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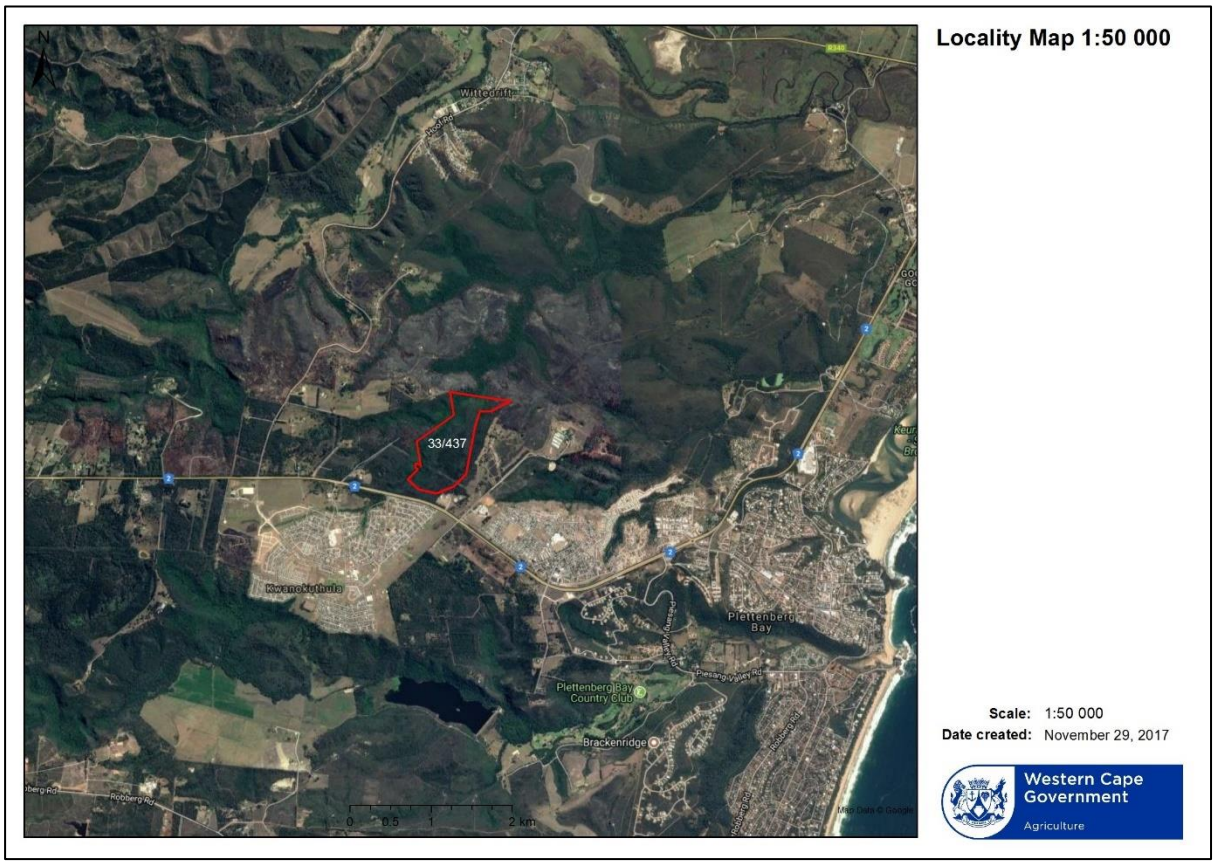
Proposed New Regional Cemetery on Portion 33 of The Farm Hill View No. 437, Plettenberg Bay, Western Cape



Date: August 2024

Compiled by: Samantha Teeluckdhari (2023/6443)
DEA&DP Reference: 16/3/3/1/D1/14/0026/24

EAP Signature: S. Teeluckdhari

CONDITIONS OF USE OF THE REPORT

This report is the property of **Eco Route Environmental Consultancy**, who may publish it, in whole, provided that:

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STATEMENT OF INDEPENDENCE

I, **Samantha Teeluckdhari** of Eco Route Environmental Consultancy, in terms of section 33 of the NEMA, 1998 (Act No. 107 of 1998), as amended, hereby declare that I provide services as an independent Environmental Assessment Practitioner (EAPASA Reg: **2023/6443**) and receive remuneration for services rendered for undertaking tasks required in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and the Environmental Impact Assessment Regulations, 2014 (as amended). I have no financial or other vested interest in the project.

Western Cape Government

Department of Environmental Affairs and Development Planning

BASIC ASSESSMENT REPORT

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

AUGUST 2024

BASIC ASSESSMENT REPORT

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

AUGUST 2024

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

GENERAL PROJECT DESCRIPTION

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

Proposed New Regional Cemetery on Portion 33 of The Farm Hill View No. 437, Plettenberg Bay, Western Cape

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DEPARTMENTAL DETAILS	
CAPE TOWN OFFICE: **DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 1)** (City of Cape Town, West Coast District, Cape Winelands District & Overberg District)	**GEORGE REGIONAL OFFICE:** **DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 3)** (Central Karoo District & Garden Route District)
The completed Form must be sent via electronic mail to: DEADPEIAAdmin@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 1) at: E-mail: DEADPEIAAdmin@westerncape.gov.za Tel: (021) 483-5829 Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1) Private Bag X 9086 Cape Town, 8000	The completed Form must be sent via electronic mail to: DEADPEIAAdmin.George@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 3) at: E-mail: DEADPEIAAdmin.George@westerncape.gov.za Tel: (044) 814-2006 Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530

MAPS

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

	○ Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): ○ Ridges; ○ Cultural and historical features/landscapes; ○ Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.

ACRONYMS

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

ATTACHMENTS

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

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	x
	Appendix A3:	**Map with the GPS co-ordinates for linear activities**	x
Appendix B:	**Appendix B1:**	**Site development plan(s)**	✓
	Appendix B2	**A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;**	✓
Appendix C:	**Photographs**		✓
Appendix D:	**Biodiversity overlay map**		✓
Appendix E:	**Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.**		
	Appendix E1:	**Final comment/ROD from HWC**	✓
	Appendix E2:	**Copy of comment from Cape Nature**	x
	Appendix E3:	**Final Comment from the DWS**	x
	Appendix E4:	**Comment from the DEA: Oceans and Coast**	x
	Appendix E5:	**Comment from the DAFF**	x
	Appendix E6:	**Comment from WCG: Transport and Public Works**	x
	Appendix E7:	**Comment from WCG: DoA**	x
	Appendix E8:	**Comment from WCG: DHS**	x
	Appendix E9:	**Comment from WCG: DoH**	x

	Appendix E10:	**Comment from DEA&DP: Pollution Management**	x
	Appendix E11:	**Comment from DEA&DP: Waste Management**	x
	Appendix E12:	**Comment from DEA&DP: Biodiversity**	x
	Appendix E13:	**Comment from DEA&DP: Air Quality**	x
	Appendix E14:	**Comment from DEA&DP: Coastal Management**	x
	Appendix E15:	**Comment from the local authority**	✓
	Appendix E16:	**Confirmation of all services (water, electricity, sewage, solid waste management)**	TBC
	Appendix E17:	**Comment from the District Municipality**	x
	Appendix E18:	**Copy of an exemption notice**	✓
	Appendix E19	**Pre-approval for the reclamation of land**	x
	Appendix E20:	**Proof of agreement/TOR of the specialist studies conducted.**	To be included in FBAR
	Appendix E21:	**Proof of land use rights**	✓
	Appendix E22:	**Proof of public participation agreement for linear activities**	x
Appendix F:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		To be included in Final BAR
Appendix G:	**Specialist Report(s)**		✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening tool report**		✓
Appendix J:	**The impact and risk assessment for each alternative**		Included in report
Appendix K:	**Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline**		✓
Appendix…..	**Any other attachments must be included as subsequent appendices**		

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE: REGION 1		GEORGE OFFICE: BEGION 3
	(City of Cape Town, West Coast District	(Cape Winelands District & Overberg District)	(Central Karoo District & Garden Route District)

Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	Bitou Local Municipality	
Name of contact person for Applicant/Proponent (if other):	Ralph Links	
Company/ Trading name/State Department/Organ of State:		
Company Registration Number:		
Postal address:	P/Bag X1002	
	Plettenberg Bay	Postal code: 6600
Telephone:	(044) 501 3324	Cell:
E-mail:	rlinks@plett.gov.za	Fax: 086 659 7954
Company of EAP:	Eco Route Environmental Consultancy	
EAP name:	Samantha Teeluckdhari	
Postal address:	P.O. Box 1252	
	Sedgefield	Postal code: 6573
Telephone:	044 343 2232	Cell: 072 773 5397
E-mail:	samantha@ecoroute.co.za	Fax: 086 402 9562
Qualifications:	BSS Geography and Environmental Management	
EAP registration no:	2023/6443	
Duplicate this section where there is more than one landowner Name of landowner:	The South African National Roads Agency Limited (SANRAL)	
Name of contact person for landowner (if other):	Jacobus Corneilus van der Walt	
Postal address:		
		Postal code:
Telephone:	+27 (0)21 957 4618	Cell:
E-mail:	dyerss@nra.co.za	Fax: +27 (0) 21 910 1699
Name of Person in control of the land:	Bitou Local Municipality	
Name of contact person for person in control of the land:	Ralph Links	
Postal address:	P/Bag X1002	
	Plettenberg Bay	Postal code: 6600
Telephone:	(044) 501 3324	Cell:
E-mail:	rlinks@plett.gov.za	Fax: 086 659 7954

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Bitou Local Municipality	
Contact person:	Ralph Links	
Postal address:	P/Bag X1002	
	Plettenberg Bay	Postal code: 6600
Telephone	(044) 501 3324	Cell:
E-mail:	rlinks@plett.gov.za	Fax: 086 659 7954

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

1.	Is the proposed development (please tick):	New		Expansion	
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
Greenfield site					
3.	**For Linear activities or developments NOT APPLICABLE**				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
3.2.	Development footprint of the proposed development for all alternatives.				m²
3.3.	Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.				
3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
3.5.	SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives				
3.6.	**Starting point co-ordinates for all alternatives**				
	Latitude (S)	°	‘	“	
	Longitude (E)	°	‘	“	
	Middle point co-ordinates for all alternatives				
	Latitude (S)	°	‘	“	
	Longitude (E)	°	‘	“	
	End point co-ordinates for all alternatives				
	Latitude (S)	°	‘	“	
	Longitude (E)	°	‘	“	
Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.					
4.	**Other developments**				
4.1.	Property size(s) of all proposed site(s):				450 200 m²
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):				N/A m²
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:				Approx. 120 000 m²
4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).				

Locality

Five properties were initially identified by the Bitou Municipality for the proposed development of a regional cemetery. After several specialist studies were conducted on each property, Portion 33 of the farm 437 Hillview was identified as the most viable option. Portion 33 of the farm Hillview 437 is located to the north of the Kwanokuthula suburb and west of Plettenberg Bay town. The site can be located at GPS coordinates 34° 2'28.31"S and 23°19'48.95"E.

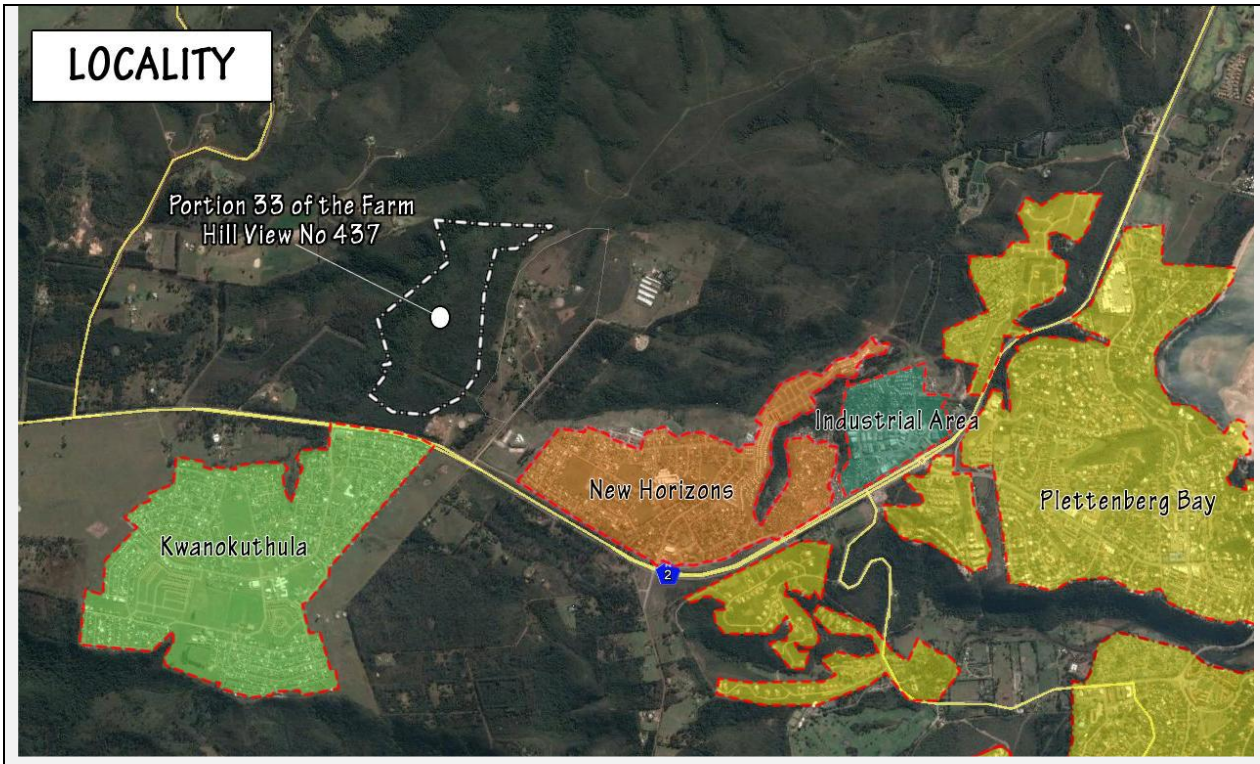

Figure 1 Locality Map (obtained from the "Portion 33 of the farm Hill View no 437 Specialist Planning Report" prepared by Marike Vreken Urban and Environmental Planners, October 2017)

Alternative 1 (Preferred Alternative) – 44.976ha total area; approximately 12ha development footprint:

The preferred alternative includes the following:

- Regional cemetery
- Memorial garden
- Chapel – 250m^2
- 51 Public parking bays and 3 bus parking bays
- Ablution block – 30m^2
- Caretakers dwelling – 75m^2
- Access road
- Private Open Space – 33ha. *Potential future plans - The private open space will be used for recreational purposes such as hiking and biking trails that can contribute to tourist development.

