GEORGE
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CAPE TOWN
TEL: +27 (0) 21 554 5195 **FAX:** +27 (0) 86 575 2869
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ADDRESS: Tableview, Cape Town, 7441
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DRAFT

BASIC ASSESSMENT REPORT

FOR THE

DEVELOPMENT OF 5 RESIDENTIAL UNITS ON ERVEN 4139, 4140, 4141, 4142, 4143, 4144, 4145 (ERF 3997), STILL BAY – WEST,

WESTERN CAPE PROVINCE

In terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the amended (April 2017) Environmental Impact Assessment Regulations, 2014

PREPARED FOR: Mr. W. Nel
Nautiluslaan 8
Still Bay
6676

DATE: 25 February 2022

DEADP REF: 16/3/3/1/D5/19/0006/22

Western Cape Government
Environmental Affairs and Development Planning

FORM NO. BAR10/2019

BASIC ASSESSMENT REPORT

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

NOVEMBER 2019

(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 DEVELOPMENT OF 5 RESIDENTIAL UNITS ON ERVEN 4139, 4140, 4141, 4142, 4143, 4144, 4145 (ERF 3997), STILL BAY – WEST, WESTERN CAPE PROVINCE

16/3/3/1/D5/19/0006/22

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. 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.

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

5. 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.

6. This BAR is current as of **November 2019**. 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/eadp to check for the latest version of this BAR.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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: REGION 1 and REGION 2 **(Region 1: City of Cape Town, West Coast District)** **(Region 2: Cape Winelands District & Overberg District)**	**GEORGE OFFICE: REGION 3** **(Central Karoo District & Garden Route District)**
BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483-5829 Fax (021) 483-4372	BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530 Registry Office 4th Floor, York Park Building 93 York Street George Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following: • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken. Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and

	Public Works) that will be affected by the proposed development must be included in the Report.
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following: • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development **must** be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): o Watercourses / Rivers / Wetlands o Flood lines (*i.e.,* 1:100 year, 1:50 year and 1:10 year where applicable); o Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): o Ridges; o Cultural and historical features/landscapes; o Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape

NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

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

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	✓
	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 F3:	**Copy of comment from Cape Nature**	✓
	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	X
	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	X
	Appendix E17:	Comment from the District Municipality	X
	Appendix E18:	Copy of an exemption notice	X
	Appendix E19	Pre-approval for the reclamation of land	X
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	X
	Appendix E21:	Proof of land use rights	X
	Appendix E22:	Proof of public participation agreement for linear activities	X
Appendix F1:	**Approved PPP Plan, register of I&APs**		✓
Appendix F2:	**Comments and responses Report,**		✓
Appendix F3:	**Comments received**		
Appendix F4:	**Proof of notices**		
Appendix G:	**Botanical Assessment**		✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening tool report** **Site verification report (SVR)** **Authority correspondence (relating to SVR)**		✓
Appendix J:	**The impact and risk assessment for each alternative**		x

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**	x
Appendix L:	**Electrical Services Report**	✓
Appendix M:	**Civil Engineering Report**	✓
Appendix N:	**Visual Impact assessment**	✓
Appendix O:	**Planning report**	✓
Appendix P:	**Building Design Guidelines**	✓
Appendix Q:	**Heritage Impact Assessment**	✓
Appendix R:	**Aquatic Biodiversity Verification Assessment** **Agricultural Compliance Statement**	✓
Appendix S:	**EAP CV**	✓
Appendix T:	**Existing EA**	✓
Appendix U:	**Stormwater Management plan**	✓

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	~~CAPE TOWN OFFICE:~~		GEORGE OFFICE:
	~~REGION 1~~ ~~(City of Cape Town, West Coast District~~	~~REGION 2~~ ~~(Cape Winelands District & Overberg District)~~	**REGION 3** **(Central Karoo District & Garden Route District)**

Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	W. Nel & Irma Oosthuizen Trust IT 1596/2008	
Name of contact person for Applicant/Proponent (if other):	Mr. W. Nel	
Company/ Trading name/State Department/Organ of State:		
Company Registration Number:	1596/2008	
Postal address:	Nautiluslaan 8	
	Still Bay	Postal code: 6676
Telephone:	(028)735 1772	Cell: 0829206151
E-mail:	Willemnel54@gmail.com	Fax: ( )
Company of EAP:	Sharples Environmental Services cc	
EAP name:	John Sharples Michael Bennett	
Postal address:	PO Box 9087	
	George	Postal code:
Telephone:	044 873 4923	Cell:
E-mail:	Michael@sescc.net	Fax: ( )
Qualifications:	• Master Degree in Environmental Management • B-Tech in Nature Conservation • BSc: Environmental Science and Oceanography	
EAPASA registration no:	EAPASA registration no: 1485 (John Sharples)	
Duplicate this section where there is more than one landowner Name of landowner:	W. Nel	
Name of contact person for landowner (if other): Postal address: Telephone: E-mail:	Same as above	
Name of Person in control of the land: Name of contact person for person in control of the land: Postal address:		
Telephone: E-mail:		

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Mr. Hendrick Visser	
Contact person:	Mr. Johan Jacobs	
Postal address:	PO Box 29	
	Riversdale	Postal code: 6670

Telephone	028 713 8000	Cell:
E-mail:	info@hessequa.gov.za	Fax: 0864015118

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

1.	Is the proposed development (please tick):	**New**	X – there is an existing EA however the sites have been undeveloped apart from two existing houses on the site.	~~Expansion~~	
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
Greenfield – undeveloped however there is an existing authorisation for the development of an additional two houses.					
3.	**For Linear activities or developments**				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
3.2.	Development footprint of the proposed development for all alternatives.	m²			
3.3.	Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.				
3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
3.6.	**Starting point co-ordinates for all alternatives**				
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 sites (m²):	Erf 4139: 2666 m² Erf 4140: 1507 m² Erf 4141: 974 m² Erf 4142: 10791 m² Erf 4143: 600 m² Erf 4144: 542 m² Erf 4145: 1550 m²			
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	Please note that the areas below are the footprints of the existing houses and their driveways, Erf 4143 and 4144 have not been developed yet and as such they have no existing footprint. Erf 4141 – 725 m² Erf 4145 – 660 m²			
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:	1 – 2147 m² 2 – 1624 m² 3 – 609 m² 4 – 613 m² 5 – 616 m² 6 – 651 m² 7 – 668 m² 8 – 1140 m² 9 – 10210 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).				

The holder of the EA would like to amend the existing EA. However as confirmed by the DEADP the proposal cannot be undertaken in accordance with an amendment and a new application for environmental Authorisation must be submitted.

The Applicant would like to consolidate, subdivide and rezone the site as per the layout plan, Figures 1 to 4, to allow for the development of an addition 5 new erven along the northern boundary of the property. In addition, the two existing, but undeveloped erven, are proposed to be rezoned and incorporated into the Open Space. Please refer to Figure 5 for the approved site development plan. The approved road which crosses the open space will be relocated to the north of the proposed erven.

ECO friendly approach:
The main goal that has been raised by the applicant during the project meetings is for the units to be as self-sufficient as possible. Each unit will therefore be fitted with advance solar polar systems to alleviate the demand on fossil fuel generated power. Rainwater will be harvested and used as far as possible.

