Impact Rating	Impact Status	Negative		Negative Impact		Negative / Negligible Impact	
	Impact Criteria	No go / baseline – not applicable		Without mitigation		With mitigation	
	Spatial			Activity	1	Activity	1
	Duration			Short – medium	3	Short – medium	3
	Frequency			Regular	4	Seldom	3
	Intensity			Low to medium	2	Low	1
	Severity			Low	9	Negligible	7
	Consequence			Low	10	Negligible	8
	Probability			Plausible	3	Slight	2
	Impact Significance			medium	13	Low	10
	Mitigation	Possible					
	Confidence	High.					
Mitigation Measures	Construction and maintenance as required (include in training to contractors and subcontractors) • Sufficient notice to be given to the residents with an indication of a work schedule and expected work commencing on their households • Working hours to be restricted to daytime hours (i.e. 8 am – 5 pm) • No major construction work to take place after hours or on Sundays or on public holidays. • A complaints register should be kept to document complaints and the corrective action taken. • Keep working area as small as possible in identified developable area. • No loud music to be allowed on site. • All vehicles and machinery must be kept in good working condition. • Ensure good housekeeping by putting in place required mitigation measures (soil, waste management as applicable)						
Impact 13:	Income generation						
Nature of impact:	Direct (employment, sourcing of materials and associated services) and indirect (skills development and transfer of skills)						

EAP Services

Description of impact	Construction phase of the development will result in positive impacts through direct employment, sourcing of materials and associated services required. Skills development is expected to result from associated opportunities. An estimated 10 employment opportunities will be created during the planning and construction phase. Local labour (local reputable contractor) should be sourced from the local area as far as possible to enhance the benefits of employment creation to the immediate area . Materials and any required professional services should also be sourced locally as far as possible. The project will offer temporary employment to contractors which is a positive social impact. Indirect skills development is also expected which is a permanent positive impact.						
Impact Rating	Impact Status			Positive Impact		Positive Impact	
	Impact Criteria	No go / baseline		Without mitigation		With mitigation	
	Spatial	-	-	Local	3	Local	3
	Duration	-	-	Very short	1	Very short	1
	Frequency	-	-	Rare	1	Rare	1
	Intensity	-	-	Low	1	Low	1
	Severity	-	-	Negligible	3	Low	3
	Consequence	-	-	Low	6	Low	6
	Probability	-	-	Probable	4	Expected	5
	Impact Significance	-	-	Low	10	Medium	11
	Mitigation	Possible					
	Confidence	High.					
Mitigation Measures	Construction and maintenance as required (include in training to contractors and subcontractors) • Use local reputable contractor • Use local materials, where possible. • Make use of local services where required and possible • Do not pay any cash wages on site to minimise criminal risk to employees • Ensure requirements of Health And Safety Act and Labour Act are in place as required						

D.2.3 OPERATIONAL PHASE

Alternative:	Dwelling within dynamic coastal area					
NEMA LN Activity	EA prior to development within 100m of HWM; clearance indigenous vegetation					
NEMBA/ PNCO / NFA	Permits for SCC and / or protected trees if and as required					
HRA Section 38	Permit for any archaeological, palaeontological resource that may be uncovered during construction / maintenance activities if and as required					
NEMWA	Waste management hierarchy – avoid, reduce, reuse, recycle, dispose					
NEMBA, CARA	AIS to be removed by landowner					
NEM: ICMA	development within 100m of HWM of sea					
Aspect	Residential dwelling					
Impact 1:	<i>AIS and indigenous flora and erosion and dune stability</i>					
Nature of impact:	Direct and indirect (fauna) and cumulative (dune, coastal, terrestrial)					
Description of impact	Ongoing removal of AIS (and replacement with indigenous) during operations on the site can result in a positive impact if implemented and lead to natural rejuvenation of indigenous vegetation, if implemented, and can, in the long term result in attracting of indigenous birds, invertebrates and reptiles to the site due to habitat and forage creation on the site. The dunes will be more stable with a permanent vegetation; the owner must minimise walking through the dune vegetation as far as possible and avoid creating multiple tracks through the vegetated area.					
Impact Rating	Impact Status	Negative Impact		Negative Impact		Positive Impact
	Impact Criteria	No go / current		Without mitigation (current)		With mitigation
	Spatial	Activity	1	Local	3	Activity
	Duration	Medium	3	Medium to long	4	Very short
	Frequency	Seldom	3	Seldom	3	Infrequent
	Intensity	Low	1	Low	1	Low
	Severity	Medium	7	Medium	8	Negligible
	Consequence	Medium	8	Medium	11	Low
	Probability	Slight	2	Probable	4	Slim to slight
	Impact Significance	Low	10	Medium	15	Low
	Mitigation	Possible				