The cemetery will be split into a northern (approx. 3.67ha) and southern (approx. 6ha) section by the access road. The graves on the northern section will total 4239 (3619 adult graves and 620 children's graves) and the graves on the southern section will total 6142 - no children's graves will be located on the southern section of the cemetery. The adult graves will measure 2.2m x 0.9m with a spacing of 1.2m between each grave. Children's graves measure 1.5m x 0.7m with a spacing of 1.2m between each grave. A 22m electrical servitude traverses the southern part of the proposed cemetery and no graves will be located within this servitude.

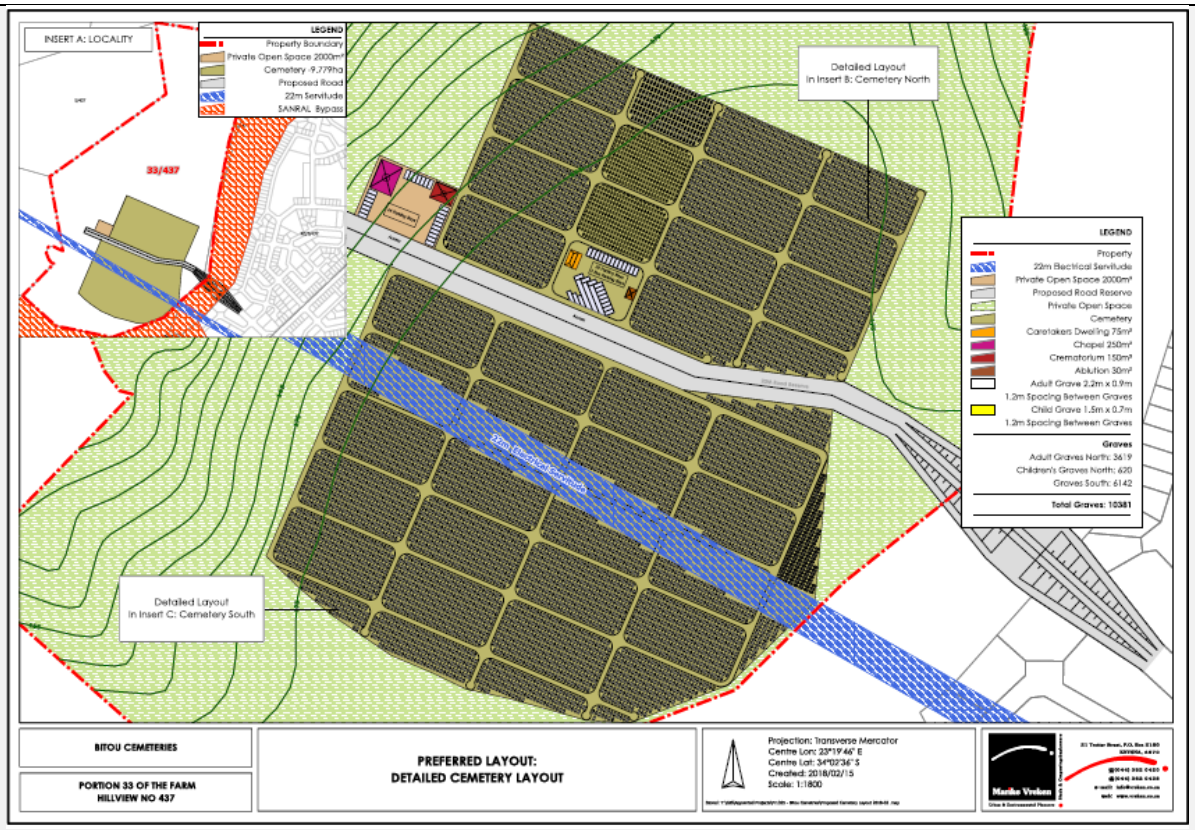

Figure 2 Preferred Alternative Layout

Alternative 2 – 44.976ha total area; approximately 11ha development footprint:

The second alternative includes the following:

- Regional cemetery
- 27 Public parking Bays and 3 bus parking bays
- Ablution block – 30m^2
- Caretakers dwelling – 75m^2
- Access road
- Private Open Space – 33ha. *Possible future plans - The private open space will be used for recreational purposes such as hiking and biking trails that can contribute to tourist development.

The cemetery will be split into a northern (approx. 3.687ha) and southern (approx. 6ha) section by the access road. The graves on the northern section will total 4455 (3835 adult graves and 620 children's graves) and the graves on the southern section will total 6142 - no children's graves will be located on the southern section of the cemetery. The 22m electrical servitude will be relocated to the satisfaction of ESKOM at the expense of Bitou Municipality.

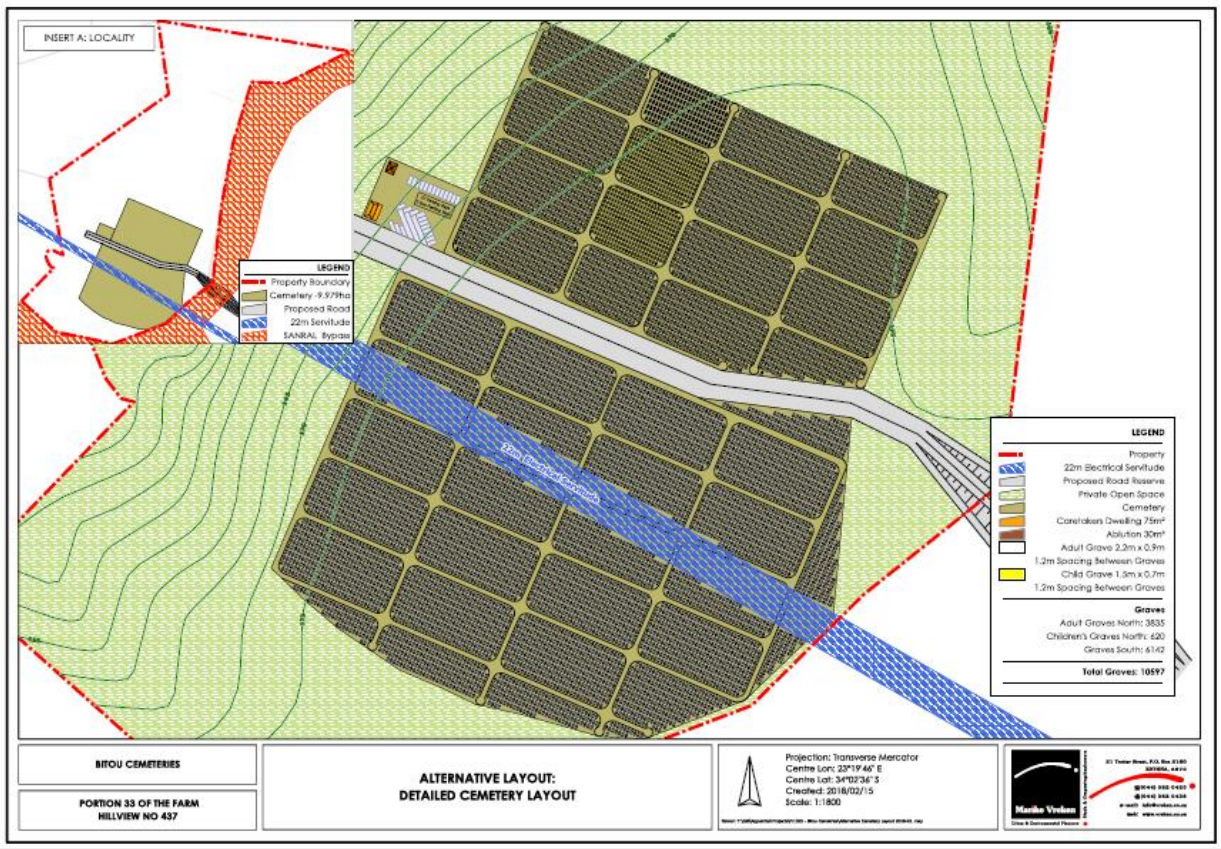

Figure 3 Alternative Layout

Civil Services for Both Alternatives

The point of supply could be the existing Kwanokuthula Tower Reservoir at an elevation of 201m above MSL. The master planning includes the construction of a new 250mm diameter gravity main from Kwanokuthula Reservoir to the proposed Ebenezer Housing Development. The proposed cemetery and ancillary uses could the feel within the new Kwanokuthula/ Ebenezer Water Supply Zone.
An internal reticulation pipe diameter of 110mm should be specified with a 32mm diameter ring main to standpipes and dwelling/chapel unit connections of 20mm diameter. The proposed cemetery is located between contour level 175m and 150m above MSL and should be provided with adequate residual pressure from the Kwanakuthula Tower Reservoir at 201m above MSL.

Each ancillary use in the proposed cemetery will be provided with an individual sewer connection. Sewage generated by the ancillary cemetery facilities will gravitate from the internal network to the proposed new conservancy tank on the Northern boundary of the Cemetery layout situated at contour level 150m. The internal network should consist of 160mm diameter pipes with manholes spaced at not more than 80m and at flow direction changes.

Future planning could allow for sewage to be pumped via a 110mm diameter pumping main pipeline to the Future Ebenezer Housing Development network where it will gravitate in the Future bulk 250mm gravity outfall sewer to the Waste Water Treatment Works.

Electrical Services for Both Alternatives

There is an existing electrical connection on portion 3 of the Farm 437. Bulk supply for any significant development will need to be upgraded but could be connected from the main supply at New Horizons.

There is a 22 m Eskom Servitude located towards the south side portion 33 of the Farm Hill View no 437, this servitude is accommodated in the proposed layout.

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

Access to the proposed development is proposed via a new western leg to the existing Ebenezer Road/Saringa Road intersection.																						
4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C	0	3	9	0	0	0	0	0	0	0	0	0	4	3	7	0	0	0	3	3
4.7.	Coordinates of the proposed site(s) for all alternatives:																					
	Latitude (S)							34°						2‘				28.31“				
	Longitude (E)							23°						19‘				48.95“				

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

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

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

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

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (“ICMA”). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES	NO
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (“NHRA”). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1. NID submitted to HWC	YES	NO
The National Water Act, 1998 (Act No. 36 of 1998) (“NWA”). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES	NO
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (“NEM:AQA”). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO
The National Environmental Management Waste Act (Act No. 59 of 2008) (“NEM:WA”)	YES	NO
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 (“NEMBA”).	YES	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) (“NEMPAA”).	YES	NO
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO

3. Other legislation

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

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
National Policy Development Framework 2020
The National Environmental Management Act, 1998 (107 Of 1998)
Bitou Municipal Land Use Planning Bylaw, 2015
Spatial Planning and Land Use Management Act (16 Of 2013)
Western Cape Land Use Planning Act, 2014 (3 Of 2014)
Subdivision Of Agricultural Land Act, 1970 (Act 70 Of 1970)
National Heritage Resources Act, 1999 (Act 25 Of 1999)
National Health Act, 2003 (Act 61 Of 2003)

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.
DEA&DP Biodiversity Guideline (June 2005)
DEA&DP EIA Guideline (March 2013)
DEA&DP Guideline on Need and Desirability (March 2013)

National Development Plan (2011)
Provincial Spatial Development Framework (2014)
Bitou Municipality IDP 2017-2022
Garden Route Biodiversity Sector Plan

6. Protocols

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

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
23	The development of cemeteries of 2 500 square metres or more in size.	Portion 33/437 farm Hillview is earmarked for the development of a cemetery approximately 12 ha in size.
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii)maintenance purposes undertaken in accordance with a maintenance management plan.	Portion 33/437 farm Hillview will require the clearing of approximately 12 ha of indigenous vegetation for the development of a cemetery.
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. i. Western Cape **i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;** ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur	According to the SANBI Red Listed Ecosystem data, Portion 33/437 is located within an ecosystem of Least Concern, with a minor band on the southern portion of the property occurring within an Endangered ecosystem.

	behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	

Note:

- The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted.
- Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority.

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

NOT APPLICABLE

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

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

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

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

Alternative 1 (Preferred Alternative) – 45.02ha total area; approximately 12ha development footprint:

The preferred alternative includes the following:

- Regional cemetery
- Memorial garden
- Chapel – 250m^2
- 51 Public parking bays and 3 bus parking bays
- Ablution block – 30m^2
- Caretakers dwelling – 75m^2
- Access road
- Private Open Space – 33ha. *Potential future plans - The private open space will be used for recreational purposes such as hiking and biking trails that can contribute to tourist development.

The cemetery will be split into a northern (approx. 3.687ha) and southern (approx. 6ha) section by the access road. The graves on the northern section will total 4239 (3619 adult graves and 620 children's graves) and the graves on the southern section will total 6142 - no children's graves will be located on the southern section of the cemetery. The adult graves will measure 2.2m x 0.9m with a spacing of 1.2m between each grave. Children's graves measure 1.5m x 0.7m with a spacing of 1.2m between each grave.

A 22m electrical servitude traverses the southern part of the proposed cemetery and no graves will be located within this servitude.