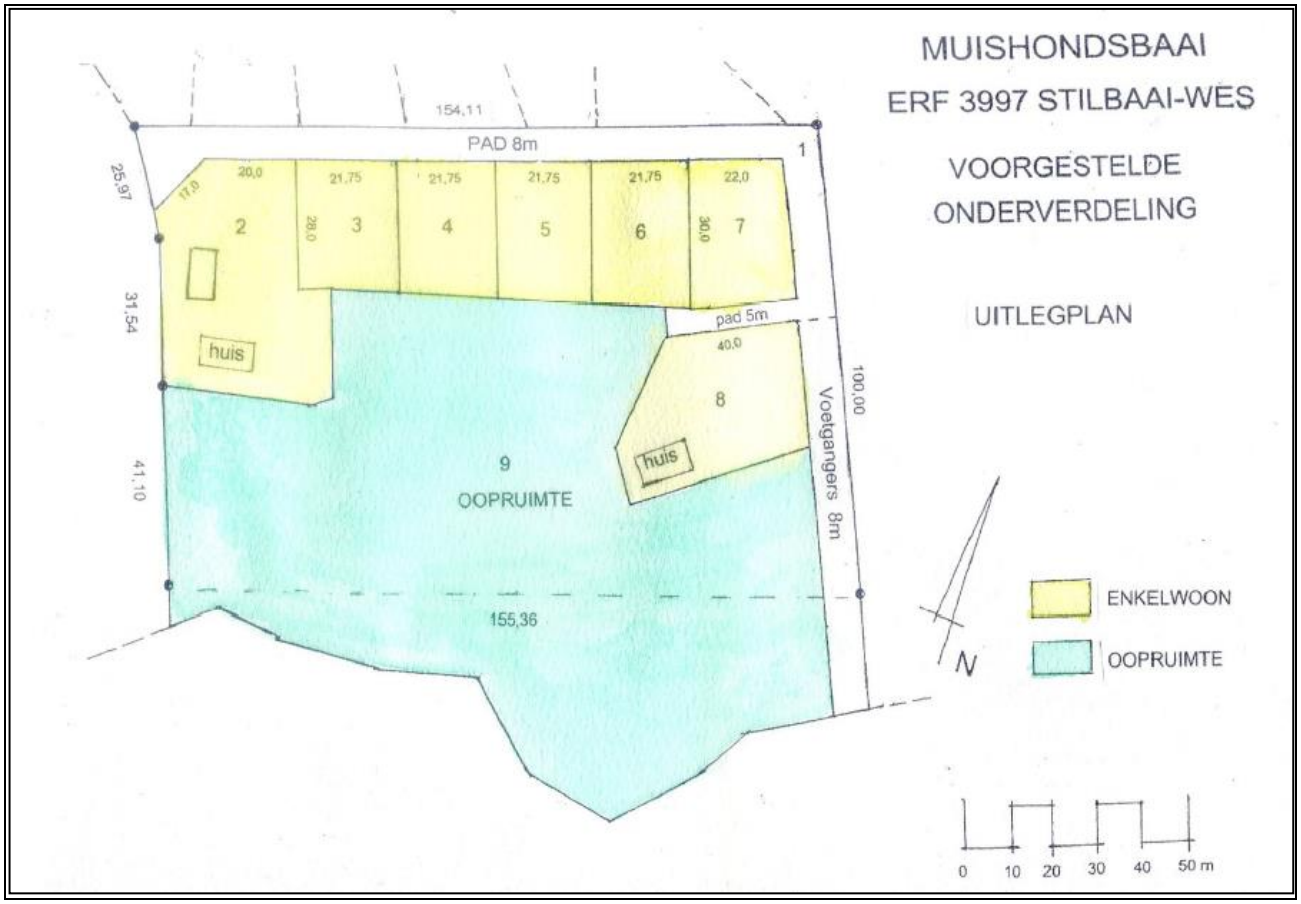


Figure 1: Proposed Layout Plan (Alternative A, preferred)

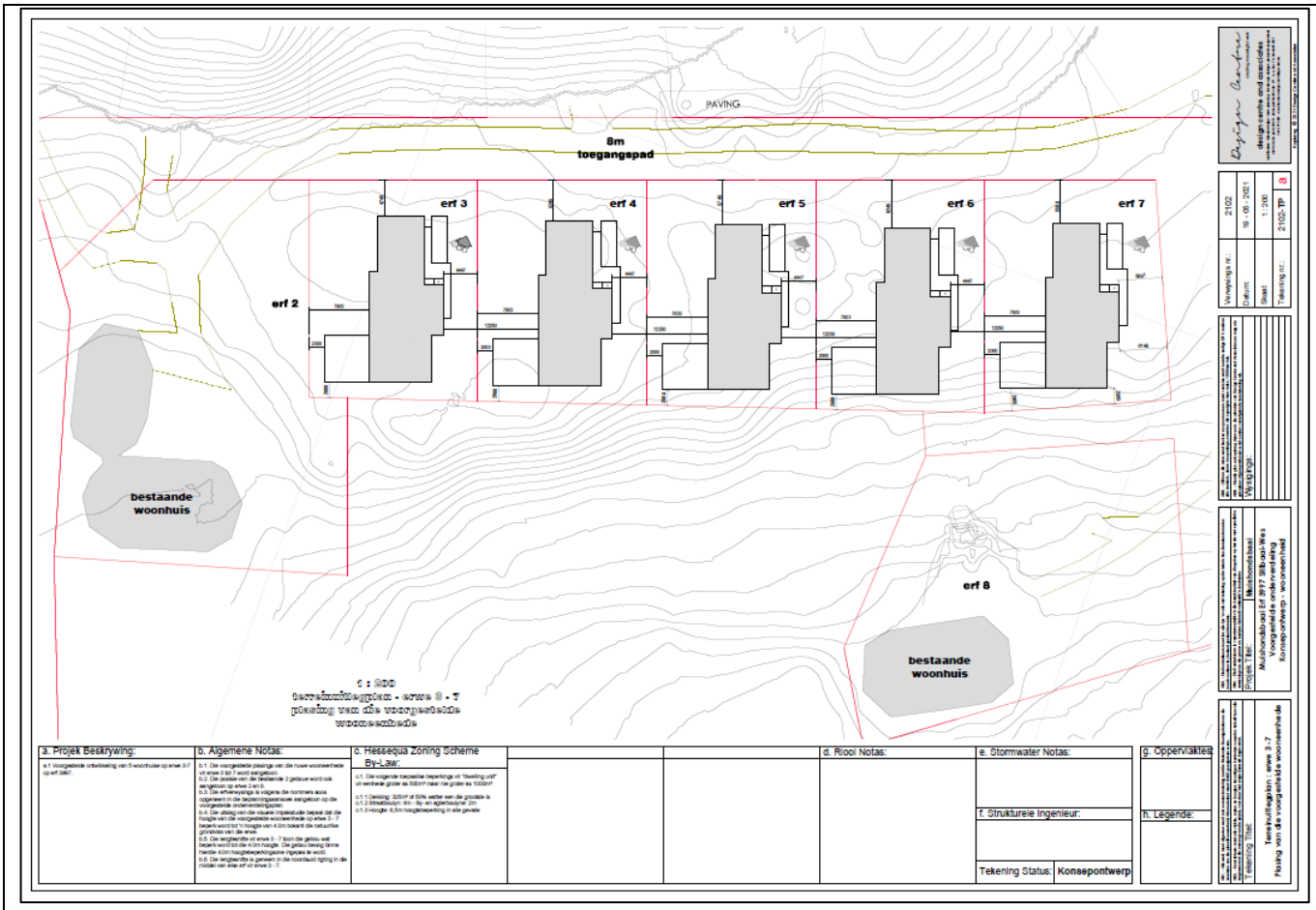


Figure 2: Footprint of the proposed units

Figure 3: Site Development plan on Google Earth

Figure 4: Aerial Image with the proposed layout superimposed

Figure 5: Approved layout (No-Go alternative)

Some cut and fill may be require to create level platforms to constructed the units on however the placement of the proposed units is in such a way as to limit this as far as possible.

Civil Services
A civil engineering services report was compiled by Hessequa consulting engineers for the proposal (refer to Appendix M for the full report). Please note that the Services layout was developed for Alternative B, the bulk connection points will remain unchanged however the services down to the two proposed units between the two existing houses will be excluded from the up dated services layout and will be included with the draft (post application) or final BAR.

Access
Access to the site will be from Visvywer Avenue and Periwinkle Crescent. The new access and internal roads will be shaped and finished with a G5 wearing course.

Stormwater
Graeme McGill consulting was appointed to compile a Stormwater Management Plan (Appendix U) for the proposed units.

It is not proposed to have any conduits extending down from the development to the beach area. Rather the runoff is to be treated and attenuated on each erf.

Along the sea boundary of each erf, a 1m x 1m gabion wrapped in geofabric will be placed. This gabion will collect surface runoff and seepage and will spread the water across the width of the erf to enable full infiltration to take place.