	Confidence	High
Mitigation Measures	• The landowners are to responsible for the vegetation maintenance per land portion and to resume ongoing AIS clearing and revegetation as required. • When removing AIS ensure the area is not left bare and use mulch, indigenous seeds and plants local to the area, to hold soil in place (have mulch, seeds, seedlings ready prior to clearing) • Follow working for water guidelines / ARC guidelines – Working for water: wfw@dwaf.gov.za National Department of Agriculture: Declaredweedsandinvaders@nda.agric.za Agricultural Research Council for biocontrol: www.arc.agric.za	

AIS Identification guide	Biological control	Mechanical control	Chemical control	Specific management measure
 Western coastal rooikrans (<i>Acacia cyclops</i>)	Seed feeding weevils (<i>Melanterius servulus</i>)– reduces seed production; Midge -(<i>Dasineura diels</i>) induces galls on the ovary, introduce and can control seed production.	Hand pulling seedlings; Pulled out either by hand or using a tree popper. This is the most preferred method of control.	YES – after cutting apply herbicide to stumps to prevent growth	Plants MUST be pulled out roots and all for this method to be effective. Minimise soil disturbance to reduce seed germination. Regular follow-up treatments are necessary to control seedlings and regrowth.
 Castor Oil Plant (<i>Ricinus communis</i>)		Yes – hand remove prior to seed, bag and dispose	Yes	
Impact 2:	Property value			
Nature of impact:	Direct (Landowner) and indirect and cumulative (KLM)			
Description of impact	The landowner would like to develop a residential dwelling and raised timber platform property and make use of the property to enjoy coastal activities such as kite boarding and surfing. The site is situated within Paradys beach. The development of the			

	dwelling will increase the value of the property significantly. There will be an increase in local rates and taxes to the KLM, which will offer additional funds for upgrading/maintenance works on services and infrastructure within the local area that will benefit the local community.						
Impact Rating	Impact Status	Positive		Positive		Positive Impact	
	Impact Criteria	No go / baseline		Without mitigation		With mitigation	
	Spatial	Site	2	Site	2	Site	2
	Duration	Very short	1	Very short	1	Very short	1
	Frequency	Rare	1	Rare	1	Rare	1
	Intensity	Low to medium	2	Medium	3	Medium to high	4
	Severity	Low	4	Low	5	Low	6
	Consequence	Low	6	Low	7	Medium	8
	Probability	Plausible	3	Probable	4	Expected	5
	Impact Significance	Low	9	Medium	11	Medium	13
	Mitigation	Possible					
	Confidence	High.					
Mitigation Measures	• Implement recommended mitigation measures and any conditions of the EA (if attained)						
Impact 3:	Water Quality – Elevated Nutrient and Bacterial Levels						
Nature of impact:	Direct / Indirect / cumulative as applicable						
Description of impact	There will be a low risk of sewage effluent entering the surrounding area, which could potentially result in impacts of moderate significance in the receiving aquatic environment. However, with appropriate mitigation this potential impact could readily be reduced to low significance. Due to the proposed conservancy tank sanitation system, the potential risk that domestic effluent could contaminate the area is highly unlikely provided the system is installed correctly, maintained and operated effectively and adequate precautions taken to prevent spillages.						
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	No-go / baseline		Without mitigation		With mitigation	
	Spatial			Local	3	Activity	1
	Duration			Very short	1	Very short	1
	Frequency			Infrequent	2	Rare	1
	Intensity			Low to medium	2	Low	1
	Severity			Negligible	5	Negligible	3