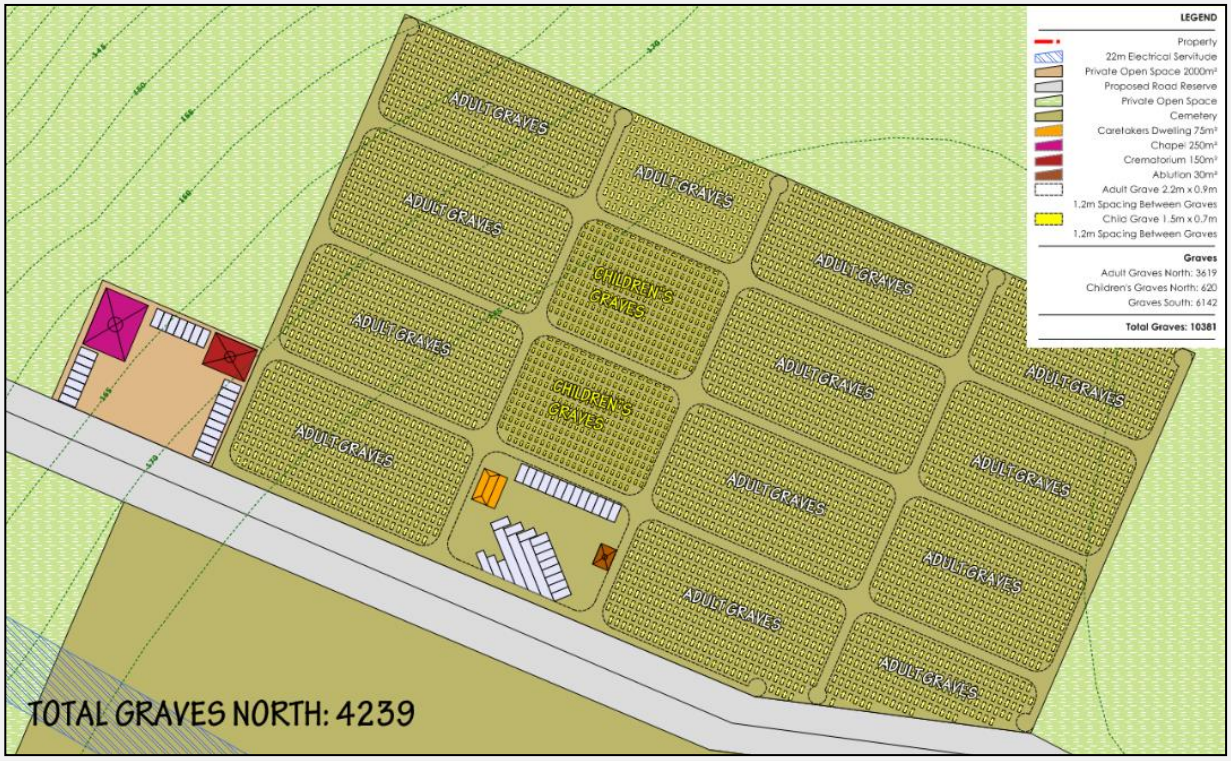

Figure 4 Cemetery Layout North of the Access Road

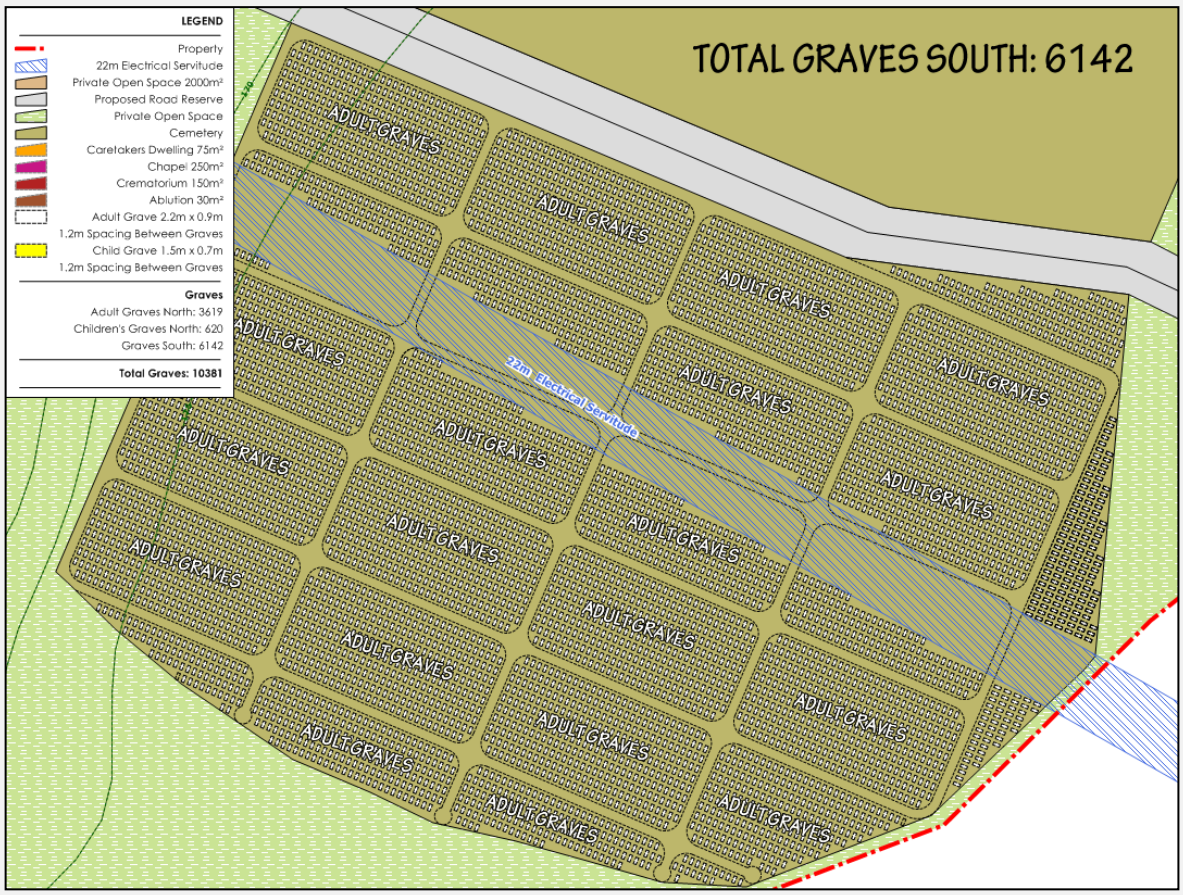

Figure 5 Cemetery Layout South of the Access Road

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.
The land is currently vacant and has been rezoned from "Agriculture Zone I" to "Subdivisional Area". Subdivision of Portion 33/437 into five portions to be used as Open Space II, Open Space II (for a cemetery and related uses), Industrial Zone I (limited to crematorium and chapel), and Transport Zone II for a public road.	
3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.
N/A	
4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.

The Western Cape Provincial SDF was approved in 2014 by the Western Cape Parliament and serves as strategic spatial planning tool that "communicates the provinces spatial planning agenda". The updated PSDF takes on spatial vision of the OneCape2040 document, in an attempt to create:

i. Educating Cape: Everyone has access to a good education, and the cities, towns and rural villages are places of innovation and learning.
ii. Working Cape: There are livelihood prospects available to urban and rural residents, and opportunities for them to find employment and develop enterprises in these markets.
iii. Green Cape: All households can access basic services that are delivered resource efficiently, residents use land and finite resources prudently, and safeguard their ecosystems.
iv. Connecting Cape: Urban and rural communities are inclusive, integrated, connected and collaborate.
v. Living Cape: Living and working environments are healthy, safe, enabling and accessible, and all have access to the region's unique lifestyle offering.
vi. Leading Cape: Urban and rural areas are effectively managed.

There has been a recent legislative and policy shift that more clearly delineates the role of provincial and municipal spatial planning. This shift has meant that provincial inputs are generally limited to provincial scale planning. However, it is important to note some of the key policies laid down by the draft PSDF that have a bearing on the proposal:

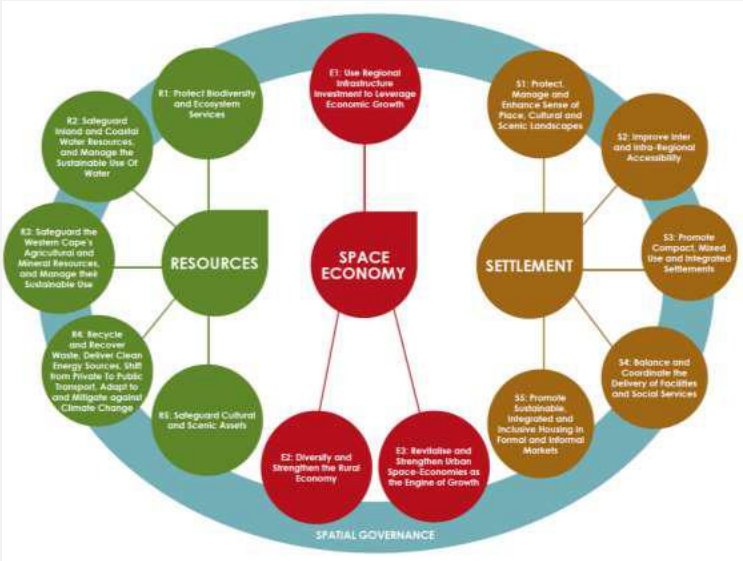

Figure 6: Policies in the PSDF

Under policy E3: Revitalise and Strengthen Urban Space Economies as the Engine of Growth, the PSDF states in point 7 that:

7. Incentives should be put in place to attract economic activities close to dormitory residential areas, facilitate brownfields development (e.g. mixed use development and densification in appropriate locations), and private sector involvement in the rental and gap housing markets.

Although the proposal is not a privately initiated project, it will both require and facilitate private investment into the development and surrounding areas, thereby helping to fulfil the policy.

Policy S3 is to Promote Compact, Mixed Use and Integrated Settlements. It states:

2. Promote functional integration and mixed use as a key component of achieving improved levels of settlement liveability and counter apartheid spatial patterns and decentralization through densification and infill development.

The proposal provides essential municipal service in close proximity to an existing urban area, which will contribute to the mixture of integrated land uses to create more liveable and integrated urban spaces.

3. Locate and package integrated land development packages, infrastructure and services as critical inputs to business establishment and expansion in places that capture efficiencies associated with agglomeration.

The Bitou Municipality is an area that is recognised by the Western Cape Growth Potential Study as having a high Social Growth Potential and a Very High Economic Growth Potential, this means that the area will both benefit socially from the proposed investment and has the potential to take advantage of the economic opportunities that the development will create. The proposal is located within the exiting fabric of Plettenberg Bay and within close proximity to existing residential neighbourhoods, the CBD and Industrial Area, therefore there is strong potential for the realisation of the benefits of agglomeration.

7. Continue to deliver public investment to meet basic needs in all settlements, with ward level priorities informed by the Department of Social Development's human development indices.

The proposal will assist in the provision of a necessary social service by the Bitou Municipality.

4.2	The Integrated Development Plan of the local municipality.

Bitou Municipality IDP

The proposed development straddles Ward 7 and Ward 4 within the Bitou Municipality, and **is in close proximity to Wards 4 as can be seen in the figure below.**

Figure 7: Wards In Proximity to The Proposed Development

As per the Bitou IDP 2024-2025, one of the Community Development Priorities include the accelerated construction of a cemetery. In a previous version of the IDP (2017 – 2022), the details of a proposed cemetery and location were discussed:

Phase 1 of the study to identify a location for a new regional cemetery was done on Portion 33 of 437(the application area). This location was the most feasible location based on numerous factors and inputs from professional consultants.

Phase 2 is the submission of all relevant studies to obtain authorisations and development rights for the new regional cemetery. The NEMA application is in process. Due to the fact that the integrated development, which includes housing which will be partly funded through the Department of Rural Development which stipulates specific housing typologies only, the housing component is to be dealt with as a separate matter. The cemetery application will therefore now be dealt with separately, which is under way.
The latest version of the Bitou IDP acknowledges the need for a regional cemetery and is identified as a key performance area for infrastructure development. Therefore, this proposal is highly consistent with the Bitou IDP (Marike Vreken Specialist Planning Report – Appendix G)

4.3.	The Spatial Development Framework of the local municipality.

The Bitou SDF 2022 states the capacity of all cemeteries in the municipality and the proposal for the cemetery being assessed in this document:

The municipality currently have eight cemeteries located throughout the municipal area. The majority of the cemeteries have no spare capacity as shown in the table below.

Table 21: Cemetery Capacity

LOCATION	NUMBER OF CEMETERIES	% FULL
Plettenberg Bay	1	100%
Wittedrift	2	100%
Kranshoek	1	50%
Kwanokuthula	1	50%
New Horizons	1	100%
The Crags	2	60%

Investigations are underway to establish one central cemetery for the municipality as a whole and the proposed location at this stage is to the west of Ebenezer.

The Development Proposals plan of the Municipality specifically identifies the site under investigation in the figure below (circled red for identification).

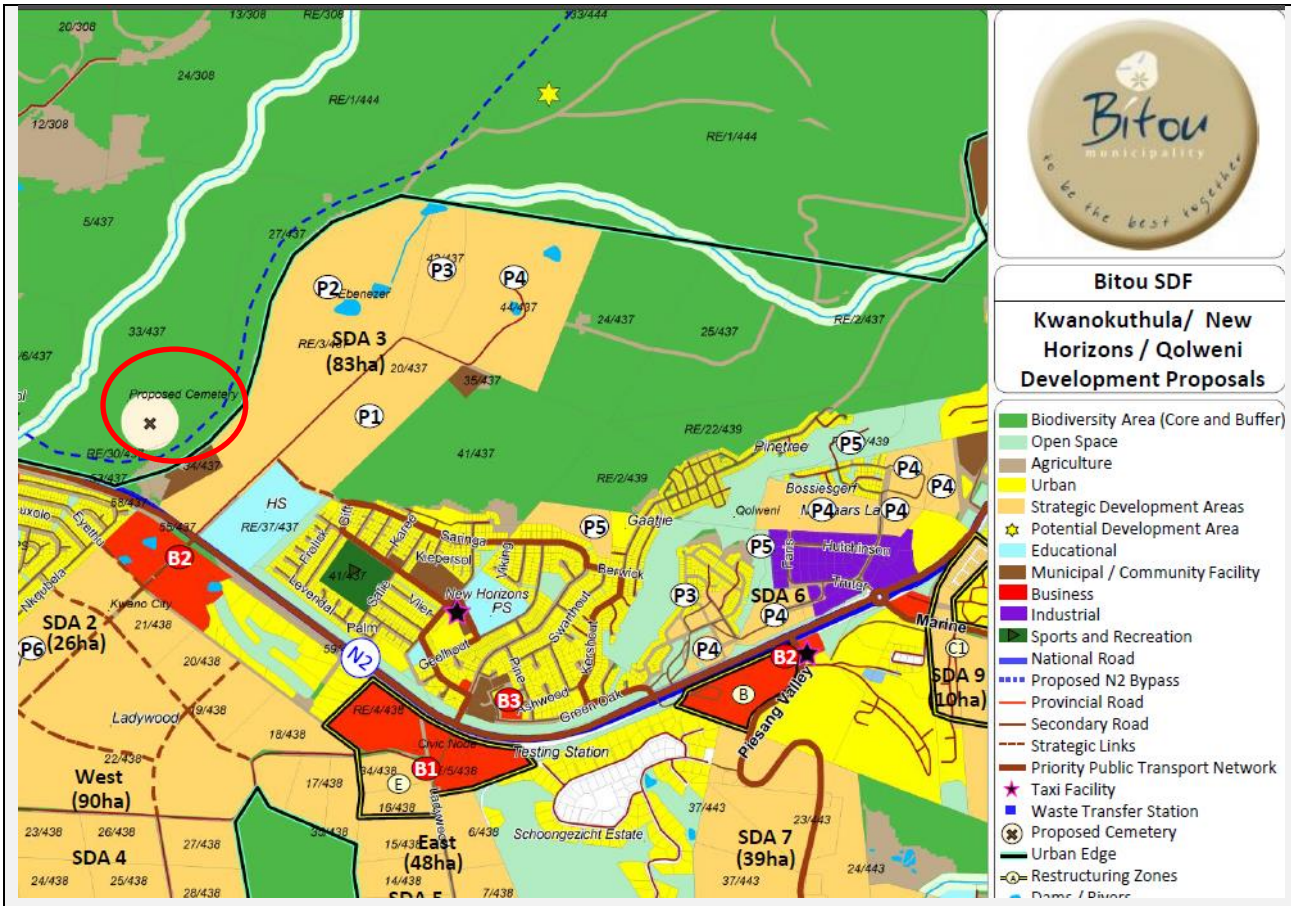

Figure 8: Development Proposals plan taken from the SDF.