The runoff which will increase as a result of the roofs and paving, will be attenuated on each erf in a tank or tanks. These tanks will be positioned so as to receive roof runoff. Runoff from other hardened and impervious surfaces is unlikely to be able to drain to the tank which will be elevated to a level higher than the gabion.

These tanks will each have an open outlet so as to ensure that there is always storage volume available for attenuation to existing conditions. The open outlets will be piped to the underground gabion placed along the seaside edge of the property.

The runoff collected in the gabion will infiltrate into the surrounding sandy area. It is not anticipated that there will be any groundwater build-up due to the location near the slope towards the sea. Furthermore, the effect of the 20m long gabion will be to spread the runoff infiltration over a large area. Please refer to Figure 6 and 7 for the proposed Stormwater Management Layouts.

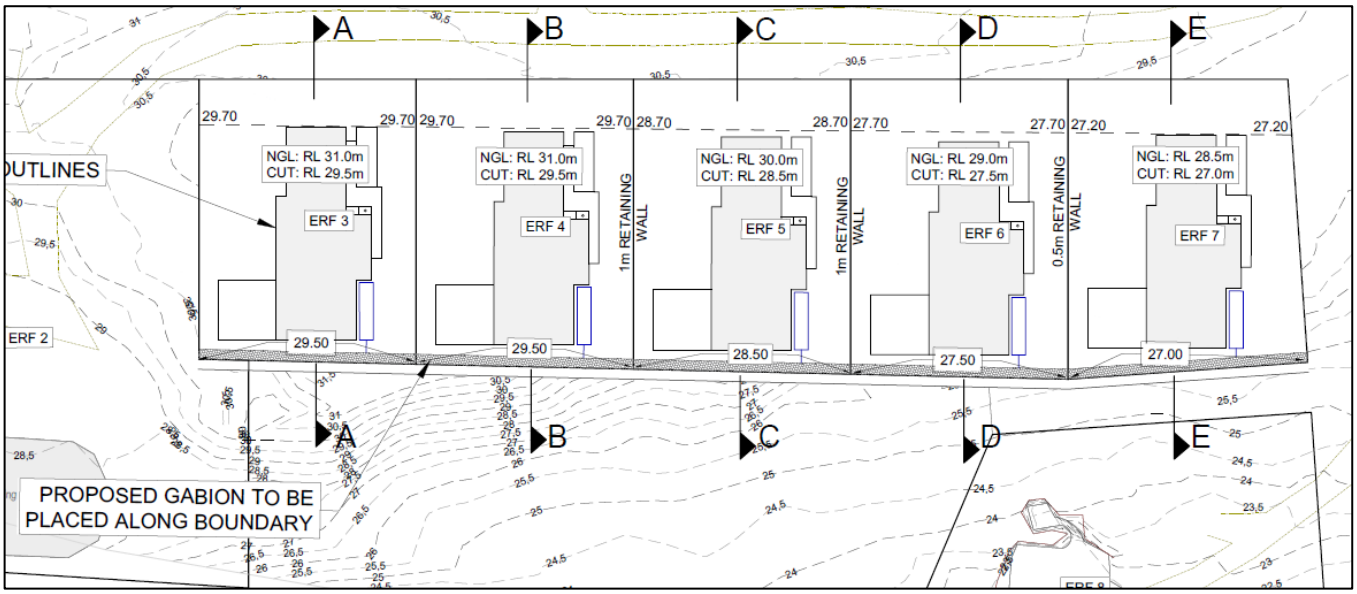


Figure 6: Stormwater Management Plan (SMP) Layout

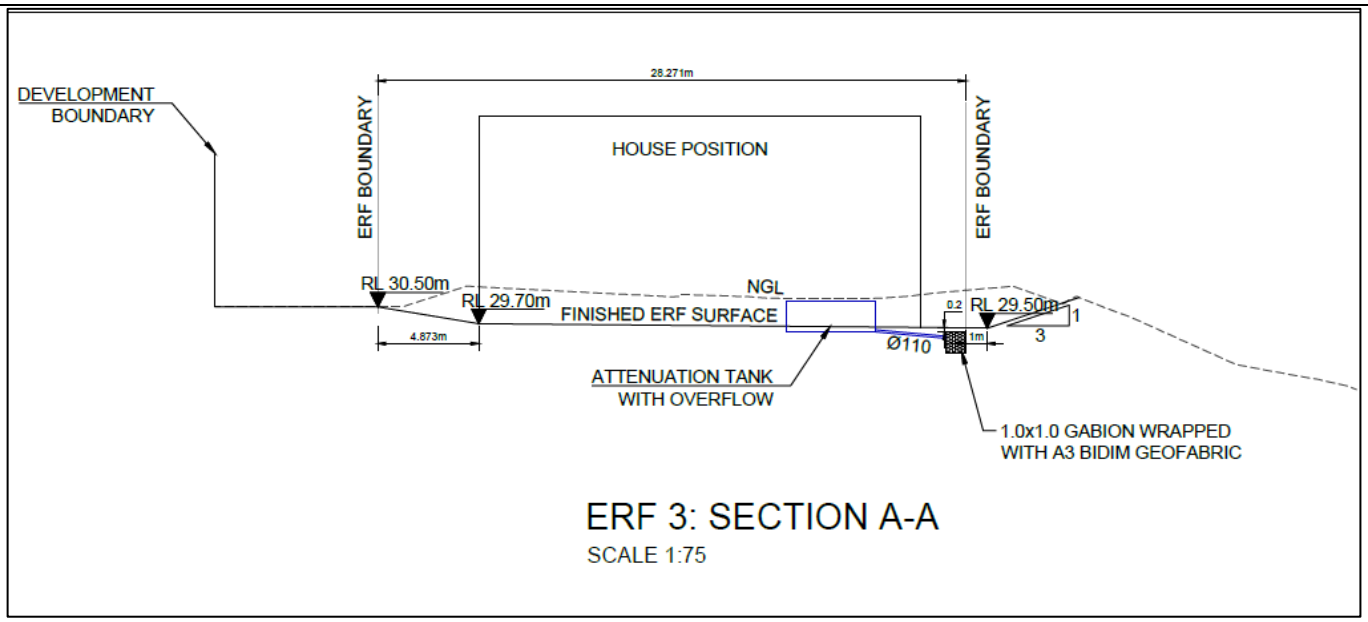


Figure 7: SMP cross section

Water

The proposed development will connect to an existing 100mm water main in Visvywer Avenue. The internal reticulation will consist of 75mm diameter pipework to accommodate the installation of the fire hydrants.

Total annual average daily demand = 4.8kl/d
Required storage capacity for Fire Flow = 108m^3.