	Consequence			Negligible	8	Negligible	4
	Probability			Plausible	3	Slight	2
	Impact Significance	Negligible		Medium	11	Low	6
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	- The proposed on-site conservancy tanks should be constructed, operated and maintained according to the design specifications to prevent leakage and emptied regularly to prevent overtopping. - Care should be taken, particularly during rainfall events and flooding events when conservancy tanks may be inundated due to high groundwater levels, to prevent nutrient-rich water from flowing into the surrounding area. - Ensure disposal of items that can cause blockages / malfunctioning of system is not flushed down toilets. - Ensure the waste is regularly pumped out whenever the tank is full by a licensed hauling company ('Honey Sucker Service' to remove the content to the closest Wastewater Treatment Works once the tank is full). Keep proof of service on record						
Impact 4:	Stormwater Runoff Causing Erosion						
Nature of impact:	Direct (loss of vegetation and soil, erosion) and cumulative (disturbance to dune system)						
Description of impact	During the operational phase, uncontrolled stormwater runoff from roofs, paved areas and the driveway has the potential to cause localised erosion, mobilise sediment and adversely affect the adjacent coastal dune system if not appropriately managed.						
Impact Rating	Impact Status	Negligible		Negative Impact		Negative Impact	
	Impact Criteria	No go alternative (baseline)		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			Short – medium	3	Very short	1
	Frequency			Seldom	3	Rare	1
	Intensity			Low – medium	2	Low	1
	Severity			Medium	8	Negligible	3
	Consequence			Medium	10	Negligible	4
	Probability			Plausible	3	Plausible	3
	Impact Significance	Negligible		Medium	13	Low	7
	Mitigation	Possible					
	Confidence	High					

EAP Services

Mitigation Measures	• Avoid creating informal footpaths through dune vegetation; the proposed raised timber platform and walkway is recommended for recreational use and cleaning surfing equipment to minimise disturbance to dune vegetation and dune sands. • Maintain dense indigenous ground cover across disturbed areas to promote soil stability and minimise erosion. • Stormwater management infrastructure shall be inspected and maintained regularly to ensure effective operation and to prevent erosion, scour and sediment mobilisation. • Any disturbed areas resulting from maintenance activities shall be rehabilitated promptly with indigenous vegetation.						
Impact 5:	Waste management						
Nature of impact:	Direct and indirect and cumulative (Disturbance to flora and fauna; health impacts, visual impacts)						
Description of impact	The single residential dwelling will make use of the existing municipal refuse collection service. Operational waste generation is expected to be limited to normal domestic waste and is not anticipated to result in significant environmental impacts						
Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	No go / baseline		Without mitigation		With mitigation	
	Spatial			Site	2	Activity	1
	Duration			short	2	Very short	1
	Frequency			Infrequent	2	Infrequent	2
	Intensity			Low	1	Low	1
	Severity			Medium	5	Medium	4
	Consequence			Medium	8	Medium	5
	Probability			slight	2	slim	1
	Impact Significance	Negligible		Low	10	Low	6
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	• Domestic waste shall be stored in suitable refuse bins and collected as part of the municipal refuse collection service. • No waste shall be burnt, buried or dumped on the property.						
Impact 6:	Unintentional and uncontrolled fires can have high significant impacts on the social and natural environment						
Nature of impact:	Direct (fire) and indirect (visual, smoke, smog)						
Description of impact	Unintentional and uncontrolled fires can have high significant impacts on the social and natural environment. Site is approximately 741.6 m ² in extent and comprised of intact thicket vegetation, aeolian sands and dune systems. Some Rooikrantz is growing in						

	surrounding dune areas. Thicket is not fire driven and the site is considered to have a moderate fire risk. Clearing rooikrans and ongoing indigenous landscaping will decrease the fire risk.							
Impact Rating	Impact Status	Negative		Negative Impact		Negative Impact		
	Impact Criteria	No go / baseline		Without mitigation		With mitigation		
	Spatial	Site	2	Local	3	Site	2	
	Duration	Very short	1	Very short	1	Very short	1	
	Frequency	Rare	1	Rare	1	Rare	1	
	Intensity	Low to medium	2	Medium	3	Low to medium	2	
	Severity	Low	4	Low	5	Low	4	
	Consequence	Medium	6	Medium	8	Low	6	
	Probability	Plausible	3	Plausible	3	Plausible	3	
	Impact Significance	Low	9	Medium	11	Low	9	
	Mitigation	Possible						
	Confidence	High.						
Mitigation Measures	Landowners							
	• No fires beyond boundary of portion • No cigarette butts or burning substances are permitted to be released into the environment. All cigarette butts to be extinguished first and then disposed of in a waste receptacle provided. • No burning of waste • Fire response measures to be in place • If a fire is detected it must be attended to immediately. • Ensure emergency numbers are on hand for fire response in the area. • Regularly check South African weather Services at all times to receive early warning details of floods, droughts, high winds and potential fires in the area and plan accordingly							