In addition, The Bitou SDF 2022 shows that the proposed site is within the urban edge of Plettenberg Bay, this means that it is regarded as suitable for urban development purposes.

4.4.	The Environmental Management Framework applicable to the area.
The Bitou Municipality currently does not have an EMF in place.	
5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.
N/A	
6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.
The WCBSP map for Bitou shows that the entire development footprint on site (all natural areas except for roads) is within Other Natural Area (ONA). There are also Ecological Support Areas (ESA1) on site that correspond with the bottoms of the valleys, and there is a small area of CBA1 at the southern end of the site (not affected by the proposed development).	
7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.
N/A	
8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.
The screening tool report has not changed.	
9.	Explain how the proposed development will optimise vacant land available within an urban area.
The community will have access to a new cemetery to fulfil a religious custom of burying a loved one. This is extremely important within the municipality as the existing cemeteries are fast reaching maximum capacity.	
10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
N/A	
11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).

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

SECTION F: PUBLIC PARTICIPATION

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

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

N/A

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

PPP has been complied with. Proof will be provided in the Final BAR.

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

Please see attached I&AP register (Appendix F) for a detailed list of all State Departments and Organs of State consulted.

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

N/A

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

TBC

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

TBC in Final BAR once PPP has taken place.

Note:

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

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

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

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

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

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

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;

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

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	YES	NO
1.2.	Provide the name and or company who conducted the specialist study.		
JG Afrika Pty (Ltd)			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
As per the Geohydrology assessment (November 2020): the regional geohydrology of the study area comprises of mainly fractured aquifers; comprising mainly fractured sandstone with the fracturing mainly as a result of joints, fissures, faults, bedding planes, etc. The development falls within the TMG aquifer. The regional TMG aquifer is classified as a Major aquifer, however, groundwater vulnerability is considered Low due to the presence of deep groundwater targets and large depth to groundwater level.			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		
As per the Geohydrology assessment (November 2020): the nearest borehole to the two properties is "Bh_New_Horizon", which has a historic water level of 119mbgl and a pumped discharge rate of 12.0l/s. This borehole has been abandoned and is no longer used. Aquifer vulnerability was found to be low. The site is characterised as low risk with conservative offset buffers around geological contacts and existing boreholes (e.g. BH_New_Horizon). These areas are characterised as medium risk areas. A no go exclusion buffer of 200m should be placed around existing boreholes. Although borehole BH_New_Horizon is not in use, attribute data indicates a good yield and the possibility of a re-drill or rehabilitation in future. It is suggested that this borehole be converted to a monitoring station for water level and background water quality. In addition, an additional on-site or downslope monitoring borehole should be considered to carry out routine monitoring of the groundwater beneath the site and compared to the background monitoring to establish the occurrence of pollution and extent thereof, if any.			

2. Surface water

2.1.	Was a specialist study conducted?	YES	NO
2.2.	Provide the name and/or company who conducted the specialist study.		
Confluent Environmental Pty (Ltd) – Dr. Jackie Dabrowski			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
No definable watercourses were observed or are expected to occur within the footprint of the proposed cemetery.			

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO
3.2.	Provide the name and/or company who conducted the specialist study.		
N/A			
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
N/A			

3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.
N/A	
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.
N/A	

4. Biodiversity

4.1.	Were specialist studies conducted?	YES	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
David Hoare Consulting (Pty) Ltd – Dr. David Hoare			
4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.		
Recommended survey periods for different biomes, climate diagrams, the DFFE screening tool report, VegMap 2018, Threatened Ecosystem map, NPAES, SANBI Red List etc were utilised by the specialist in the compilation of his assessment report. The mentioned datasets provided a baseline for the specialist to measure his findings against. His site visit either confirmed or denied the information presented in the datasets. As per the Plant, Animals, & Terrestrial Biodiversity Assessment, 23 May 2024: "*the purpose of the specialist study, as undertaken here, is to verify whether the vegetation on site meets the standards for inclusion in a conservation zone or not. Provincial-level conservation assessments make use of remote methods for mapping and do not ground-truth all locations. It is therefore necessary to verify on the ground whether natural habitat occurs on site or not in order to determine whether the inclusion in a conservation zone is supported by patterns on the ground.*"			
4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.		
As per the Plant, Animals, & Terrestrial Biodiversity Assessment, 23 May 2024: The Western Cape Biodiversity Spatial Plan (WCBSP) classifies the habitats of the province according to conservation value in decreasing value, as follows: 1. Protected Areas (PA); 2. Critical Biodiversity Areas 1 (CBA1); 3. Critical Biodiversity Areas 2 (CBA2); 4. Ecological Support Area 1 (ESA1); 5. Ecological Support Area 2 (ESA2); The WCBSP map for Bitou shows that the entire development footprint on site (all natural areas except for roads) is within Other Natural Area (ONA). There are also Ecological Support Areas (ESA1) on site that correspond with the bottoms of the valleys, and there is a small area of CBA1 at the southern end of the site (not affected by the proposed development).			
4.5.	Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.		
As per the Plant, Animals, & Terrestrial Biodiversity Assessment, 23 May 2024: The WCBSP map for Bitou shows that the entire development footprint on site (all natural areas except for roads) is within Other Natural Area (ONA). There are also Ecological Support Areas (ESA1) on site that correspond with the bottoms of the valleys, and there is a small area of CBA1 at the southern end of the site (not affected by the proposed development). This desktop description verifies that small parts of the site are included in conservation zones but that the development footprint is outside of such zones. The development therefore has LOW sensitivity with respect to this layer.			
4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.		
N/A - The proposed development is not within a protected area.			
4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.		

Fauna identified by the National Screening Tool Report were assessed by the specialist:

1. Circus ranivorus (African marsh harrier) - There are no (suitable) wetlands on site although there are nearby in the Keurbooms River. The proposed development is located well away from these habitats. The species is unlikely to occur on site (except possible foraging in a small part of the site - fynbos) and the proposed project will have little effect on it.

2. Circus maurus (Black harrier) - There are estuarine wetlands nearby that could potentially be suitable, but it is unknown if they occur there or not - there are no recent observations in the Plettenberg Bay area. In the event that they did occur in the area, the proposed project would have little effect on them.

3. Stephanoaetus coronatus (Crowned Eagle) - There are forest habitats on site in steep valleys, and extensive forests nearby, including suitable gorges and nesting sites. It has been recorded in the Plettenberg Bay area, as well as further west, therefore it must be assumed to be present in the general area. The forests on site may be of tall enough stature for nesting, and is likely to form part of foraging habitat. On condition forest areas on site are protected, there will be negligible impact on this species, but any impact on the forest could negatively effect habitat for this species.

4. Neotis denhami (Denham's Bustard) - It has been recorded several times in the general Garden Route area, including inland of Plettenberg Bay, but mostly in open landscapes with agricultural fields, not in urban areas or wooded areas. Based on the type and quality of habitat that occurs on site, it is possible but unlikely that it would occur there.

5. Bradypterus sylvaticus (Knysna warbler) - Suitable forest and forest margin habitat occurs on site, as well as thick tangled vegetation along the drainage lines. It has been previously recorded in coastal thicket in Plettenberg Bay within the urban fringe. The species could occur on site within forest margin areas. These areas are not within the footprint of the proposed project, but forest margin areas need to be protected to ensure that forest ecosystems are not degraded. The presence of development does not seem to limit the species. On condition the habitat is preserved, the proposed project would have little effect on them.

6. Polemaetus bellicosus (Martial Eagle) - Suitable forest and forest margin habitat occurs on site, including possible nesting sites. It has been previously recorded north of Harkerville. If it occurs in the general area, the site may constitute a small part of the overall range of any individual or breeding pair (if they occur there). On condition natural habitat is preserved, the proposed project would have little effect on them - even loss of all habitat on site would be unlikely to affect the species, given the large ranges of individuals.

7. Afrixalus knysnae (Knysna Leaf-folding Frog / Spiny Reed Frog) - There is a stream in the bottom of the valley on site, but the water quality is poor (smells of sewerage and contains litter washed down from upstream areas). No other suitable wetland habitat was seen on site, although the dense aliens made it difficult to see further than short distances in some areas. There were no obvious wet signals on aerial imagery to indicate any permanent ponds and the topography is not conducive to the presence of these. There is therefore unlikely to be any suitable habitat on site for breeding, and the species is unlikely to currently be found within the forested areas due to the pollution of the stream. Although the site is well within the known distribution range of the species, with numerous geographically nearby recent observations, it is considered unlikely that the species occurs on site or nearby.

8. Aloeides thyra orientis (Red Copper) - No suitable fynbos habitat occurs on site and the species is unlikely to occur there. The proposed project will therefore have no effect on it.

9. Tsitana dicksoni (Dickson's Sylph) - No suitable montane fynbos habitat occurs on site and the species is unlikely to occur there. The proposed project will therefore have no effect on it.

10. Chlorotalpa duthieae (Duthie's Golden Mole) - There is forest habitat on site, as well as sandy soils in which the species is likely to occur. Most of the soils on site within the forest area is relatively stony, but upslope areas in the scrubby vegetation has sandy soils. No sub-surface tunnels were observed to occur. There are no records of this species in the Plettenberg Bay area. It is therefore unlikely that this species occurs on site. Nevertheless, if it did occur there, it would be within the forest, none of which is in the direct footprint of the proposed development.

11. Sensitive species 8 (small antelope) - There are several records of the species in areas around Plettenberg Bay, all within thicket or forest areas. Forest occurs on site and the species could occur there, but these areas are outside the direct footprint of the project. In the event that the species occurs on site, the proposed project is unlikely to have an effect on them, in terms of habitat loss, loss of forage, and loss of migration corridors.

12. Aneuryphymus montanus (Yellow-winged Agile Grasshopper) - Published descriptions suggest that it is not often seen but, when observed, occurs in obvious numbers. No grasshoppers were seen on site that matched

the description of this species. If it occurred in the area it would be found within fynbos, which occurs in a degraded state on site. It is therefore unlikely that it would occur on site.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.
No geographical aspects will be affected by the development footprint.

6. Heritage Resources

6.1.	Was a specialist study conducted?	YES	NO
6.2.	Provide the name and/or company who conducted the specialist study.		
Marike Vreken Urban and Environmental Planners submitted a NID to HWC in 2017. HWC comments still apply. Please see attached Appendix E1.			
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		
N/A			

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.
See point 6.2 above.

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.
As per the Town Planning Report, February 2018: Portion 33 of the Farm 437 Hill View is located to the west of Portion 3, of the Farm Hill View adjacent to the expropriated N2 bypass. The site is north of Kwanokuthula and to the western side of Plettenberg Bay. The existing N2 is located directly south and is approximately 100 meters from the site. The area is characterised by medium to low income housing development and some remaining agricultural activity. The Kwanokuthula and New horizons residential areas are approximately 400m and 200m from the boundary of the site respectively. Further afield the area is characterised by natural vegetation and little human intervention, apart from additional agricultural activity along the Wittedrift road to the west and the town of Plettenberg Bay to the east. New Horizons is a formal neighbourhood comprising mainly market housing, including medium income housing. Kwanokuthula is a lower income area including some informal dwellings and a significant number of low income, subsidised housing units.	
8.2.	Explain the socio-economic value/contribution of the proposed development.
The addition of a cemetery to the Plettenberg Bay area will provide some much-needed relief as existing cemeteries are either at capacity or nearing full capacity. Cemeteries are important in a community as burials form part of religious and cultural norms.	
8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.
As stated in point 8.2 above.	
8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.

According to the Geohydrological Assessment conducted by JG Afrika, November 2020:
The quantitative environmental risk assessment identified contamination from soil from waste areas, leachate from decaying bodies and increased infiltration due to poor stormwater management scoring Moderate. These scores can generally be reduced with the application of appropriate mitigation measures.

The following mitigation measures are recommended by the specialist:

• Mitigate erosion, runoff and ponding water during the lifespan of the cemetery development through appropriate storm water management and earthworks control
• Concrete vaults could be used in medium risk areas in proximity to geological structures
• Exclusion zones around the existing boreholes including BH_New_Horizon should be enforced. This borehole should also be converted to a monitoring station if future abstraction is discontinued
• If an environmental authorisation is acquired, an additional monitoring borehole should be installed in the northern half of the selected property as downslope monitoring points. The borehole would be utilised to profile the geology at depth, to confirm groundwater strikes and levels, and to provide a groundwater monitoring location. Suitable locations identified from the geophysical survey are station 150 on traverse T1 (Portion 33 of Farm 437) or station 140m on traverse T3 (Remainder 3 of Farm 437).
• A groundwater and surface water monitoring plan should be implemented to include routine sampling and analysis of groundwater and surface water locations on or near the site. Analysis should include indicators of potential contamination from cemetery developments (ammonia, nitrate, nitrite, lithium, sulphide, orthophosphate, clostridium perfringens and pseudomonas aeruginosa) as well as standard physical, micro and macro determinants. Bi-annual monitoring is recommended. Base line water quality should be established prior to implementation of any graves
• Careful site management and site operations are basic requirements to ensure the impact on groundwater quality in the area is minimised by the cemetery operations.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred property and site alternative.	
Five properties were initially identified by the Bitou Municipality for the proposed development of a regional cemetery. After several specialist studies were conducted on each property, Portion 33 of the farm 437 Hillview was identified as the most viable option. Portion 33 of the farm Hillview 437 is located to the north of the Kwanokuthula suburb and west of Plettenberg Bay town. The site can be located at GPS coordinates 34° 2'28.31"S and 23°19'48.95"E.	
Provide a description of any other property and site alternatives investigated.	
The investigation of five potential properties were identified by Bitou Municipality for an initial desktop study: Site A (portion 28/306), Site B (portion 1/444), Site C (RE/3/437), Site D (portion 33/437), and Site E (RE/7/428). From the desktop study two potential sites were chosen for a more detailed investigation (Site C & D). Once detailed assessments were complete on the two properties, Bitou Municipality chose Site D/ portion 33 of 437 as the most feasible option for the development of a cemetery due to the site topography, site location, and recommendations made by the geotechnical specialist. A housing development has been proposed for Site C.	
Provide a motivation for the preferred property and site alternative including the outcome of the site selection matrix.	
The selected preferred property was chosen due to its topography, proximity to the Plettenberg Bay CBD and the N2 route, and recommendations made by the geotechnical specialist. In addition, the specific site location on Portion 33/437 was chosen after a geotechnical study concluded that Portion 33 carry unfavourable constraints and is considered only marginally suitable, although this is not unusual in cemetery site selection. In terms of excavatability, the application area is underlain by stiff residual soil which will be difficult to dig through by hand (pick and shovel), only a portion of Site D (Portion 33 of Farm 437) is suitable because of the presence of shallow rock in the remaining area.	