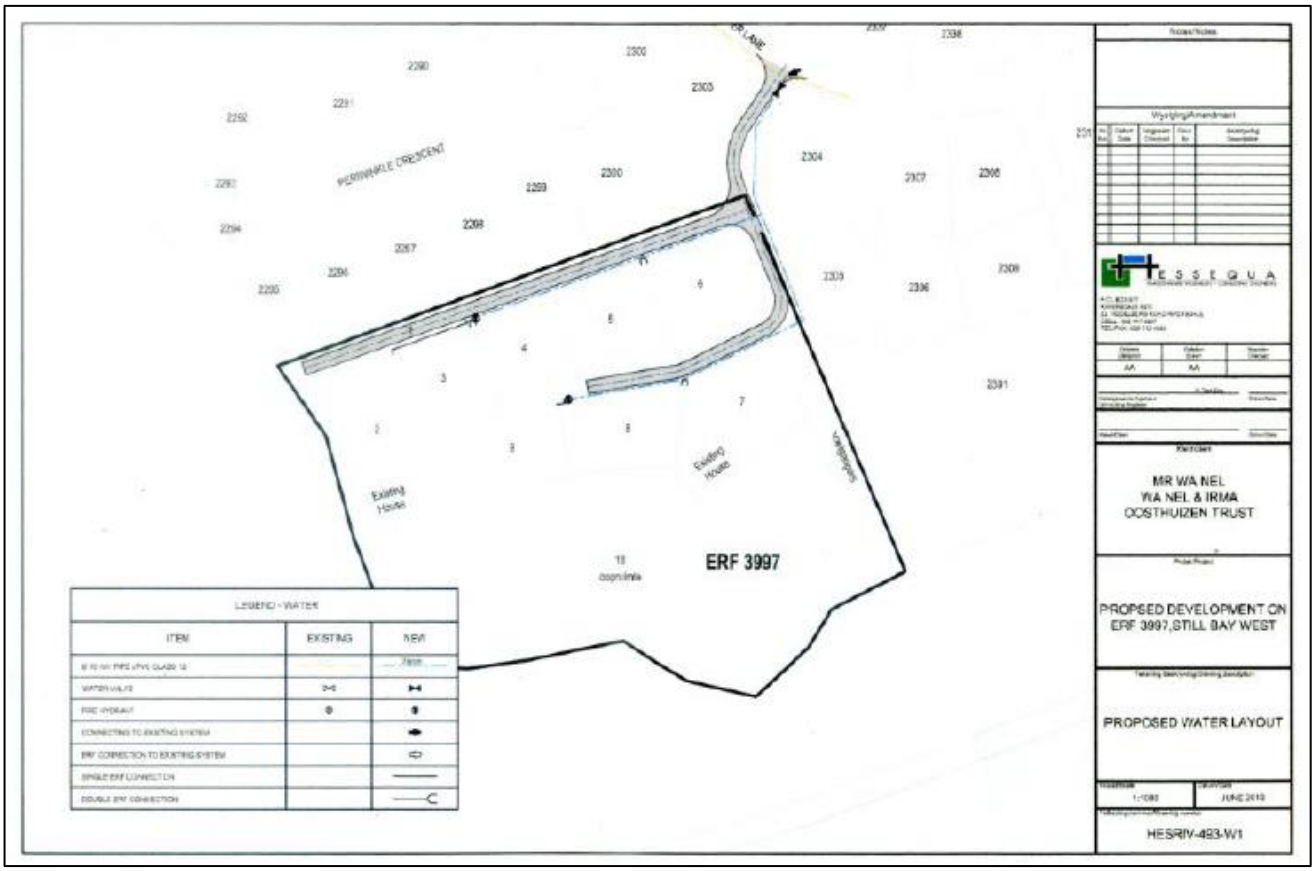


Figure 8: Proposed Water layout

Sewerage

The Peak Wet Weather Flow = 0.115l/s

A waterborne sewer reticulation system comprising of 160mm class 34 PVC sewer mains with solid shaft fibre cement manholes complete with ductile iron double lipped manhole covers is proposed. Sewage will gravitate to a new sewage pump station located adjacent to most eastern erf of the site. The new pump station and 110mm rising main will pump the fowl water to an existing manhole in Visvywer Avenue.

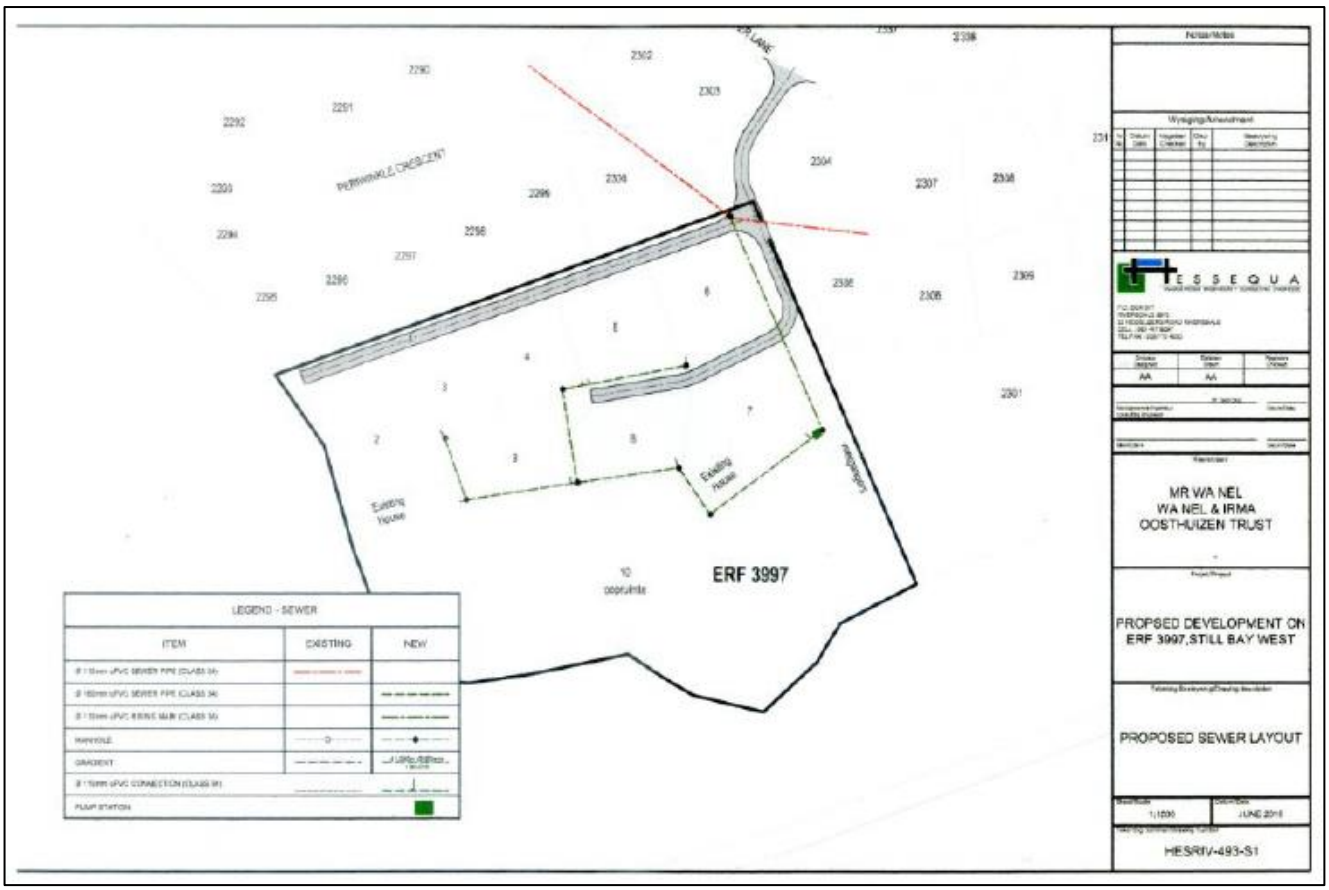


Figure 9: Proposed sewer layout

Solid Waste
All household waste will be delivered to the central solid waste collection area, in Bosbokduin, for collection by Hessequa Municipality and discharging at the Melkhoutfontein solid waste dump site.

Electrical Services
An electrical Services Report was compiled by Clinkscales Maughan-Brown (CMB) consulting mechanical and electrical engineers (please refer to Appendix L for the full report).

The Supply Authority for the area is Hessequa Municipality, the Electricity Department in Still Bay.

According to the report the proposed electrical connection point is the LV busbars of miniature substation "MS Bokbokduin" where a LV main circuit breaker will be connected to supply the underground LV cable to the proposed development. The existing underground service connection cables to the existing houses will be re-routed to the new distribution kiosks, or replaced with larger cables, if need be.

The municipality will take over the complete installation and services connection installations to the erf boundary of each consumer.

All cabling will be underground. Distribution kiosks, located next to the road, will be used to house the consumer circuit breakers. Each circuit will be metered via a pre-payment meter inside each house.

The complete electrical installation would have to comply with the technical requirements of Hessequa Municipality and their supply conditions. The plans and specification thereof will be submitted to the Municipality for their records and approval.