Impact 7:	Placement of structures and infrastructure within a sensitive coastal dune environment resulting in increased susceptibility to coastal erosion and sand inundation
Nature of impact:	Direct (disturbance to the coastal dune system) and cumulative (adjacent development and future coastal processes may exacerbate dune instability, erosion and sand movement).

Alternative 1 – Original Layout (The platform is shown to be placed on the secondary dune)

Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation		With mitigation	
	Spatial	Activity	1	Site	2	Activity	1
	Duration	Short term	2	Short term	2	Short term	2
	Frequency	Rare	1	Rare	1	Rare	1
	Intensity	Medium Low	2	High	5	Medium high	4
	Severity	Negative Low	5	Negative Medium	8	Negative medium	7
	Consequence	Negative medium	6	Negative medium	10	Negative Low	8
	Probability	Slight	2	Expected	5	Plausible	3
	Impact Significance	Negative Low	8	Negative medium	15	Negative Medium	11
	Mitigation	Possible					
	Confidence	High					

Alternative 2 – Preferred Layout (Revised) (the platform has been moved approximately 1 m landward)

Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation		With mitigation	
	Spatial	Activity	1	Site	2	Activity	1
	Duration	Short term	2	Short term	2	Short term	2
	Frequency	Rare	1	Rare	1	Rare	1
	Intensity	Medium Low	2	High	5	Medium	3
	Severity	Negative Low	5	Negative Medium	8	Negative Low	6
	Consequence	Negative medium	6	Negative medium	10	Negative Low	7
	Probability	Slight	2	expected	5	Plausible	3
	Impact Significance	Negative Low	8	Negative medium	15	Negative Low	10
	Mitigation	Possible					
	Confidence	High					

Impact 8 Potential damage to the proposed dwelling resulting from dune instability and coastal dynamics

Nature of impact: Direct (site, proposed dwelling and associated infrastructure) and cumulative (adjacent development and future coastal processes may exacerbate dune instability and erosion).

Impact Rating	Impact Status	Negative Impact		Negative Impact		Negative Impact	
	Impact Criteria	Baseline (current) / no go alternative		Without mitigation (proposed site layout 1)		With mitigation	

	Spatial	Activity	1	Site	2	Activity	1
	Duration	Short term	2	Short term	2	Short term	2
	Frequency	Rare	1	Rare	1	Rare	1
	Intensity	Medium	3	High	5	Medium high	3
	Severity	Negative Low	6	Negative Medium	8	Negative Low	6
	Consequence	Negative Low	7	Negative medium	10	Negative Low	7
	Probability	Slight	2	expected	5	Plausible	3
	Impact Significance	Negative Low	9	Negative medium	15	Negative Low	10
	Mitigation	Possible					
	Confidence	High					
Mitigation Measures	- No footpaths to be created on the erf; the walkway is intended to concentrate pedestrian movement by residents and their visitors, thereby reducing the likelihood of informal trampling and the creation of multiple footpaths through the sensitive dune vegetation - Limit dune vegetation disturbance as much as possible from cutting, harvesting and developing multiple pathways. - Reintroduce pioneer dune vegetation; Encourage dense indigenous vegetation cover on the property - Encourage smaller foredunes to form to store sand and form a buffer during erosive events. Parabolic dunes move westward and can threaten infrastructure with sand inundation. The parabolic dunes are dependent on sand supply and therefore the best way to mitigate its development and propagation is to stabilise the bare sand immediately towards the east of the area affected by sand inundation through a network of hummock dunes. This should be initiated with anchored brushwood clumps (alien tree biomass that does not contain seeds; ~1 to 5 m diameter brush packs) at roughly 5 to 10 m spacings in a grid-type pattern. 5 m spacings should be used where blowouts are to be rehabilitated and larger 10 m spacings where dune hummocks are to be established. The brushwood area should be planted with indigenous sand-binding pioneer dune vegetation that will allow some sediment movement but will reduce the rate of transport. The brushwood will accumulate sand with the hope of creating a network of hummock dunes that can trap sand on the seaward side (foredune area), slow the wind velocity along the foredune surface and the blowout and act as a buffer against sea surges. It is important to leave a strip of unvegetated foredune that can erode and build up frequently as this will prevent steep dangerous dune cliffs from forming during storm events. - The private landowner should not clear dune vegetation and replant with lawns outside of the accepted fire break corridor; lawn grass has very shallow roots compared to the natural deeper-rooted dune vegetation, and it changes local near-ground wind profiles (accelerating sand transport). The longer roots of the indigenous dune vegetation help to anchor and stabilise						