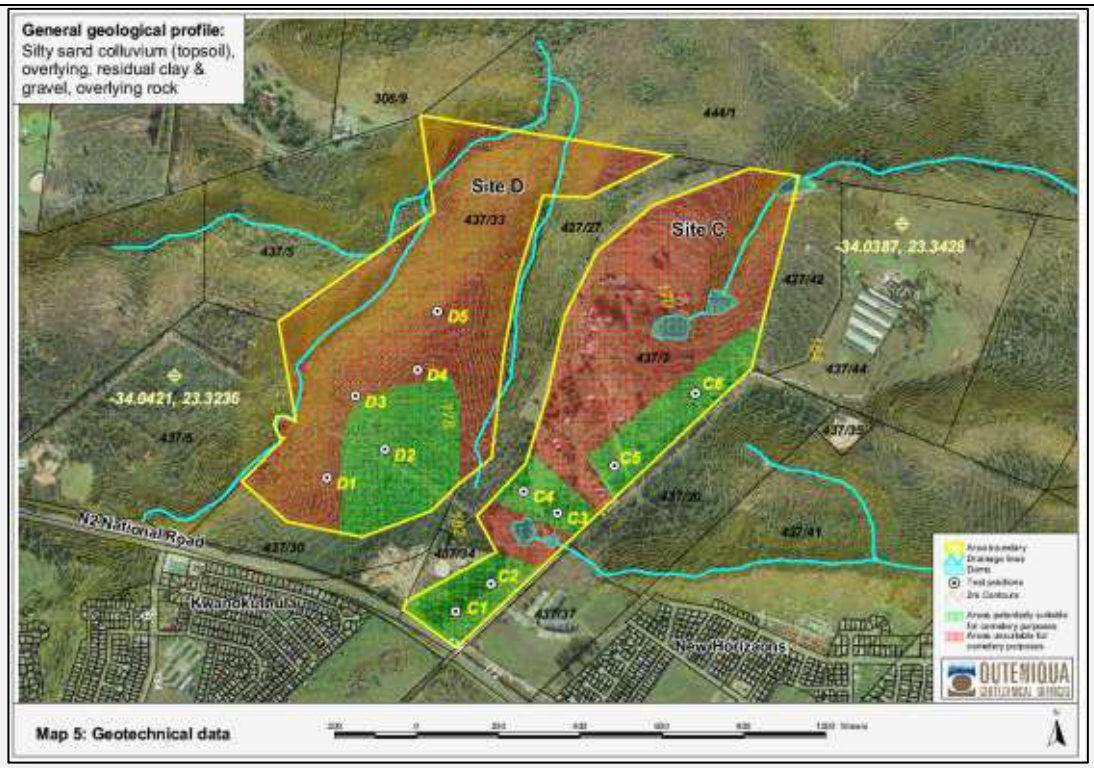

Figure 9: Identification of suitable site areas on Portion 33/437 and RE/3/437

Specialists' findings are in favour of the selected site area to be developed on Portion 33/437.

Provide a full description of the process followed to reach the preferred alternative within the site.
As stated above.
Provide a detailed motivation if no property and site alternatives were considered.
N/A
List the positive and negative impacts that the property and site alternatives will have on the environment.

Positive Impacts:

- The community of Bitou Municipality will have access to a regional cemetery to fulfil religious customs for the burial of loved ones.
- The location of the site favours the proposed development of a cemetery provided mitigation measures proposed by specialists are followed.
- The cemetery will provide burial space for approximately 10 years.
- The surrounding property owners will have increased social services with enhanced safety and security provided by the functional use of what has been undeveloped land utilised for illegal dumping.
- Preservation of forest habitats on the property.
- Clearing of alien invasive plant species will allow for indigenous vegetation to be rehabilitated, increasing the ecological value of the property.

Negative Impacts:

- Municipal production boreholes will require continuous monitoring to ensure that leachate from graves is not negatively impacting any water sources.

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

Provide a description of the preferred activity alternative.

The preferred alternative includes the following:

- Regional cemetery
- Memorial garden
- Chapel – 250m2
- 51 Public parking bays and 3 bus parking bays
- Ablution block – 30m2
- Caretakers dwelling – 75m2

- Access road
- Private Open Space – 33ha. *Potential future plans - The private open space will be used for recreational purposes such as hiking and biking trails that can contribute to tourist development.

The cemetery will be split into a northern (approx. 3.687ha) and southern (approx. 6ha) section by the access road. The graves on the northern section will total 4239 (3619 adult graves and 620 children's graves) and the graves on the southern section will total 6142 - no children's graves will be located on the southern section of the cemetery. The adult graves will measure 2.2m x 0.9m with a spacing of 1.2m between each grave. Children's graves measure 1.5m x 0.7m with a spacing of 1.2m between each grave.

Provide a description of any other activity alternatives investigated.

No other activity alternatives were investigated. The EIA was commissioned for the sole purpose of developing a cemetery within the Bitou Municipality.

Provide a motivation for the preferred activity alternative.

There is an extreme need for additional cemetery space within the Bitou Municipality. The additional cemetery space will provide burial space for approximately the next 10 years for Bitou Municipality.

Provide a detailed motivation if no activity alternatives exist.

The EIA was commissioned for the sole purpose of developing a cemetery within the Bitou Municipality.

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

N/A

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

Provide a description of the preferred design or layout alternative.

The cemetery will be split into a northern (approx. 3.687ha) and southern (approx. 6ha) section by the access road. The graves on the northern section will total 4239 (3619 adult graves and 620 children's graves) and the graves on the southern section will total 6142 - no children's graves will be located on the southern section of the cemetery. The adult graves will measure 2.2m x 0.9m with a spacing of 1.2m between each grave. Children's graves measure 1.5m x 0.7m with a spacing of 1.2m between each grave.

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

Alternative 2 does not include a designated area for a possible future crematorium, memorial garden, and a central ablution block as this alternative layout was designed to maximise burial space.

Provide a motivation for the preferred design or layout alternative.

The preferred design and layout were chosen based on the limited suitable area identified by the geotechnical specialist as developable.

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

N/A

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

Positive Impacts:

- Full utilisation of the developable area.
- Maximum number of graves provided in Alternative 2.
- Cemetery will be placed in an area designated as Other Natural Area.
- Very low impact on loss of natural vegetation provided specialist recommendations are implemented.
- Very Low significance for loss of protected trees.
- Very Low significance for animal and plant species of concern.

Negative Impacts:

- The proposed development is located primarily within areas of alien trees, but also affects a small area of scrub thicket and a sliver of mesic thicket. However, the edge of the proposed development extends partly down a steep slope, therefore downslope effects on forest and mesic thicket habitats is possible.
- No plant species of concern were found on site but based on the available habitat, it is considered possible that any of nine plant species flagged for the site could occur there. It is therefore verified that the site has MEDIUM sensitivity with respect to the Plant Species Theme, within areas of natural habitat.
- The site is considered to be potential habitat for any of three of the animal species flagged for the site. The woodland habitats (forest, mesic thicket, scrub thicket) is likely habitat for three animal species, the

Knysna Warbler (Vulnerable), a small antelope (Vulnerable), and the Crowned Eagle (Near Threatened). It is therefore verified that the Animal Species Theme has MEDIUM sensitivity for the site.

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

Provide a description of the preferred technology alternative:

No technology alternatives have been assessed. The proposed development will tie into existing connections and future planned connections due to the proposed future housing development on the neighbouring property, portion 3 of 437. However, the municipality is encouraged to include green building practises into the development of structures on the property to increase energy efficiency and decrease waste production.

Provide a description of any other technology alternatives investigated.

N/A

Provide a motivation for the preferred technology alternative.

N/A

Provide a detailed motivation if no alternatives exist.

As per above.

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

N/A

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

Provide a description of the preferred operational alternative.

It is suggested that the area proposed as the 'remaining open space' on portion 33 of 437 be used as a mountain bike trail or other recreational activity that could contribute to tourist development. However, this would need to be outside of the buffer zones for sensitive areas as stipulated by the terrestrial and aquatic biodiversity specialists.

Provide a description of any other operational alternatives investigated.

N/A

Provide a motivation for the preferred operational alternative.

The operation of recreational activities would contribute to the local tourism and economic sectors. In addition, the use of the open space area would allow for increased rehabilitation and ecological importance of the property by preserving the woodland environment and thus creating an environment where indigenous flora and fauna can thrive with special management.

Provide a detailed motivation if no alternatives exist.

N/A

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

Positive impacts:

- Rehabilitation of the property and increased ecological significance through management aspects.
- Contribution to the local tourism and economic sectors.

Negative Impact:

- Further destruction of the environment if specialist management and mitigation recommendations are not implemented alongside the operation of a recreational area.

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

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

The No-Go alternative would see the continuation of the unproductive vacant land and no additional cemetery space for Bitou Municipality. The landlocked nature of the property would mean that little development would be possible here.

There is an extreme need for additional cemetery space within the Bitou Municipality. The additional cemetery space will provide burial space for approximately the next 10 years for Bitou Municipality. The no-go option would result in increasing pressure for the Bitou municipality to provide suitable areas to be used as a cemetery and would result in unnecessary financial resources and time delays to investigate suitable locations for a new cemetery.

The proposed regional cemetery would also not be possible with the no-go option. This would mean that the severe shortage of burial space would continue in the area leading to a critical situation with no apparent solution.

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

N/A

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

1. Location/ site – Of five potential properties investigated Site D/ portion 33 of 437 was chosen as the most feasible option for the development of a cemetery due to the site topography, site location, and recommendations made by the geotechnical specialist.
2. Activity – No activity alternatives exist as the objective of the project is to investigate a suitable property for the development of a regional cemetery.
3. Design or Layout – Alternative 2 does not include a designated area for a possible future crematorium, memorial garden, and a central ablution block as this alternative layout was designed to maximise burial space. Hence, the preferred alternative consists of 10 381 graves and alternative 2 consists of 10 597.
4. Technology – No technology alternatives have been assessed. The proposed development will tie into existing connections and future planned connections due to the proposed future housing development on the neighbouring property, portion 3 of 437.
5. Operational – It is suggested that the area proposed as the 'remaining open space' on portion 33 of 437 be used as a mountain bike trail or other recreational activity that could contribute to tourist development.

2. "No-Go" areas

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

1. Delineated riparian area and 37m buffer zone -

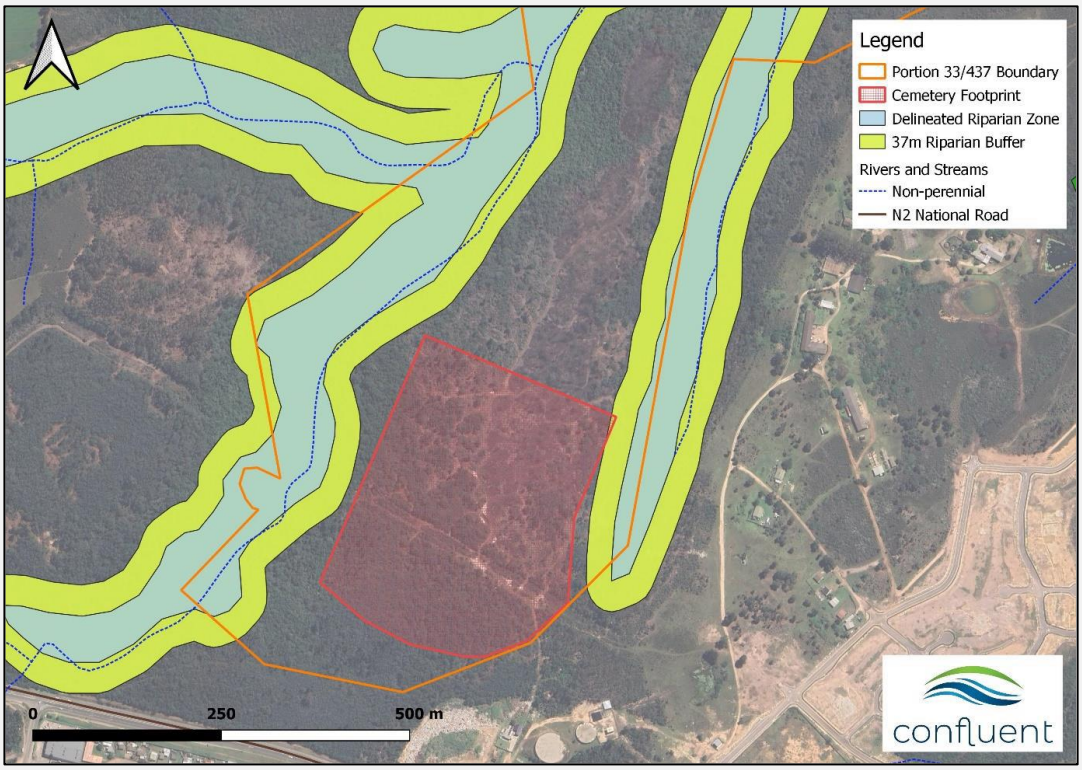

Figure 10: Delineated riparian zone and 37 m riparian buffer.