Electrical Demand

The Electrical report calculated the electrical demand for the initial proposed 4 additional houses:
4 consumers @ 13.8kVA x 0.7 diversity factor = 38.64 kVA.
Therefore for the preferred alternative which has 5 new proposed units: 5 consumers @ 13.8kVA x 0.7 diversity factor = 48.3 kVA

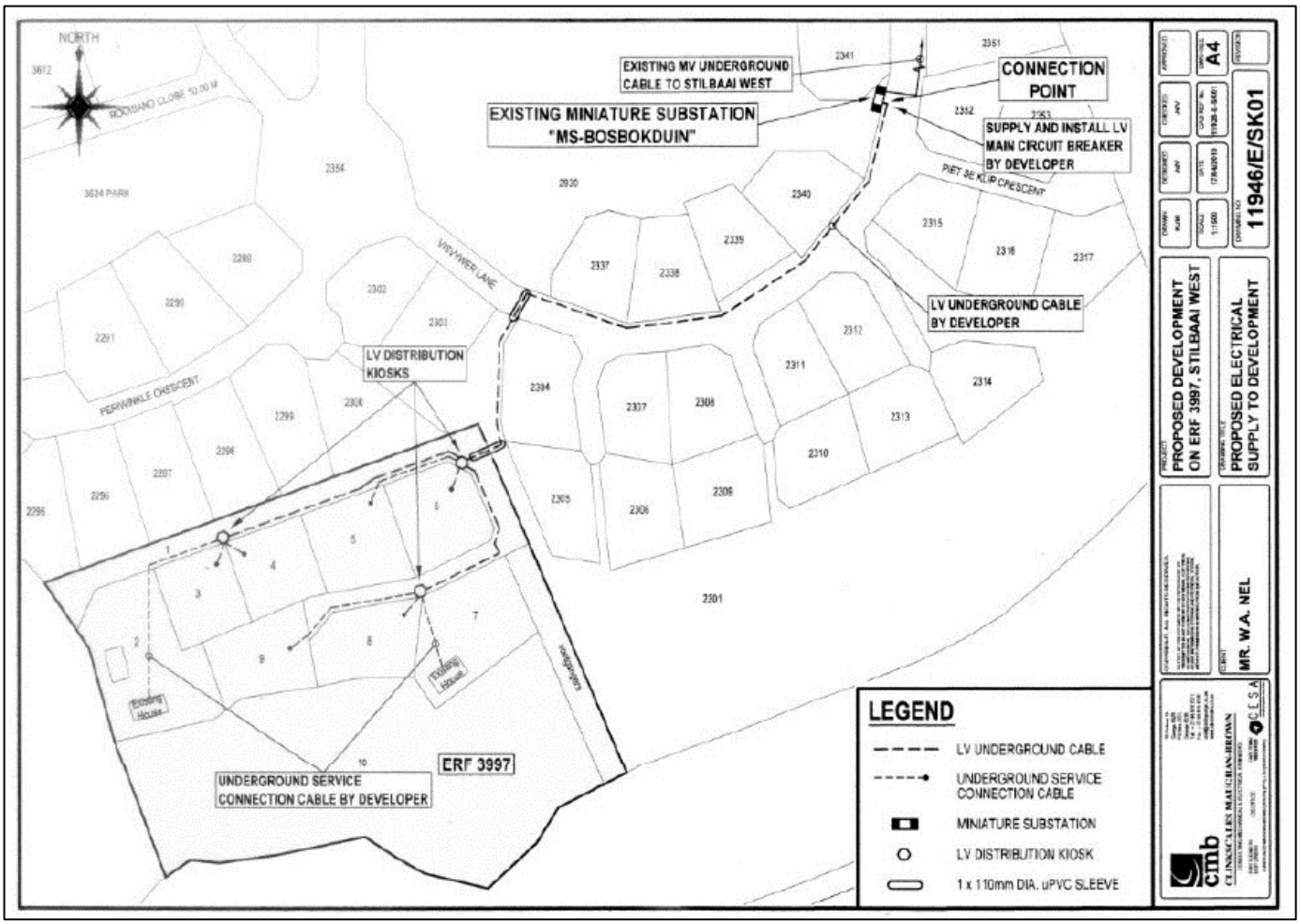


Figure 10: Proposed Electrical Supply

Municipal confirmation of availability of services letter is attached as Appendix V for the submission of the Final BAR.

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.	
The existing road network, refer to Figures 2 to 4.		
4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C06400060000413900000 C06400060000414000000 C06400060000414100000 C06400060000414200000 C06400060000414300000 C06400060000414400000 C06400060000414500000
4.7.	Coordinates of the proposed site(s) for all alternatives:	

	Latitude (S)	34°24'4.33"S 21°24'33.67"E
	Longitude (E)	

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 – comment has been requested on the proposal however no reply at this stage**	~~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.	**YES**	N~~O~~
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.
Spatial Planning and Land Use Management, 2013 (ACT 16 OF 2013) National Forest Act

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
Western Cape Provincial SDF (2014) The PSDF puts in place a coherent framework for the Province's urban and rural areas that: • Gives spatial expression to National and provincial development agendas. • Serves as basis for coordinated and integrated planning alignment on National and Provincial Departmental Programmes. • Supports municipalities to fulfil their mandates in line with national and provincial Agendas. • Communicates government's spatial development agenda. The proposed development is inline with the SDF's spatial goals that aim to take the Western Cape on a path towards: • Greater productivity, competitiveness and opportunities within the spatial economy. • More inclusive developments and strengthening the economy in rural areas.

- Strengthening resilience and sustainable development.

Eden Spatial Development Framework (2017)
The Eden District Spatial Development Framework aims to establish a strong strategic direction and vision, towards increasing levels of detail in the spatial recommendations that are directive rather than prescriptive and providing guidance to local municipalities in the District regarding future spatial planning, strategic decision making and regional integration. The vision and strategic direction identify four key drivers of spatial change within the District. These four strategies lie at the heart of this SDF and the problem statement, spatial concept, spatial proposals and implementation are organised around these directives.

According to the regional SDF, Still Bay has a residential and tourism role, and therefore the proposed development will strengthen this existing role of Stilbaai. The proposed development is therefore in line with the Eden District SDF.

The Garden Route Environmental Framework
The document provides baseline data on the topographical, visual and sense of place aspects in the Garden Route, the sensitivity, constraints and development guidelines for the area assist in informing decision-making.

Hessequa Spatial Development Framework (2017)
The Spatial Development Framework (SDF) is one of the sectoral plans of an Integrated Development Plan. Hessequa has identified towns which have high growth potential. According to the results of the growth potential study that was conducted by provincial authority, growth and development strategies must be focused on towns that have relatively growth potential towards other towns, Still Bay being one of the towns with a high growth potential. Still Bay is one of the biggest coastal towns in from Gansbaai to Mossel Bay. The proposed site is located within the demarcated urban edge of Still Bay. The proposal is therefore in line with the local Municipal Spatial Development Framework.

Hessequa Integrated Development Plan (2017-2022)
The key pillars of sustainability for the Hessequa Municipality's are social well-being, Economic Viability and Environmental Integrity. According to the Municipal IDP, the key development priorities for Still Bay include:

- Commercial Development
- Industry Development
- Bulk Infrastructure Development
- **Property Development**
- Water security.

The IDP highlights the following aspects for Still Bay in the IDP:

- There has been a change in the attitude of most residents towards a positivity regarding growth.
- Growth is inevitable and the focus should be on managing the growth to protect what is important to residents.
- When a critical mass development has is reached the element of crime will also manifest, therefore development should be strictly managed and guided towards a common goal of maintaining the "ambience" and "free" characteristics of the town.

According to the IDP, most of the population in Still Bay is older than 55 years.

The IDP highlights the need for property development in Still Bay, and also the need for growth and development.

Taking the above into consideration the proposal is in line with the Hessequa IDP.

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.