	the dunes, especially near the beach-dune interface where dune erosion is often a problem. Properties close to the beach should aim to have dense indigenous dune vegetation around their perimeter to slow any erosional threats despite the obstruction of the view. • Should monitoring identify localised dune erosion or vegetation loss on the property, Implement dune rehabilitation measures consistent including the establishment of pioneer dune vegetation and, where appropriate, the use of brush packing and sand-trapping measures to promote dune stabilisation and reduce erosion. • Should post-construction monitoring identify that the elevated walkway and timber platform is adversely affecting sediment transport, dune dynamics, erosion or localised sand accumulation, appropriate corrective measures shall be implemented. Such measures may include modification, partial removal or complete removal of the structure, as recommended by a suitably qualified geomorphological specialist and agreed with the competent authority, where required
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D.2.4 DECOMMISSIONING AND CLOSURE PHASE (ALTERNATIVE (PREFERRED ALTERNATIVE))

This phase is applicable to the decommissioning of all existing structures as required. Planning and Construction phase impacts and mitigations are relevant to decommissioning of any structures.

3 CLIMATE CHANGE ASSESSMENT

Climate change issues must be considered as part of the EIA process Please consider the Climate Change guideline. EAP must determine:

- a)The potential impact of climate change on society and the economy, whether the impact is negative or positive, considering that society needs to be at the centre of the proposed development;
- b)The potential alternatives of the proposed development, alternatives that will have less impact on climate change (environment and generation of waste included), the society and economy;
- c)whether, and to what extent, the proposed development will result in the release of greenhouse gas (GHG) emissions;
- d)whether the proposed development is necessary to achieve long term decarbonisation goals;
- e)the impact of the development on social, economic, natural and built environment that are crucial for climate change, adaptation and resilience;
- f) the projected impact of climate change on proposed development; and surrounding environment, and implications for the development.
- g)Explanation of how the impacts is likely to be exacerbated or minimised as result of climate change and what measures are likely to be implemented to accommodate and manage (adapt to) the anticipated worst scenario where applicable
- h) whether, and to what extent, the impacts identified in (a) -(g) can be mitigated.

Climate Change

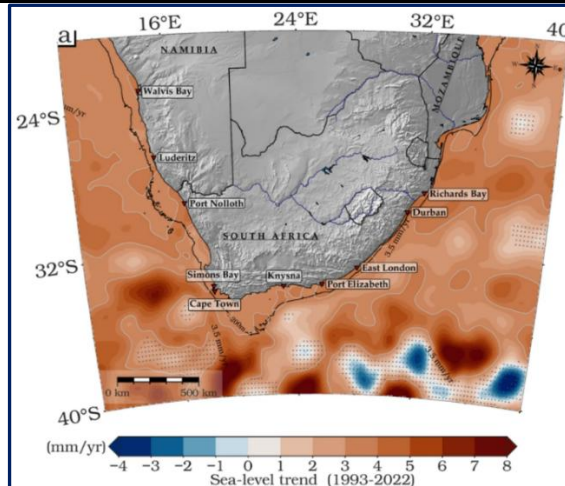
The Sarah Baartman Coastal Management Programme was finalised in January 2020. The broad objectives to which the EA application process and recommended mitigation measures of the proposed development attempt to align to are listed below:

- *Apply a risk-averse approach in development planning, where high risk areas are avoided, and where important biodiversity areas, unique habitats, ecological processes and other natural areas are protected.*
- *Manage the coastal environment and its catchment area to be resilient to the impacts of climate change.*
- *Allow ecological processes to function and avoid disturbance to dynamic coastal areas.*
- *Facilitate information sharing and transparency to allow for participatory management of the coastal zone and informed decision-making.*
- *Maintain good coastal water quality that is safe for recreational exposure and resource use, and that is needed by natural organisms to persist.*
- *Plan for sustainable coastal development that protects natural habitats and archaeological/cultural/heritage features and the ecological processes that support these, and enhances the livelihoods and well-being of the local community.*
- *Prioritise low impact development that is suitable to the area and retains 'sense of place'.*
- *The coast must be developed in a manner that allows for safe access and enjoyment by all people.*
- *Coastal development must be designed to build resilience to the impacts of climate change and sea-level rise.*

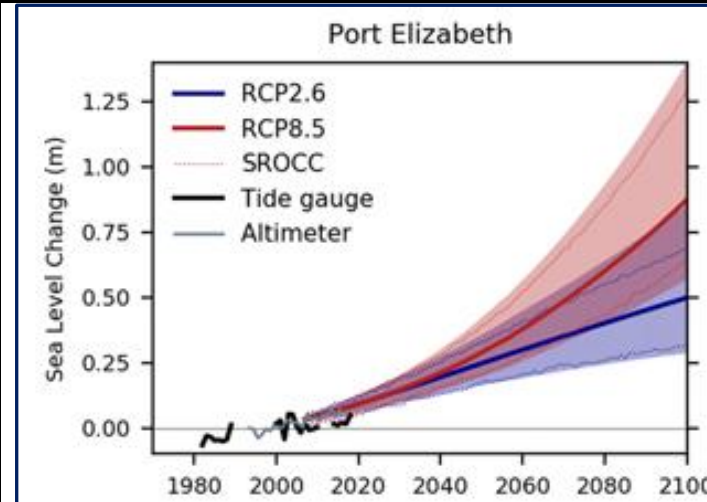
The Kouga Maintenance Management Plan for the Coastal Area between the Kromme and Kabeljous beaches, and the Seekoei Estuarine Functional Zone, indicates that dune restoration - sand traps, brush packing and sand barriers is a high priority and should start within 1 – 2years of the approval of the environmental authorisation and the maintenance management plan.

Sea level rise and future trends

The predicted sea level rise for South Africa varies by region, but recent studies indicate that coastal areas in the region of Port Elizabeth is experiencing sea level rise at a rate ranging from 1.2 to 2.9 mm per year. These values are similar to the global average of 3.3 mm. Some areas of South Africa, such as Cape Town, measured nearly double the global rate (Kemgang Ghomsi et al., 2025). Sea level rise is likely to continue over the next decade and beyond, with possible changes in the sea level ranging between 0.25 m and 1.25 m by 2100. These regional variations are driven by warming ocean waters, melting glaciers, melting ice sheets and rising landmasses (partly offsetting rising sea levels).

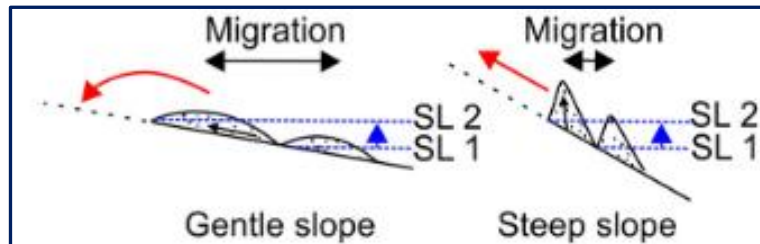


Sea level rise trends from 1993 to 2022 for the South African coastline (Kemgang Ghomsi et al., 2025)



Sea level rise predictions for Port Elizabeth (Allison et al., 2022)

In an assessment of likely future scenarios of the South African coastline Cooper and Green (2023) proposed several models of likely change. The model that applies most to the Paradise Beach coast, is a beach and dune system that is underlain by a bedrock platform. As the dunes along the Paradise Beach section of the coastline are low in elevation, the supply of sediment from these locations to the beach will be very limited. As these beaches and dunes are underlain by bedrock, the dynamic will be different in that the shoreline and beach will retreat in relation to the elevated sea level and the intersecting underlying bedrock. The angle of the underlying bedrock will influence the rate of shoreline retreat, with shallow bedrock platforms experiencing larger retreat rates compared to steeper bedrock platforms. Most of the *Paradise Beach* shoreline is formed on this rocky platform and therefore it is likely to follow this model along most of the shoreline.