2. Forest and Mesic Thicket environments –

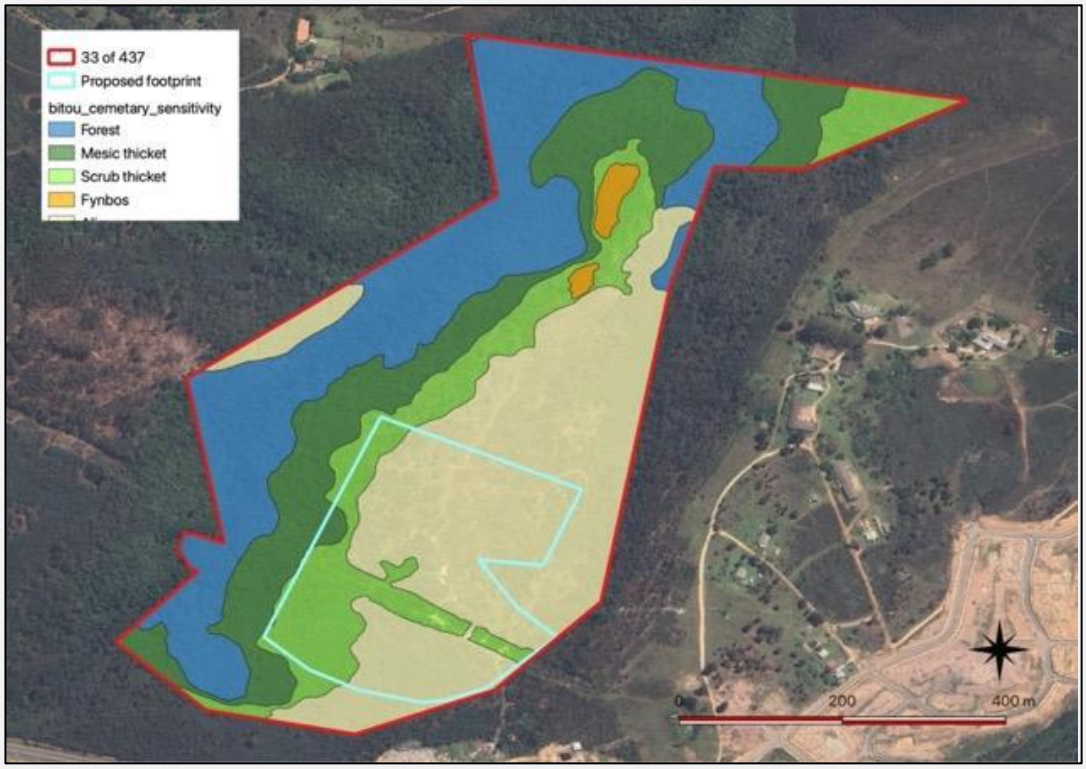

Figure 11: Mapped habitats found on Portion 33/437

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

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.
Criteria are ascribed for each predicted impact. These include the intensity (size or degree scale), which also includes the type of impact, being either a positive or negative impact; the duration (temporal scale); and the extent (spatial scale), as well as the probability (likelihood). The methodology is quantitative, whereby professional judgement is used to identify a rating for each criterion based on a seven-point scale (Table 1) and the significance is auto-generated using a spreadsheet through application of the calculations. For each predicted impact, certain criteria are applied to establish the likely significance of the impact, firstly in the case of no mitigation being applied and then with the most effective mitigation measure(s) in place. These criteria include the intensity (size or degree scale), which also includes the nature of impact, being either a positive or negative impact; the duration (temporal scale); and the extent (spatial scale). These numerical ratings are used in an equation whereby the consequence of the impact can be calculated. Consequence is calculated as follows: Consequence = type x (intensity + duration + extent) To calculate the significance of an impact, the probability (or likelihood) of that impact occurring is applied to the consequence. Significance = consequence x probability

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

Assessment of impacts associated with the construction phase consider all three options and the No Go option. A summary of ratings for each impact associated with the construction phase can be viewed in the impact tables below.

Impacts foreseen during the construction phase:

Impact 1 – Loss of natural vegetation

The footprint of the proposed development is within areas mapped as "Aliens" (Low sensitivity / SEI), "Scrub Thicket" (Medium sensitivity / SEI), and "Mesic Thicket" (High sensitivity / SEI). The vegetation on site (within the proposed development footprint) is mostly in poor condition, and consists either of natural or invaded areas with a species composition that is not representative of the natural habitat. The No-Go option would result in the continuation of illegal dumping and settlements where rogue fires are started and spread throughout the property. In addition, this option allows for the overgrowth of alien invasive plants.

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	Permanent	Permanent	Permanent	Permanent	On-going
Extent	Very limited	Very limited	Very limited	Very limited	Limited
Intensity	High	Negligible	High	Negligible	Moderate
Probability	Certain / definite	Highly unlikely / none	Likely	Highly unlikely / none	Likely
Confidence	High	High	High	High	High
Reversibility	Low	Medium	Low	Medium	Medium
Resource irreplaceability	Medium	Low	Medium	Low	Medium
Significance	**Moderate - negative**	**Negligible - negative**	**Moderate - negative**	**Negligible - negative**	**Minor - negative**
Cumulative impacts	Loss of natural vegetation could lead to the destruction of the forest environment in the valleys of the property should mitigation measures not be implemented during construction.				

Mitigation:

1. Forest habitats in the steeply-sloping valley parts of the site, have high biodiversity and conservation value, and are designated as sensitive. These areas must not be unnecessarily affected by the proposed development. Upslope of the forested valleys are scrub thicket areas that provide an important ecological buffer to the forested areas. This scrub thicket historically transitioned into fynbos. Where possible, these transitional areas should be retained on site as part of the forest buffer.
2. Compile and implement a fire management plan for fynbos areas. This must take into account the required burning frequency, intensity and timing to promote ecosystem health within fire-prone ecosystems.
3. Access to forested areas during construction must not be permitted by any construction personnel. These areas must be fenced off and no access allowed.
4. Compile and implement an alien management plan, which highlights control priorities and areas and provides a programme for long-term control.

Impact 2 – Loss of individuals of a protected tree species

No plant species of concern were found on site, but the habitat on site is suitable for a variety of plant and animal SCC. There are also Cape Beech trees (Rapanaea melanophloeos) on site that are protected under the National Forests Act.

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	Permanent	Long term	Permanent	Long term	On-going
Extent	Very limited	Very limited	Very limited	Very limited	Limited

Intensity	Very high	Moderate	Very high	Moderate	Negligible
Probability	Almost certain / Highly probable	Almost certain / Highly probable	Almost certain / Highly probable	Almost certain / Highly probable	Rare / improbable
Confidence	High	High	High	High	Medium
Reversibility	Low	Medium	Low	Medium	Low
Resource irreplaceability	Medium	Low	Medium	Low	Medium
Significance	**Moderate - negative**	**Minor - negative**	**Moderate - negative**	**Minor - negative**	**Negligible - negative**
Cumulative impacts	Loss of protected tree species could lead to a loss of habitat that is suitable for plant and animal SCC – without mitigation.				
Mitigation: 1. Avoid areas of high concentrations of protected trees. 2. Do not disturb natural woodland where there is a continuous canopy of forest trees, and protect forest margin areas so that forest interiors maintain existing microhabitat conditions and structural integrity. 3. If any trees need to be removed or pruned then a permit is required, according to the National Forests Act.					

Impact 3 – Loss of habitat for listed threatened species

There is habitat on site that is suspected habitat for threatened plant and animal species. This includes all natural habitat on site, some of which is within the proposed development footprint and will therefore be affected by the proposed development.

The species that could potentially occur within this habitat are as follows:

• Knysna Warbler (Vulnerable) has a moderate probability of occurring in forest margin areas.
• Crowned Eagle (Near Threatened) - the forests on site may constitute part of the general foraging range but it is unlikely that they are resident on site, or are dependent on it.
• Small antelope (Vulnerable). There is a moderate to high probability of it occurring in the forests on site.
• A total of nine threatened, near threatened or rare plant species have a possibility of occurring on site. In some cases, it is not possible to know unless the fynbos is burnt to initiate post-fire emergence of dormant species.

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	Permanent	Permanent	Permanent	Permanent	Medium term
Extent	Limited	Very limited	Limited	Very limited	Limited
Intensity	Low	Very low	Low	Very low	Very low
Probability	Unlikely	Rare / improbable	Unlikely	Rare / improbable	Rare / improbable
Confidence	High	High	High	High	High
Reversibility	Low	Low	Low	Low	Medium
Resource irreplaceability	Medium	Medium	Medium	Medium	Low
Significance	**Minor - negative**	**Negligible - negative**	**Minor - negative**	**Negligible - negative**	**Negligible - negative**
Cumulative impacts	It is possible that there may be spillover effects into surrounding areas, due mostly to secondary impacts, such as dust deposition, alien invasive species spread, etc.				
Mitigation: 1. Protect natural vegetation adjacent to the proposed development site, as per the first impact.					

Impact 4 – Impact to the delineated riparian area

The proposed development footprint is located outside of the regulated area of both watercourses to the east and west as defined in GN509 (2016) of the National Water Act (Act No. 36 of 1998) and therefore no water use authorisation is required (General Authorisation or Water Use License). However, this conclusion would change if any sewage connections, built infrastructure, or construction activities were to be planned within the delineated riparian zone, as this is considered to be within the regulated area. This includes stormwater infrastructure.

Impact	Preferred Alternative		Alternative 2		No-Go
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	On-going	Brief	On-going	Brief	On-going
Extent	Limited	Limited	Limited	Limited	Limited
Intensity	High	Low	High	Low	High
Probability	Likely	Unlikely	Likely	Unlikely	Almost certain / Highly probable
Confidence	Medium	Medium	Medium	Medium	Medium
Reversibility	Medium	High	Medium	High	Medium
Resource irreplaceability	Medium	Low	Medium	Low	Medium
Significance	**Minor - negative**	**Negligible - negative**	**Minor - negative**	**Negligible - negative**	**Moderate - negative**
Cumulative impacts	Locating the cemetery or infrastructure within the delineated riparian zone or buffer area will likely negatively impact the ecological structure and function of watercourses in the catchment.				

Mitigation:

The cemetery and its associated infrastructure must be kept out of the delineated riparian zone and it is best to avoid the buffer zone as well.

Impact 5 – Pollution of groundwater

Groundwater quality, contamination from soil from waste areas, leachate from decaying bodies and increased infiltration due to poor stormwater management.

Impact	Preferred Alternative		Alternative 2		No-Go
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	On-going	On-going	On-going	On-going	-
Extent	Very limited	Very limited	Very limited	Very limited	-
Intensity	Very high	Low	Very high	Low	-
Probability	Almost certain / Highly probable	Almost certain / Highly probable	Almost certain / Highly probable	Almost certain / Highly probable	-
Confidence	High	High	High	High	-
Reversibility	Medium	Medium	Medium	Medium	-
Resource irreplaceability	Medium	Low	Medium	Low	-
Significance	**Moderate - negative**	**Minor - negative**	**Moderate - negative**	**Minor - negative**	N/A

Cumulative impacts	If no mitigation is implemented, contamination of groundwater could lead to contamination of water sources and eventually major health concerns for the local community.

Mitigation:

Storm water management and management of excavation areas are standard mitigation options for surface water runoff, ponding and increased turbidity loads. Surface runoff and water ingress should be minimised by limiting excavation areas on a needs bases and implementing erosion control areas in graded areas.

Leachate generation can be minimised using concrete vaults in medium risk areas, particularly where the vadose zone is less defined in low lying areas. Infiltration of rainfall through grave sites can be minimised by appropriate earthworks techniques that promote runoff away from grave sites. Similar techniques can be implemented to promote the shallow groundwater seepage away from grave sites.

A mandatory exclusion zone should be applied to all existing and new boreholes. Should the existing borehole BH_New_Horizon not be considered for furture production, then the borehole should be converted to a monitoring station for water level and background water quality. An additional on-site or downslope monitoring borehole should be considered to carry out routine monitoring of the groundwater beneath the site and compared to the background monitoring to establish the occurrence of pollution and extent thereof, if any.

Impact 6 – Geotechnical Impacts

Potential impacts affecting structures:

- **Collapsible & compressible soil - Soil horizons with a potentially collapsible or compressible fabric unsuitable for foundations.**
- **Differential settlement - Foundations placed in different soil types may settle differentially.**
- **Bearing capacity - Foundations placed on soils with low bearing capacity will display unsuitable settlement.**
- **Active soil - Heaving clays affecting foundation stability.**
- **Excavations - Boulders or rock affecting excavations; Unstable excavations requiring shoring.**
- **Slope stability - Geological instability causing damage to structures founded on slopes; Soil creep or erosion by storm water.**
- **Seismic activity - Structures at risk of damage due to seismicity.**
- **Sources of construction material - Distance to sources of construction material affecting costs.**

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	On-going	Short term	On-going	Short term	-
Extent	Limited	Limited	Limited	Limited	-
Intensity	High	Low	High	Low	-
Probability	Almost certain / Highly probable	Unlikely	Almost certain / Highly probable	Unlikely	-
Confidence	High	High	High	High	-
Reversibility	Medium	Medium	Medium	Medium	-
Resource irreplaceability	Medium	Low	Medium	Low	-
Significance	**Moderate - negative**	**Negligible - negative**	**Moderate - negative**	**Negligible - negative**	N/A

Cumulative impacts	Failure to mitigate potential geotechnical impacts will lead to failed grave sites and severe erosion, especially during high rainfall events. This will result in negative geohydrological impacts.

Mitigation:

- Collapsible & compressible soil - Moisture content of cohesive soil is important when placing foundations.
- Differential settlement - Uniform founding conditions and compaction is important. Engineer to inspect foundations.
- Bearing capacity - Bearing capacity for light structures will not be a problem on stiff clay. Engineer to inspect all foundations.
- Active soil - Low to medium clay heave is expected. Foundations should be reinforced.
- Excavations - All excavations to 1.5m are soft. Sidewalls of temporary shallow excavations are generally stable. Engineer to assess stability of deep (>1.5m) excavations.
- Slope stability - The developable portions of the proposed sites are generally flat. Minor surficial erosion during storms is expected.
- Seismic activity - MMS of less than IV with a 10% chance of being exceeded in 50 years.
- Sources of construction material - The material excavated from foundation trenches is not considered suitable for re-use for backfilling purposes, but engineer to assess on site.

Although there are municipal production boreholes located close to both sites, the groundwater flow is in the opposite direction and the development of the sites is unlikely to have a significant impact on this source. However, this should be evaluated carefully and monitored.

Grave excavation will be slow and difficult by hand and the municipality should consider the use of a TLB in this regard. Backfilling of graves will also be challenging with the in situ clayey material which can be blocky and difficult to compact. It is recommended that the topsoil and clay are mixed for backfilling to reduce voids. Soil that is wet will not be suitable for backfilling and should be replaced with drier imported soil from any available source.

Site drainage is important to prevent ponding of surface water around the graveyard and deep v-channels are recommended throughout. This may also help increase the basal buffer zone between the corpse and the perched water table, and keep the surficial soil horizons in a drained state which will add stability to the grave sidewalls.

Impacts foreseen during the operation phase:

Impact 1 – Pollution of groundwater

Groundwater quality, contamination from soil from waste areas, leachate from decaying bodies and increased infiltration due to poor stormwater management.

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	On-going	On-going	On-going	On-going	-
Extent	Very limited	Very limited	Very limited	Very limited	-
Intensity	Very high	Low	Very high	Low	-
Probability	Almost certain / Highly probable	Almost certain / Highly probable	Almost certain / Highly probable	Almost certain / Highly probable	-
Confidence	High	High	High	High	-
Reversibility	Medium	Medium	Medium	Medium	-
Resource irreplaceability	Medium	Low	Medium	Low	-
Significance	**Moderate - negative**	**Minor - negative**	**Moderate - negative**	**Minor - negative**	N/A

Cumulative impacts	If no mitigation is implemented, contamination of groundwater could lead to contamination of water sources and eventually major health concerns for the local community.				

Mitigation:

Storm water management and management of excavation areas are standard mitigation options for surface water runoff, ponding and increased turbidity loads. Surface runoff and water ingress should be minimised by limiting excavation areas on a needs bases and implementing erosion control areas in graded areas.

Leachate generation can be minimised using concrete vaults in medium risk areas, particularly where the vadose zone is less defined in low lying areas. Infiltration of rainfall through grave sites can be minimised by appropriate earthworks techniques that promote runoff away from grave sites. Similar techniques can be implemented to promote the shallow groundwater seepage away from grave sites.