Guideline on Public Participation (2013)	Guideline considered in the undertaking of the public participation for the proposed development. All relevant provisions contained in the guideline were adhered to in the basic assessment process as appropriate, except where an exemption/ deviation has been granted by the Competent Authority.
Guideline on Alternatives (2013)	Guideline considered when identifying and evaluating possible alternatives for the proposed development. Alternatives that were considered in the impact ssessment process are reported on in this Basic Assessment Report (see section E)
Guideline on Need and Desirability (2013)	Guideline considered during the assessment of the Need and Desirability of the proposed development project.
Guideline on Environmental Management Plans (2005)	Guideline considered in the compilation of the EMP attached to this Basic Assessment Report.
Guideline for the Review of Specialist Input into the EIA Process (2005)	Guideline considered during the review and integration of specialist input into this Basic Assessment Report
External Guideline: Generic Water Use Authorization Application Process (2007)	Guideline considered during the process of applying for the required water use authorization
Integrated Environmental Management Information Series 5: Impact Significance (2002)	Guideline considering during the identification and evaluation of potential impacts associated with the proposed development, and the reporting thereof in this Basic Assessment Report
Integrated Environmental Management Information Series 7: Cumulative Effects Assessment (2004)	Guideline considering during the assessment of the cumulative effect of the identified impacts.
Mossel Bay Municipality fourth generation Integrated Development Plan (2017/2022)	Guideline for local development planning
Mossel Bay Municipality Spatial Development Framework – Final Report, May 2018	Guideline for local development planning

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

A screening tool report (STR) and site verification report (SVR) were submitted to the DEADP on 21 October 2020. Please refer to the STR and SVR attached to this report as Appendix I.

Table 1: Screening Tool Report Site: sensitivity and features

Theme	Sensitivity				
	Very High	High	Medium	Low	Features
Agriculture			X		**Low:** Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low **Medium:** Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
Animal Species		X			**High:** • Aves-Bradypterus sylvaticus

					• Aves-Neotis denhami • Aves-Certhilauda brevirostris • Aves-Campethera notata • Aves-Circus maurus **<u>Medium:</u>** • Invertebrate-Aneuryphymus montanus • Insecta-Chrysoritis brooksi tearei • Insecta-Thestor claassensi • Aves-Circus ranivorus
Aquatic Biodiversity				**X**	Low sensitivity
Archaeological, Cultural Heritage		**X**			• Within coastal belt • Within 500 m of an important wetland • Within 500 m of a heritage site • Within 1 km of a protected area • Within 500 m of a provincial heritage site
Civil Aviation		**X**			• Within 8 km of other civil aviation aerodrome • Dangerous and restricted airspace as demarcated
Plant Species			**X**		• Duvalia immaculata • Heliophila linearis var. reticulata • Stoebe muirii • Agathosma muirii • Agathosma eriantha • Cliffortia longifolia • Leucadendron galpinii • Leucospermum praecox • Lampranthus pauciflorus • Lampranthus ceriseus
Defence				**X**	**Low sensitivity**
Terrestrial Biodiversity	**X**				**<u>Low:</u>** Low Sensitivity **<u>Very High:</u>** Ecological Support Area 1

A Site verification Report (dated, 21 October 2020) was submitted to the DEADP for their input. Their response, dated, 2 February 2021 has been attached as Appendix I.

Johan Lanz was appointed to compile an Agricultural Compliance Statement for the site, Please refer to Appendix R, for the full statement. The statement concludes that:
"It is hereby confirmed that the entire site is of low sensitivity for agriculture, because of its size, its location within a coastal holiday development and the unsuitability of the terrain and soils for agriculture. It is furthermore confirmed that, because of the limits to agricultural potential and use, the proposed development will not have an unacceptable negative impact on the agricultural production capability of the site. Therefore, from an agricultural impact point of view, it is recommended that the development be approved. The protocol requirement of confirmation that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities, is not relevant in this case. There are no Environmental Management Programme inputs required for the protection of agricultural potential on the site.

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions. In completing this statement, no assumptions have been made and there are no uncertainties or gaps in knowledge or data that are relevant to it. No further agricultural assessment of any kind is required for this application."

Paul Emms of Capensis was appointed to compile the Botanical Assessment of the site. The findings of the report have been incorporated into the relevant sections of this BAR and the full report is attached as Appendix G. Due to the direct linkages between habitat, animal species and biodiversity. The report therefor covers any potential sensitives from all three categories.

Debbie Fordham was appointed to compile an Aquatic Biodiversity Verification Assessment of the site, The full assessment is attached as Appendix R. The Assessment concludes that:
"All potential watercourses within the area of the site were identified, delineated, and investigated infield. No aquatic habitat was identified within the study area. The assessment has determined that the development of the property will not impact upon any aquatic habitat. The site was determined to have a Low sensitivity and the project is deemed as acceptable."

ACRM was appointed to undertake the Heritage Impact Assessment of the site (attached as Appendix Q). The assessment concluded that:
"The study has identified no impacts to archaeological resources that will need to be mitigated prior to any future development of the affected site. Erf 3997 is not a sensitive archaeological site."

The Pre-Application BAR will be sent to the South African Civil Aviation Authority to provide their input.

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.
12	**The development of—** (i)dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or **(ii)infrastructure or structures with a physical footprint of 100 square metres or more;** where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — **excluding—** (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;	There is a NEFPA mapped wetland located in the southern reaches of the site, no signs of wetland features were however noted by the Botanical specialist on site. However even if there was a wetland located in the mapped area the proposed development will remain more than 32 meters from it. In addition it was confirmed, in the DEADP letter dated 2 July 2020 (REF: 16/3/3/6/1/D5/19/0074/20) that the DEADP "agrees that the 4 erven zoned for single residential purposes, including the two developed erven can be considered as part of the urban area." As such this activity **is not triggered** by the proposal.

	(dd) where such development occurs within an urban area; (ee) where such development occurs within existing roads, road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.	
17	**Development—** (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or **(v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater;** in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or **(e) infrastructure or structures with a development footprint of 50 square metres or more —** but excluding— (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or **(dd) where such development occurs within an urban area**.	The closest edge of the proposed erven are located within 100 of the High Water Mark (HWM). The sites earmarked for the erven are considered to be in an Urban Area and as such this activity is **not triggered** by the proposal.
19A	**The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from—** (i) the seashore; (**ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater;** or	The closest edge of the proposed erven are located within 100 of the High Water Mark (HWM). This activity is therefore **triggered** by the proposal.

	(iii) the sea; — but excluding where such infilling, depositing , dredging, excavation, removal or moving— (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
4	**The development of a road wider than 4 metres with a reserve less than 13,5 metres.** **i. Western Cape** i. Areas zoned for use as public open space or equivalent zoning; ii. Areas outside urban areas; (aa) Areas containing indigenous vegetation; (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or **iii. Inside urban areas:** **(aa) Areas zoned for conservation use**; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.	The proposed road will be 5m wide, the area proposed for the road contains indigenous vegetation and proposed site for the road is currently zoned open space, which is considered zoning for conservation use, therefore triggering this activity.
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;	The footprints of the actual houses to be built on the proposed erven is not known at this stage but it is highly likely that the total clearance for the 5 proposed houses will exceed the 300 squares threshold. In addition, the closest edge of the proposed erven are located within 100 of the High Water Mark (HWM). This activity is therefore **triggered** by the proposal

	iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; **iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space**, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	

Note:

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

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

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

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

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

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.
The Applicant would like to consolidate, subdivide and rezone the site as per the layout plan, Figures 1 to 4, to allow for the development of an addition 5 new erven (3 more than currently approved) along the northern boundary of the property. In addition, the two existing, but undeveloped erven, are proposed to be rezoned and incorporated into the Open Space. Please refer to Figure 5 for the approved site development plan. The approved road which crosses the open space will shift up to north of the proposed erven. Therefore in practice there will be 3 additional new erven.	
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.
A rezoning application has been submitted to align the zoning of the site with the proposed layout	
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.
There is an existing EA for the site, an Applicability checklist (NEMA EIA regulations) was submitted to the DEADP as we believed that an amendment of the EA for the proposed was possible. Their response however indicated that it could not be undertaken in accordance with an amendment of the EA application and that a new application for EA was required. As such this BAR has been compiled.	
4.	Explain how the proposed development will be in line with the following?

4.1	The Provincial Spatial Development Framework.

The site has already been earmarked for development and as such it has previously been indicated that the proposed is in line with provincial spatial planning. In addition, the proposed site has been included into the Still Bay West urban edge.

4.2	The Integrated Development Plan of the local municipality.

The Proposal is aligned with The Hessequa Municipality Integrated Development Plan (2017 – 2022):

The key pillars of sustainability for the Hessequa Municipality's are social well-being, Economic Viability and Environmental Integrity. According to the Municipal IDP, the key development priorities for Still Bay include:

- Commercial Development
- Industry Development
- Bulk Infrastructure Development
- **Property Development**
- Water security.