Conceptual model of beach dynamics in relation to sea level rise on a bedrock platform (SL1 is the present-day level and SL2 the elevated sea level)(Cooper and Green, 2023)

Impact 1:	Impact of development on climate change					
Nature of impact:	Direct					
Description of impact	Energy saving measures will be incorporated into the design; a combination of gas, Eskom electricity and solar will be used. Designs will incorporate orientation and insulation. Glazing and aluminium will be incorporated for the windows and doors to assist with energy efficiency and withstanding coastal elements. Solar panels are recommended to be included as part to the design of the dwelling to augment supply demand (from non-renewable resources) of the residency; the impact of this development on climate change is negligible.					
Impact Rating	Impact Status		Negative Impact		Negative Impact	
	Impact Criteria	Impact significance				
		Without mitigation		With mitigation		
	Spatial	Site	2	Activity	1	
	Duration	Very short	1	Very short	1	
	Frequency	Infrequent	2	Rarely	1	
	Intensity	Low	1	Low	1	
	Severity	Low	4	Negligible	3	
	Consequence	Low	6	Negligible	4	
	Probability	Plausible	3	Slim	1	
	Impact Significance	Low	9	Negligible	5	
	Mitigation	Possible				
Confidence	High					
Impact 2:	Risk of climate change on property					
Nature of impact	Cumulative (combined effect of changes to the environment caused by multiple human activities over space and time)					
Description of impact	Predicting the extent of the coastal erosion can be based on the slope of the wave planed bedrock underlying the beach and the dunes. Unfortunately, this information is not available at present.					
Impact Rating	Impact Status		Negative Impact		Negative Impact	
	Impact Criteria	Impact significance				
		Without mitigation		With mitigation		
	Spatial	Site	2	Activity	1	
	Duration	Long term	6	Long term	6	
	Frequency	Rare	1	Rare	1	
	Intensity	Medium High	4	Medium	3	
	Severity	Medium High	11	Medium High	10	

	Consequence	Medium High	13	Medium	11
	Probability	Plausible	3	Plausible	3
	Impact Significance	Medium High	16	Medium	14
	Mitigation	Difficult			
	Confidence	Medium			
Mitigation Measures	As per mitigation measures for planning, construction and operational phase				

4. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Several potential impacts were identified during the construction and operational phases of the proposed development. Appropriate avoidance, minimisation and mitigation measures have been incorporated into the project design and Environmental Management Programme (EMPr) to manage these impacts. Without mitigation, the majority of identified impacts are of low to medium significance. Following implementation of the recommended mitigation measures, adherence to the EMPr, and the application of good construction and operational practices, all identified negative impacts are expected to reduce to low or negligible significance. No impacts of high or very high significance were identified. The proposed development will provide temporary employment opportunities during the construction phase and facilitate the continued residential use of the property in accordance with the applicable Kouga Local Municipality spatial planning framework.

The site is located within a dynamic coastal dune environment, and the proposed dwelling has therefore been specifically designed to minimise disturbance to the dune system and accommodate natural coastal processes. The dwelling is proposed to be constructed as a raised structure allowing continued natural sand movement beneath the structure and reducing the extent of cut-and-fill earthworks. Indigenous dune vegetation will be retained wherever practicable to assist in stabilising the dune surface, reducing erosion and limiting sand movement. The geomorphological assessment acknowledges that the eastern portion of the property may experience future sand accretion associated with natural dune migration and sea-level rise. To accommodate potential shallow dune movement, the foundations supporting the south-western portion of the dwelling will extend to depths determined by the structural engineer, thereby allowing movement within the upper dune layers without compromising the structural integrity of the dwelling.