A mandatory exclusion zone should be applied to all existing and new boreholes. Should the existing borehole BH_New_Horizon not be considered for future production, then the borehole should be converted to a monitoring station for water level and background water quality. An additional on-site or downslope monitoring borehole should be considered to carry out routine monitoring of the groundwater beneath the site and compared to the background monitoring to establish the occurrence of pollution and extent thereof, if any.

Impact 2 – Geotechnical Impacts

Potential impacts affecting structures:

- **Collapsible & compressible soil - Soil horizons with a potentially collapsible or compressible fabric unsuitable for foundations.**
- **Differential settlement - Foundations placed in different soil types may settle differentially.**
- **Bearing capacity - Foundations placed on soils with low bearing capacity will display unsuitable settlement.**
- **Active soil - Heaving clays affecting foundation stability.**
- **Excavations - Boulders or rock affecting excavations; Unstable excavations requiring shoring.**
- **Slope stability - Geological instability causing damage to structures founded on slopes; Soil creep or erosion by storm water.**
- **Seismic activity - Structures at risk of damage due to seismicity.**
- **Sources of construction material - Distance to sources of construction material affecting costs.**

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	On-going	Short term	On-going	Short term	-
Extent	Limited	Limited	Limited	Limited	-
Intensity	High	Low	High	Low	-
Probability	Almost certain / Highly probable	Unlikely	Almost certain / Highly probable	Unlikely	-
Confidence	High	High	High	High	-
Reversibility	Medium	Medium	Medium	Medium	-
Resource irreplaceability	Medium	Low	Medium	Low	-
Significance	**Moderate - negative**	**Negligible - negative**	**Moderate - negative**	**Negligible - negative**	N/A

Cumulative impacts	Failure to mitigate potential geotechnical impacts will lead to failed grave sites and severe erosion, especially during high rainfall events. This will result in negative geohydrological impacts.

Mitigation:

- Collapsible & compressible soil - Moisture content of cohesive soil is important when placing foundations.
- Differential settlement - Uniform founding conditions and compaction is important. Engineer to inspect foundations.
- Bearing capacity - Bearing capacity for light structures will not be a problem on stiff clay. Engineer to inspect all foundations.
- Active soil - Low to medium clay heave is expected. Foundations should be reinforced.
- Excavations - All excavations to 1.5m are soft. Sidewalls of temporary shallow excavations are generally stable. Engineer to assess stability of deep (>1.5m) excavations.
- Slope stability - The developable portions of the proposed sites are generally flat. Minor surficial erosion during storms is expected.
- Seismic activity - MMS of less than IV with a 10% chance of being exceeded in 50 years.
- Sources of construction material - The material excavated from foundation trenches is not considered suitable for re-use for backfilling purposes, but engineer to assess on site.

Although there are municipal production boreholes located close to both sites, the groundwater flow is in the opposite direction and the development of the sites is unlikely to have a significant impact on this source. However, this should be evaluated carefully and monitored.

Grave excavation will be slow and difficult by hand and the municipality should consider the use of a TLB in this regard. Backfilling of graves will also be challenging with the in situ clayey material which can be blocky and difficult to compact. It is recommended that the topsoil and clay are mixed for backfilling to reduce voids. Soil that is wet will not be suitable for backfilling and should be replaced with drier imported soil from any available source.

Site drainage is important to prevent ponding of surface water around the graveyard and deep v-channels are recommended throughout. This may also help increase the basal buffer zone between the corpse and the perched water table, and keep the surficial soil horizons in a drained state which will add stability to the grave sidewalls.

Impact 3 – Traffic Impacts

Due to the nature of the development, it will only generate vehicular trips during off-peak periods. The existing demand on the road network during this period is significantly lower (50 percent) compared to the peak hours.

Impact	**Preferred Alternative**		**Alternative 2**		**No-Go**
	Without mitigation	With mitigation	Without mitigation	With mitigation	
Duration	On-going	On-going	On-going	On-going	-
Extent	Local	Local	Local	Local	-
Intensity	Very low	Negligible	Very low	Negligible	-
Probability	Rare / improbable	Highly unlikely / none	Rare / improbable	Highly unlikely / none	-
Confidence	High	High	High	High	-
Reversibility	-	-	-	-	-
Resource irreplaceability	-	-	-	-	-
Significance	**Negligible - negative**	**Negligible - negative**	**Negligible - negative**	**Negligible - negative**	N/A
Cumulative impacts	Cumulative impacts are only expected once the housing developments planned for the area are constructed. This would lead to additional lanes being required to accommodate additional traffic.				
Mitigation:					

The proposed cemetery will not generate trips during the peak hours of the surrounding road network and the operations at the study intersection will be acceptable during the off-peak periods, when the (cemetery) development could generated some additional trips on the road network.

The study intersection will operate acceptably with the development completed and no external road upgrades are required for the proposed development.

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

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

1. Plants, Animals and Terrestrial Biodiversity Assessment (David Hoare Consulting (Pty) Ltd, 23 May 2024) –

1. The site consists of a combination of forest, mesic thicket, scrub thicket, fynbos and extensive areas of alien trees (existing and recently cleared). The forest, fynbos, scrub thicket, and mesic thicket are in a natural state whereas areas of alien trees are in a highly degraded state. (Note that the legal definition of "natural vegetation" includes the phrase, "...irrespective of the levels of alien invasion", therefore the areas of alien vegetation are legally defined as natural).

2. The proposed development is located primarily within areas of alien trees, but also affects a small area of scrub thicket and a sliver of mesic thicket. However, the edge of the proposed development extends partly down a steep slope, therefore downslope effects on forest and mesic thicket habitats is possible.

3. All natural areas on site occur in areas designated as Other Natural Area, or Ecological Support Area (drainage lines). No Critical Biodiversity Areas are affected or occur on site.

4. The site occurs mostly within South Outeniqua Sandstone Fynbos, which is not listed, and partially within Southern Afrotemperate Forest (not mapped as occurring on site but confirmed to occur there).

5. Following the procedures within the Species Environmental Assessment Guidelines, the Forest and Fynbos have been assessed as having Very High sensitivity / Site Ecological Importance, mesic thicket as having High sensitivity / Site Ecological Importance, Scrub Thicket as having Medium sensitivity / Site Ecological Importance, and areas of Aliens as having Low sensitivity / Site Ecological Importance.

6. No plant species of concern were found on site but based on the available habitat, it is considered possible that any of nine plant species flagged for the site could occur there. It is therefore verified that the site has MEDIUM sensitivity with respect to the Plant Species Theme, within areas of natural habitat.

7. The site is considered to be potential habitat for any of three of the animal species flagged for the site. The woodland habitats (forest, mesic thicket, scrub thicket) is likely habitat for three animal species, the Knysna Warbler (Vulnerable), a small antelope (Vulnerable), and the Crowned Eagle (Near Threatened). It is therefore verified that the Animal Species Theme has MEDIUM sensitivity for the site.

8. An impact assessment determined that the impact of the proposed development has Medium significance for loss of natural vegetation (Very Low, if proposed mitigation is applied - see Recommendations section below), Very Low significance for loss of protected trees, and Very Low significance for animal and plant species of concern (although this would change if any of the species were detected on site).

9. On the basis of the residual Very Low significance for loss of natural vegetation, no offsets are required, according to the NATIONAL BIODIVERSITY OFFSET GUIDELINE, published under the NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) on 23 June 2023.

Management measures –

- Forest habitats in the steeply-sloping valley parts of the site, have high biodiversity and conservation value, and are designated as sensitive. These areas must not be unnecessarily affected by the proposed development. Upslope of the forested valleys are scrub thicket areas that provide an important ecological buffer to the forested areas. This scrub thicket historically transitioned into fynbos. Where possible, these transitional areas should be retained on site as part of the forest buffer.

- An open space management system should be developed to formalize forest protection and the associated buffer areas.

- It is important for the maintenance of biodiversity and ecological patterns in the general landscape that ecological linkages are maintained in the landscape. This includes ecotones between the different major habitat types. The most important ecological corridor and linkage in the landscape associated with the current site is the forested valley system. These areas must be protected from impacts associated with the proposed project.

- Rehabilitation of disturbed areas, as well as previously invaded areas, should be undertaken in a way that promotes establishment of site-appropriate indigenous species.

- An alien invasive management programme should urgently be implemented on site. This will protect all remaining habitats on site, especially those downslope from degraded areas, and could potentially be the biggest contribution to maintaining and protecting biodiversity on site and in surrounding areas.

- A permit is required for any protected trees that may be affected by proposed development. Once a final layout has been determined, a survey of all protected trees within this footprint area is required in order to apply for any necessary permits. Protected trees observed on site included milkwoods (Sideroxylon inerme) and boekenhout / Cape beech (Rapanaea melanophloeos).

2. Aquatic Biodiversity Compliance Statement (Dr. Jackie Dabrowski Confluent Environmental (Pty) Ltd, June 2023) –

No watercourses were observed during the site visit. Based on topography of the site, observations during the site visit, and inspection of aerial / satellite images, watercourses to the west and east of the cemetery site were delineated according to Ollis et al., (2013). Both watercourses were delineated as drainage lines grading to streams as the gradient increases. The extent of the riparian zone was delineated using satellite and historical imagery which indicates a distinct zone of vegetation associated with the watercourse.

Riparian means where the land meets a watercourse, and refers to the zone where these two habitats interface. Buffer areas are linear zones adjacent to watercourses managed with the intention of protecting water resources from diffuse pollution associated with adjacent land uses. In addition, they provide habitat for wildlife within, and act as corridors throughout fragmented landscapes. The width of buffer zones for watercourses was determined using the site-based model developed by Macfarlane & Bredin (2017) which is the more comprehensive of the two available models.

Buffers recommended for both watercourses were determined to be 37 m width measured from the edge of the delineated riparian zone. For buffer zones to effectively preserve the integrity of watercourses they need to remain in a natural condition with at least 90% vegetation cover and control of alien vegetation.

The Site Sensitivity in terms of Aquatic Biodiversity is confirmed as Low in contrast to the Very High sensitivity identified by the DFFE Screening Tool. Based on the information presented in this report during the desktop and field assessment, the following reasons support this finding:

- No definable watercourses were observed or are expected to occur within the footprint of the proposed cemetery.
- The Very High site sensitivity finding by the Screening Tool was due to the site being mapped as a Fish FEPA. The cemetery is located entirely outside of the delineated riparian zone of watercourses to the east and west, and almost entirely outside of the 37 m buffer zone. It is therefore very unlikely that it will negatively impact the ecological structure and function of watercourses in the catchment.
- The proposed development footprint is located outside of the regulated area of both watercourses to the east and west as defined in GN509 (2016) of the National Water Act (Act No. 36 of 1998) and therefore no water use authorisation is required (General Authorisation or Water Use License). However, this conclusion would change if any sewage connections, built infrastructure, or construction activities were to be planned within the delineated riparian zone, as this is considered to be within the regulated area. This includes stormwater infrastructure.

3. Heritage Statement (Dr. Peter Nilssen, 14 June 2023) –

The site inspection identified no heritage resources and it is not expected that the proposed development will have an impact on heritage resources or the heritage value of the area.

The proposed development site is not visible from the N2 (Figures 5 & 6). Nevertheless, there are no heritage resources on 33/437 that will be visually impacted by the proposed development. Consequently, from a heritage standpoint, the scenic route will not be negatively impacted by the proposed development.

Furthermore, since there are no significant heritage resources or features associated with 33/437 or the proposed development footprint, the proposed activity will have a negligible to no impact on the existing cultural landscape of the area.

The palaeontological sensitivity of the development footprint is low and even though Mr Pether recommends the inclusion of the Fossil Finds Procedure in the EMPr for the development, no palaeontological resources were identified during geotechnical test excavations (Nilssen 2014).

The proposed development footprint on 33/437 has been impacted by farming activities (ploughing, cultivation and grazing) during the colonial period, possibly from as early as the mid- to late-1700s. As a result, the context of pre-colonial heritage resources in surface sediments was damaged, disturbed or destroyed. No colonial period heritage resources were identified on the property.

Even though none were identified, if present on the property, then isolated Stone Age pieces like those identified on 3/437 are considered to be of low heritage value and are not conservation worthy (Nilssen 2014).
Due to the absence of significant heritage resources, the proposed activity will have negligible to no cumulative impacts on the archaeological or heritage value of the area.

This baseline investigation has shown that, if present, heritage resources on the affected part of the property would be of low significance and given a field rating of Not Conservation Worthy. Since there are no significant heritage resources associated with the proposed development footprint, it does not meaningfully contribute to the cultural landscape of the area.

For reasons given above and on heritage grounds, the proposed activity will have no negative impact on the aesthetic value of the area.

4. Site Sensitivity Verification and Agricultural Compliance Statement (Johann Lanz, 27 September 2023) –

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of potential cropland and therefore minimal loss of future agricultural production potential.

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

Although cropping may occur in the area, the cropping potential of the site is limited by soil constraints. The soils on site are constrained by shallow depth and poor drainage. The site is unlikely to be suitable for rain-fed crop production. Furthermore, factors other than climate, terrain, and soil capability also constrain the potential of the property to practically deliver agricultural produce and therefore influence its agricultural production potential. These factors include its location surrounded largely by non-agricultural land uses, the lack of any existing cropping infrastructure or inputs, and municipal ownership of the land, which would discourage the necessary investment to establish cropland. For these reasons, the site is highly unlikely to ever be viably utilised for crop production and its potential is therefore assessed here as low.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of the development. In this case, the entire development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations on its cropping potential. The production potential of the land is limited to only being suitable as grazing land, and there is no particular scarcity of such land in the country, in contrast to arable land, which is very scarce. The use of this land for non-agricultural purposes will cause minimal loss of agricultural production potential in terms of national food security.

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

5. Preliminary Geohydrological Assessment for Cemetery Development In Plettenberg Bay (JG Afrika, November 2020) –

The site is underlain by a fractured aquifer comprising quarzitic sandstone with interbedded shale of the TMG. No regional faulting is evident on and near the site. In accordance with DWS (1999), the aquifer is classified as a low to medium yielding aquifer, however, based on municipal borehole data, the aquifer is a high yielding, major

aquifer. The inferred depth to groundwater in the immediate vicinity of the sites is greater than 100m, and due to this, saturated water bearing fractures are expected deeper than 100mbgl. The aquifer vulnerability is therefore low.

The quantitative environmental risk assessment identified contamination from soil from waste areas, leachate from decaying bodies and increased infiltration due to poor stormwater management scoring Moderate. These scores can generally be reduced with the application of appropriate mitigation measures.