The IDP highlights the following aspects for Still Bay in the IDP:

- There has been a change in the attitude of most residents towards a positivity regarding growth.
- Growth is inevitable and the focus should be on managing the growth to protect what is important to residents.
- When a critical mass development has is reached the element of crime will also manifest, therefore development should be strictly managed and guided towards a common goal of maintaining the "ambience" and "free" characteristics of the town.

4.3.	The Spatial Development Framework of the local municipality.

The Spatial Development Framework (SDF) is one of the sectoral plans of an Integrated Development Plan. Hessequa has identified towns which have high growth potential. According to the results of the growth potential study that was conducted by provincial authority, growth and development strategies must be focused on towns that have relatively growth potential towards other towns, Still Bay being one of the towns with a high growth potential. Still Bay is one of the biggest coastal towns in from Gansbaai to Mossel Bay. The proposed site is located within the demarcated urban edge of Still Bay. The proposal is therefore in line with the local Municipal Spatial Development Framework.

4.4.	The Environmental Management Framework applicable to the area.

Not applicable

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

No comments have been received at this stage, this question will be addressed in the draft and final bar stages.

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

As seen from Figure 11, the ESA mapped on the site is patching in the northern half where the sites are proposed, the southern half has a more uniform ESA mapping. Taking the ESA mapping, the steep slope in the central of the site and the coastal milkwood thicket located on the lower (southern third of the site) platform, the proponent decided to place the erven in the current proposed location to minimise impact there on.

Figure 11: Critical Biodiversity Areas

According to the Western Cape Biodiversity Spatial Plan Handbook Ecological Support Areas (ESA) are areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services. They support landscape connectivity, encompass the ecological infrastructure from which ecosystem goods and services flow, and strengthen resilience to climate change. They include features such as regional climate adaptation corridors, water source and recharge areas, riparian habitat surrounding rivers or wetlands, and Endangered vegetation.

The desired Management Object for ESA: Maintain in a functional, near natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised.

From the above we can see that the management objectives for ESA will not be compromised by the proposal as the functionality of the ESA in providing support to the CBA's located East and West of the site by maintaining connectivity between the CBA's. Please refer to Figure 12.

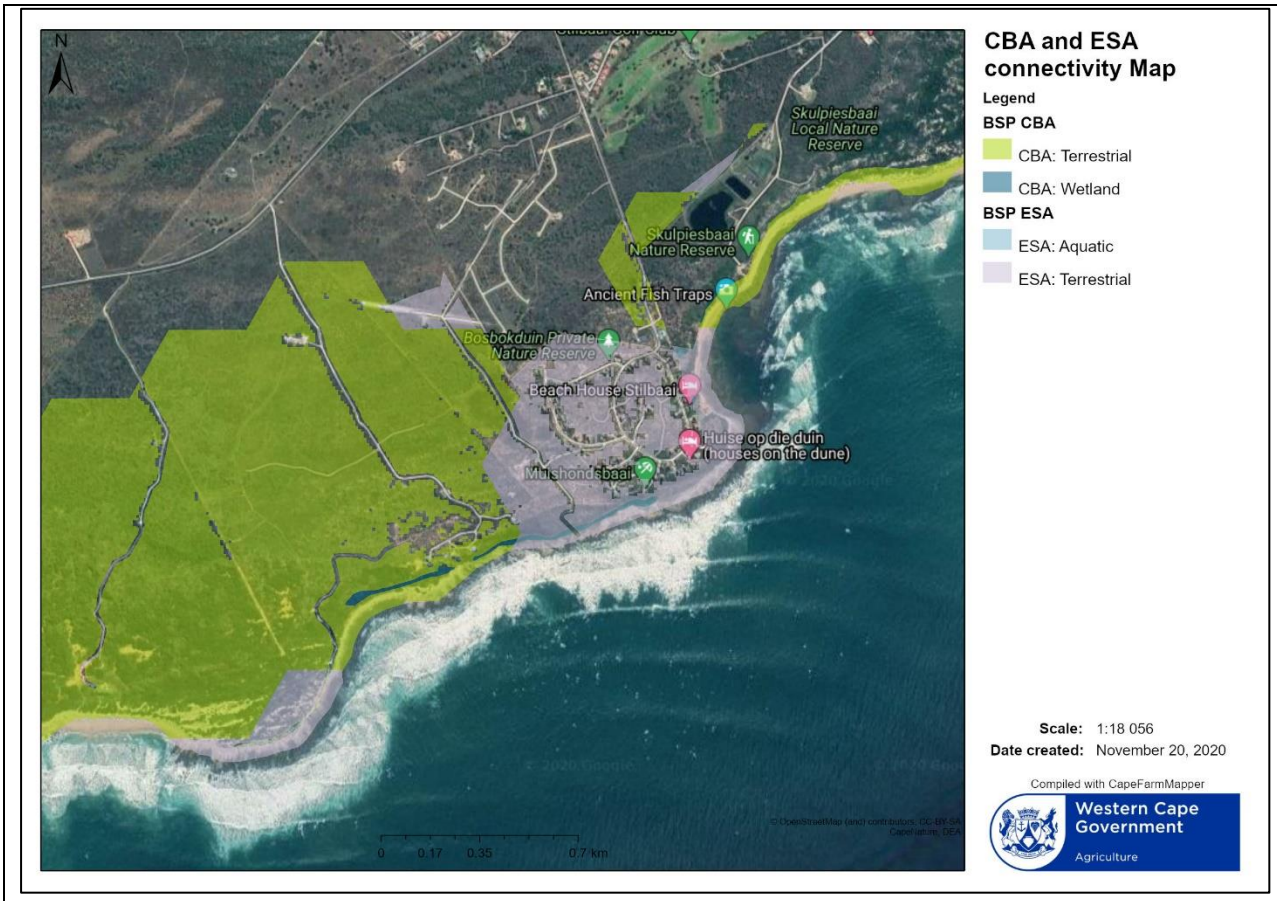


Figure 12: Critical Biodiversity Areas Map

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

The site is located within the Coastal Protection Zone (CPZ). Please refer to Figures 13 to 15 for the site relative to the Coastal Management Lines.

Figure 13: CML

Figure 14: CML and CPZ

According to the Integrated Coastal Management Act, 2008, as amended, Section 17: Purpose of Coastal Protection Zone. The coastal protection zone is established for enabling the use of land that is adjacent to coastal public property or that plays a significant role in a coastal ecosystem to be managed, regulated or restricted in order to –

a) Protect the ecological integrity, natural character and the economic, social and aesthetic value of the public property;
b) Avoid increasing the effect of severity of natural hazards in the coastal zone;
c) Protect people, property and economic activities from risks arising from dynamic coastal processes, including the risk of sea-level rise;
d) Maintain the natural functioning of the littorial active zone;
e) Maintain the productive capacity of the coastal zone by protecting the ecological integrity of the coastal environment; and
f) Make land near the seashore available to organs of state and other authorised persons for
    i. Performing rescue operations; or
    ii. Temporarily depositing objects and materials washed up by coastal waters

The proposal is in line with the above for the following reasons:

a) The site does not contain any public property, in addition the proposed erven will be set as far north as possible on the property, in doing so maintaining a buffer of between 65 and 95 meters from the 1/100 year highwater mark (HWM). In addition, there is a steep embankment between the upper platform, where the erven are proposed, to the lower platform where the coastal milkwood thicket is located.