The preferred layout (Alternative A2) incorporates the recommendations of the geomorphological specialist and comments received during the public participation process. The raised timber platform has been repositioned approximately 1 m further landward, relocating it off the secondary dune crest and onto the proposed fill area. Excavated material will, as far as practicable, be reused as fill on the north-eastern section of the erf which will assist to improve the stability of the eastern portion of the site, retain sediment within the local dune system and minimise the need for off-site disposal of excavated material. The conceptual stormwater layout has also been refined to direct runoff towards the north-western (road-side) portion of the erf, thereby avoiding concentrated discharge onto the south-eastern dune slope and reducing the potential for erosion, dune instability and impacts on natural coastal processes. The raised timber platform and elevated walkway will concentrate pedestrian movement within a single defined route, reducing the potential for informal footpaths and unnecessary disturbance to sensitive dune vegetation.

The geomorphological specialist concluded that the revised layout is compatible with the dynamic coastal dune environment, provided the recommended mitigation measures are implemented. These design refinements demonstrate the application of the mitigation hierarchy through avoidance and minimisation and are expected to reduce potential impacts on coastal processes, dune stability and ecological functioning.

The Draft Basic Assessment Report was made available for a 30-day public review and comment period. Comments received from interested and affected parties and commenting authorities have been considered and, where applicable, incorporated into the Final Basic Assessment Report. The Final Basic Assessment Report, together with the supporting specialist studies and Environmental Management Programme, provides sufficient information for the competent authority to make an informed decision regarding the application for Environmental Authorisation.

Alternative 1 (original layout)

The development has been specifically designed to respond to the site's sensitive coastal dune environment. The dwelling incorporates a raised structural design supported on reinforced concrete columns, thereby minimising disturbance to the dune system, reducing the extent of cut-and-fill earthworks, and allowing continued natural sand movement beneath the structure. Earthworks have been largely confined to the north-western (road-side) portion of the erf to establish the garage platform and driveway, while the steeper portion of the site remains largely undisturbed. This design approach reduces the development footprint on the dune slope and aligns with the recommendations of the geomorphological specialist.

The original layout included a raised platform and elevated walkway positioned further seaward on the property to provide a designated recreational and viewing area for the residents while reducing the likelihood of informal footpaths developing through the surrounding dune vegetation. Although the layout incorporated a raised structure to allow wind and sand movement beneath the deck, subsequent comments received during the public participation process resulted in further refinement of the design.

Alternative 2 (Preferred - Revised Layout)

Following comments received from the competent authorities during the public participation process, together with the recommendations of the geomorphological specialist, the raised timber platform has been repositioned approximately 1 m further landward, relocating it off the secondary dune crest and onto the proposed fill area. Excavated material will, as far as practicable, be reused as fill on the north-eastern section of the erf to establish the revised development platform, improve the stability of the eastern portion of the site and retain sediment within the local dune system.

The conceptual stormwater layout has also been refined to direct runoff towards the north-western (road-side) portion of the erf in accordance with the specialist recommendations, thereby avoiding concentrated discharge onto the south-eastern dune slope and reducing the potential for erosion and dune instability.

The dwelling maintains its raised structural design to minimise earthworks and accommodate natural sand movement beneath the structure, while the raised timber platform and elevated walkway continue to provide a designated recreational area that concentrates pedestrian movement, reduces the potential for informal footpaths and minimises disturbance to the sensitive dune vegetation.

Overall, Alternative 2 represents the environmentally preferred layout as it incorporates the recommendations of the geomorphological specialist and comments received during the public participation process. The refined platform location, filled area, improved stormwater management and raised construction collectively apply the mitigation hierarchy of avoidance and minimisation, while promoting the long-term stability, geomorphological functioning and ecological integrity of the coastal dune system.

Detailed engineering designs and construction drawings will be finalised once Environmental Authorisation has been obtained. The final site layout and design will comply with the conditions of the Environmental Authorisation (if granted) and the mitigation measures contained in the approved Environmental Management Programme (EMPr).

No-go alternative (compulsory)

The 'no-go' option assumes the site remains in its current state, and there will be no temporary construction impacts or long-term positive impact for the landowner.

SECTION E. RECOMMENDATIONS OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	☐
YES	☐

Is an EMPr attached?

The EMPr must be attached as Appendix F.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

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If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

The EMPr contains all recommended mitigation measures, updated to address comments received as applicable. All mitigation measures included in the EMPr are recommended to be implemented by the holder of the EA as required and applicable to the phase of the development. The EMPr is provided as Appendix F.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports – Site verification report

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information – Impact Assessment Methodology

References

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