Management measures-

- Mitigate erosion, runoff and ponding water during the lifespan of the cemetery development through appropriate storm water management and earthworks control
- Concrete vaults could be used in medium risk areas in proximity to geological structures.
- Exclusion zones around the existing boreholes including BH_New_Horizon should be enforced. This borehole should also be converted to a monitoring station if future abstraction is discontinued.
- An additional monitoring borehole should be installed in the northern half of the selected property as downslope monitoring points. The borehole would be utilised to profile the geology at depth, to confirm groundwater strikes and levels, and to provide a groundwater monitoring location. Suitable locations identified from the geophysical survey are station 150 on traverse T1 (Portion 33 of Farm 437).
- A groundwater and surface water monitoring plan should be implemented to include routine sampling and analysis of groundwater and surface water locations on or near the site. Analysis should include indicators of potential contamination from cemetery developments (ammonia, nitrate, nitrite, lithium, sulphide, orthophosphate, clostridium perfringens and pseudomonas aeruginosa) as well as standard physical, micro and macro determinants. Bi-annual monitoring is recommended. Base line water quality should be established prior to implementation of any graves.
- Careful site management and site operations are basic requirements to ensure the impact on groundwater quality in the area is minimised by the cemetery operations.

6. Traffic Impact Assessment (ITS, November 2023) –

Parking:

The SDP makes provision for 53 formal parking bays plus 3 bus parking bays on site, which is sufficient. There is also space available on site to accommodate overflow parking if necessary.

Pedestrians and Cyclists:

There are existing sidewalks along the N2 and Ebenezer Road in the site vicinity. It is recommended that sidewalks be provided along both sides of the access road between Ebenezer Road and the site.

Public Transport:

There are existing public transport facilities available along the N2 and Ebenezer Road and no additional public transport facilities are recommended as part of the proposed development.

Traffic Impact:

The peak traffic generation period of the cemetery will not coincide with the peak hours of the surrounding road network. Typically, a cemetery generates trips during the off-peak periods between 10:00 in the morning and 15:45 in the afternoon.

Due to the nature of the development, it will only generate vehicular trips during off-peak periods. The existing demand on the road network during this period is significantly lower (50 percent) compared to the peak hours and will easily accommodate the additional development trips.

The proposed cemetery will not generate trips during the peak hours of the surrounding road network and the operations at the study intersection will be acceptable during the off-peak periods, when the (cemetery) development could generated some additional trips on the road network.

The study intersection will operate acceptably with the development completed and no external road upgrades are required for the proposed development.

7. Geotechnical Report (Outeniqua Geotechnical Services, 2013, verified in 2023) -

Grave excavation will be slow and difficult by hand and the municipality should consider the use of a TLB in this regard. Backfilling of graves will also be challenging with the in situ clayey material which can be blocky and difficult to compact. It is recommended that the topsoil and clay are mixed for backfilling to reduce voids. Soil that is wet will not be suitable for backfilling and should be replaced with drier imported soil from any available source.

Site drainage is important to prevent ponding of surface water around the graveyard and deep v-channels are recommended throughout. This may also help increase the basal buffer zone between the corpse and the perched water table, and keep the surficial soil horizons in a drained state which will add stability to the grave sidewalls.

Foundations for structures:

The design of foundations for structures lies within the consulting engineer's responsibility and the following recommendations are based on limited subsurface information. The recommendations are provided as a guideline for conceptual design and more detailed investigations should be undertaken for detailed design purposes.
The stiff residual soil is most suitable to carry foundation loads but foundations can be cast at shallower depths on well compacted pedogenic (ferricrete) or transported horizons (topsoil). A preliminary design bearing capacity is 75kPa. The recommended foundation types is conventional reinforced concrete strip foundations or light rafts. All foundation trenches should be inspected and approved by the engineer before casting.

Access roads:

The topsoil subgrade generally has a poor CBR value (assume G9) and it is recommended
that an allowance is made for an imported 150mm G7 selected gravel layer below the subbase. The subgrade should be proof-rolled to identify wet or soft spots and wet material should be removed and replaced with suitably drier G7 fill material from commercial sources.

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr
As per the above.	
3.	List the specialist investigations and the impact management measures that will **not** be implemented and provide an explanation as to why these measures will not be implemented.
N/A	
4.	Explain how the proposed development will impact the surrounding communities.

Positive Impacts:

- The community of Bitou Municipality will have access to a regional cemetery to fulfil religious customs for the burial of loved ones.
- The cemetery will provide burial space for approximately 10 years.
- The surrounding property owners will have increased social services with enhanced safety and security provided by the functional use of what has been undeveloped land utilised for illegal dumping.

Negative Impacts:

Municipal production boreholes will require continuous monitoring to ensure that leachate from graves is not negatively impacting any water sources.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.
In terms of increased rainfall and severe storm events, the development may cause pollution to nearby water sources. Stormwater management needs to be sufficiently developed to deal with extreme rainfall events and not just regular rainfall of the area.	
6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.
N/A	
7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.
The investigation of five potential properties were identified by Bitou Municipality for an initial desktop study: Site A (portion 28/306), Site B (portion 1/444), Site C (RE/3/437), Site D (portion 33/437), and Site E (RE/7/428). From the desktop study two potential sites were chosen for a more detailed investigation (Site C & D). Once detailed	

assessments were complete on the two properties, Bitou Municipality chose Site D/ portion 33 of 437 as the most feasible option for the development of a cemetery due to the site topography, site location, and recommendations made by the geotechnical specialist. Additional specialist assessments were initiated for the development of a portion of Site D and all specialist mitigation measures will be implemented.

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

As explained above.

SECTION J: GENERAL

1. Environmental Impact Statement

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

Impacts of the cemetery development:

1. Loss of natural vegetation - The vegetation on site (within the proposed development footprint) is mostly in poor condition, and consists either of natural or invaded areas with a species composition that is not representative of the natural habitat. If any protected trees occur within the development site, a permit is required for the removal of these trees. The forest habitat must be a no-go area for the development.

2. Impact to the delineated riparian area - The proposed development footprint is located outside of the regulated area of both watercourses to the east and west as defined in GN509 (2016) of the National Water Act (Act No. 36 of 1998) and therefore no water use authorisation is required (General Authorisation or Water Use License). However, this conclusion would change if any sewage connections, built infrastructure, or construction activities were to be planned within the delineated riparian zone, as this is considered to be within the regulated area. This includes stormwater infrastructure. The cemetery and its associated infrastructure must be kept out of the delineated riparian zone and it is best to avoid the buffer zone as well.

3. Pollution to groundwater - groundwater quality may be affected from contamination of soil from waste areas, leachate from decaying bodies and increased infiltration due to poor stormwater management. Storm water management and management of excavation areas are standard mitigation options for surface water runoff, ponding and increased turbidity loads. Surface runoff and water ingress should be minimised by limiting excavation areas on a needs bases and implementing erosion control areas in graded areas.

Leachate generation can be minimised using concrete vaults in medium risk areas, particularly where the vadose zone is less defined in low lying areas. Infiltration of rainfall through grave sites can be minimised by appropriate earthworks techniques that promote runoff away from grave sites. Similar techniques can be implemented to promote the shallow groundwater seepage away from grave sites.

A mandatory exclusion zone should be applied to all existing and new boreholes. Should the existing borehole BH_New_Horizon not be considered for furture production, then the borehole should be converted to a monitoring station for water level and background water quality. An additional on-site or downslope monitoring borehole should be considered to carry out routine monitoring of the groundwater beneath the site and compared to the background monitoring to establish the occurrence of pollution and extent thereof, if any.

4. Geotechnical impacts – specific soil content must be used for backfilling of graves. Stormwater management and borehole management has been highlighted by this specialist as well as the geohydrological specialist. These two aspects are extremely important to manage well in order to keep the local community safe from groundwater and water resource pollution.

5. Traffic/Access – there will be no impact to the current traffic flow of the area with the development of the cemetery.

6. Visual – due to the location of the proposed cemetery development, there will be no visual impacts. Foliage bordering the site boundary must remain intact to act as a natural screen.

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)

Attached as Appendix B2.

1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.

Positive Impacts:

- The community of Bitou Municipality will have access to a regional cemetery to fulfil religious customs for the burial of loved ones.
- The location of the site favours the proposed development of a cemetery provided mitigation measures proposed by specialists are followed.
- The cemetery will provide burial space for approximately 10 years.
- The surrounding property owners will have increased social services with enhanced safety and security provided by the functional use of what has been undeveloped land utilised for illegal dumping.
- Preservation of forest habitats on the property.
- Clearing of alien invasive plant species will allow for indigenous vegetation to be rehabilitated, increasing the ecological value of the property.

Negative Impacts:

Municipal production boreholes will require continuous monitoring to ensure that leachate from graves is not negatively impacting any water sources.

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr

1. Forest habitats in the steeply-sloping valley parts of the site, have high biodiversity and conservation value, and are designated as sensitive. These areas must not be unnecessarily affected by the proposed development. Upslope of the forested valleys are scrub thicket areas that provide an important ecological buffer to the forested areas. This scrub thicket historically transitioned into fynbos. Where possible, these transitional areas should be retained on site as part of the forest buffer.

2. Compile and implement a fire management plan for fynbos areas. This must take into account the required burning frequency, intensity and timing to promote ecosystem health within fire-prone ecosystems.

3. Access to forested areas during construction must not be permitted by any construction personnel. These areas must be fenced off and no access allowed.

4. Compile and implement an alien management plan, which highlights control priorities and areas and provides a programme for long-term control.

5. Avoid areas of high concentrations of protected trees.

6. Do not disturb natural woodland where there is a continuous canopy of forest trees, and protect forest margin areas so that forest interiors maintain existing microhabitat conditions and structural integrity.

7. If any trees need to be removed or pruned then a permit is required, according to the National Forests Act.

8. Protect natural vegetation adjacent to the proposed development site, as per the first impact.

9. The cemetery and its associated infrastructure must be kept out of the delineated riparian zone and it is best to avoid the buffer zone as well.

10. Storm water management and management of excavation areas are standard mitigation options for surface water runoff, ponding and increased turbidity loads. Surface runoff and water ingress should be minimised by limiting excavation areas on a needs bases and implementing erosion control areas in graded areas.

11. Leachate generation can be minimised using concrete vaults in medium risk areas, particularly where the vadose zone is less defined in low lying areas. Infiltration of rainfall through grave sites can be minimised by appropriate earthworks techniques that promote runoff away from grave sites. Similar techniques can be implemented to promote the shallow groundwater seepage away from grave sites.

12. A mandatory exclusion zone should be applied to all existing and new boreholes. Should the existing borehole BH_New_Horizon not be considered for furture production, then the borehole should be converted to a monitoring station for water level and background water quality. An additional on-site or downslope monitoring borehole should be considered to carry out routine monitoring of the groundwater beneath the site and compared to the background monitoring to establish the occurrence of pollution and extent thereof, if any.

13. Grave excavation will be slow and difficult by hand and the municipality should consider the use of a TLB in this regard. Backfilling of graves will also be challenging with the in situ clayey material which can be blocky and difficult to compact. It is recommended that the topsoil and clay are mixed for backfilling to reduce voids. Soil that is wet will not be suitable for backfilling and should be replaced with drier imported soil from any available source.

14. Site drainage is important to prevent ponding of surface water around the graveyard and deep v-channels are recommended throughout. This may also help increase the basal buffer zone between the corpse and the perched water table, and keep the surficial soil horizons in a drained state which will add stability to the grave sidewalls.

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.

All recommendations made by specialists must be conditions of the authorisation to ensure minimal impact is experienced.

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.

To be included confirmed in the Final BAR.

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.

All assumptions, uncertainties and gaps in knowledge experienced by specialists have been mitigated using substantive supportive data.

Section 2 of the NEMA provides principles of environmental management to serve as a framework for environmental management implementation and decision making. The main and applicable principles of environmental management as set out in Section 2 of NEMA emphasise the following:

- Environmental management placing people and their needs at the forefront of its concern, and serve their physical, physiological, developmental, cultural and social interests equitably.

  Environmental degradation can be mitigated successfully through the implementation of the EMPr. I&APs and Stakeholders are allowed the opportunity to consider and submit comment and can become involved in the process, thereby ensuring that all people's needs, rights and concerns will be addressed through this process.

- Development must be socially, environmentally, and economically sustainable.

  The proposed activities are considered socially, environmentally, and economically sustainable provided all mitigation measures are implemented.

- Consideration for ecosystem disturbance and loss of biodiversity.

  The proposed development occurs in an area characterised as "other natural areas" and has been designed to cause the least damage to the environment. A Biodiversity Specialist has identified the sensitive areas on site according to GIS mapping of the area, and site visits. Prior to construction the appointed ECO must ensure that no protected plants are removed and no protected wildlife are disturbed.

- Pollution and environmental degradation.

  The potential environmental degradation has been considered and mitigation measures proposed. Please see attached Geohydrological Impact Assessment.

- Landscape disturbance.

The proposed activities are considered in line with the current character of the area.

- Avoidance, minimisation and remedying of environmental impacts.

  The potential environmental degradation has been considered and mitigation measures proposed.

- Interests, needs and values of Interested and Affected Parties.

  This process provides potential Interested & Affected Parties (I&APs) and other key stakeholders with sufficient opportunity for review, comment and to provide input into the process. Details of the Public Participation Process undertaken will be included in the Final BAR.

- Access of information.

  Registered I&APs are all provided with access to the relevant documentation.

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.
Validity of EA - 10 years	

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.
A minimal volume of water is required for the cemetery operation. Confirmation from the Bitou Municipality for sufficient water supply for the development will be included in the Final BAR. However, it is recommended that rainwater harvesting is incorporated into the development to deal with any water shortfall events that may occur and to decrease the independence on municipal water sources.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
The EMPr will stipulate waste management using the waste hierarchy during construction phase. All waste, building rubble and recycling will be removed from site to licensed facilities. General waste is expected during the operational phase and collection will need to be included the municipal collection schedule.

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
None – however, the municipality is encouraged to include green building practises into the development of structures on the property to increase energy efficiency and decrease waste production.	

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT - ATTACHED

Note: Duplicate this section where there is more than one Applicant.

I……, ID number ……in my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;

- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;

- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
  - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
  - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;

- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;

- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
  - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
  - Legitimate costs in respect of specialist(s) reviews; and
  - the provision of security to ensure compliance with applicable management and mitigation measures;

- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant: Date:

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I Samantha Teeluckdhari……, EAP Registration number 2023/6443…….. as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

S. Teeluckdhari

16/08/2024

Signature of the EAP: Date:

Eco Route Environmental Consultancy

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP – N/A

I ……, EAP Registration number …….. as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE SPECIALIST – TO BE INCLUDED IN FBAR

Note: Duplicate this section where there is more than one specialist.

I ……, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or

  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);

- In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;

- I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and

- I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):

DECLARATION OF THE REVIEW SPECIALIST – N/A

I ……., as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s):
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Signature of the EAP: Date:

Name of company (if applicable):