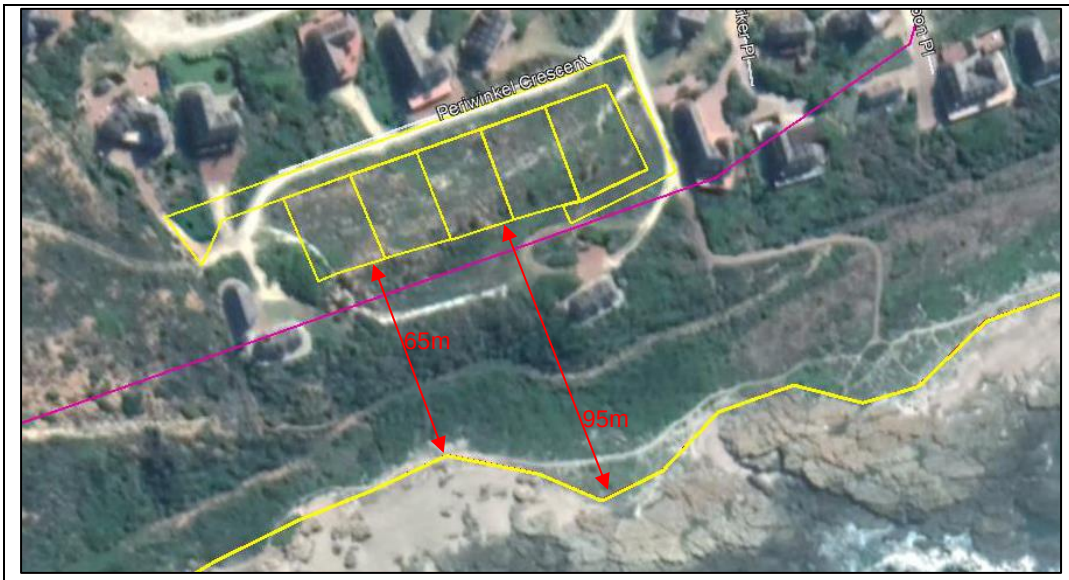


Figure 15: Proposed erven distance to 1/100-year Highwater Mark

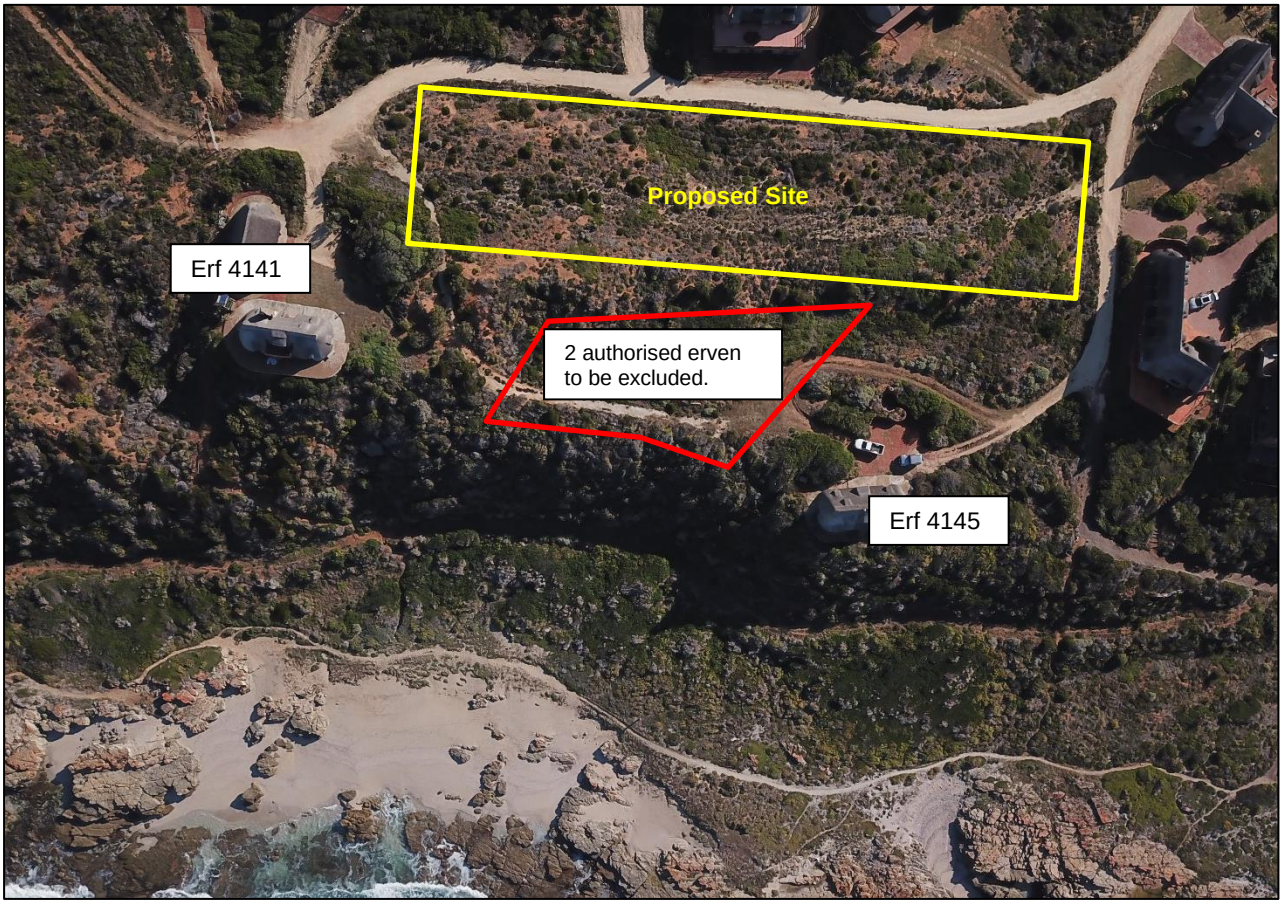


Figure 16: Aerial Image of the site

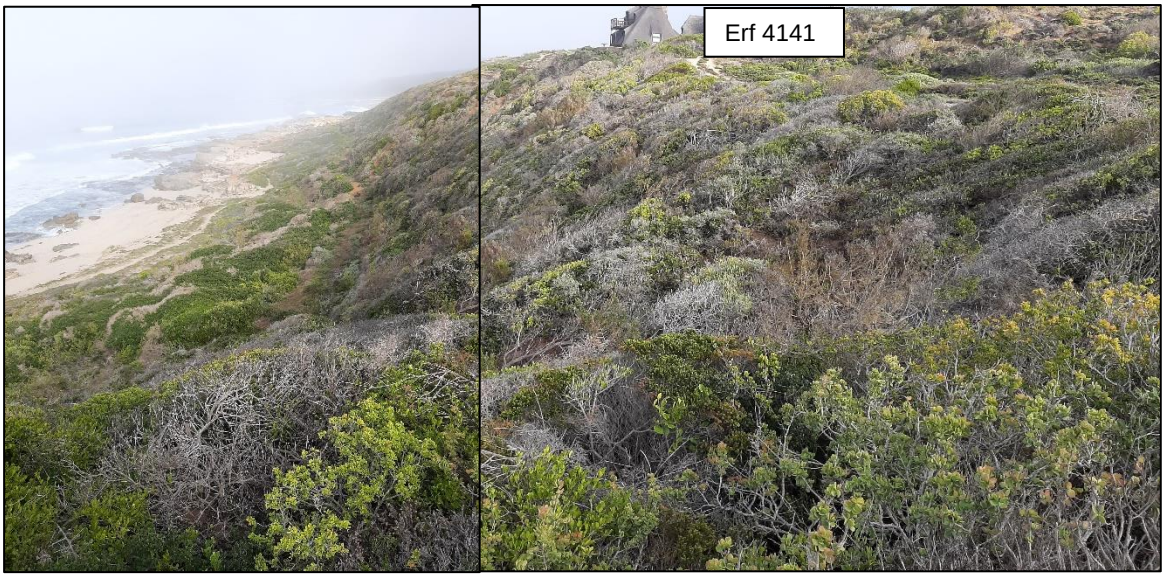


Figure 17: View of the steep embankment, facing westwards

b) The proposed location of the erven are set back from the coastal zone, more so than the existing erven of Bosbokduin Private Nature Reserve, as seen in Figures 16 and 17. In addition the raised coastal platform and the placement of the erven on the top platform and set back from the steep embankment greatly reducing the risk of natural hazards in the coastal zone.

c) As seen from Figures 16 and 17, the proposed site is setback on the upper platform of the area protecting the proposed erven from possible sea-level rise and severe weather events. Figure 17, a 5m contour map highlights the proposed erven will be 25m above the 1/100 year HWM.

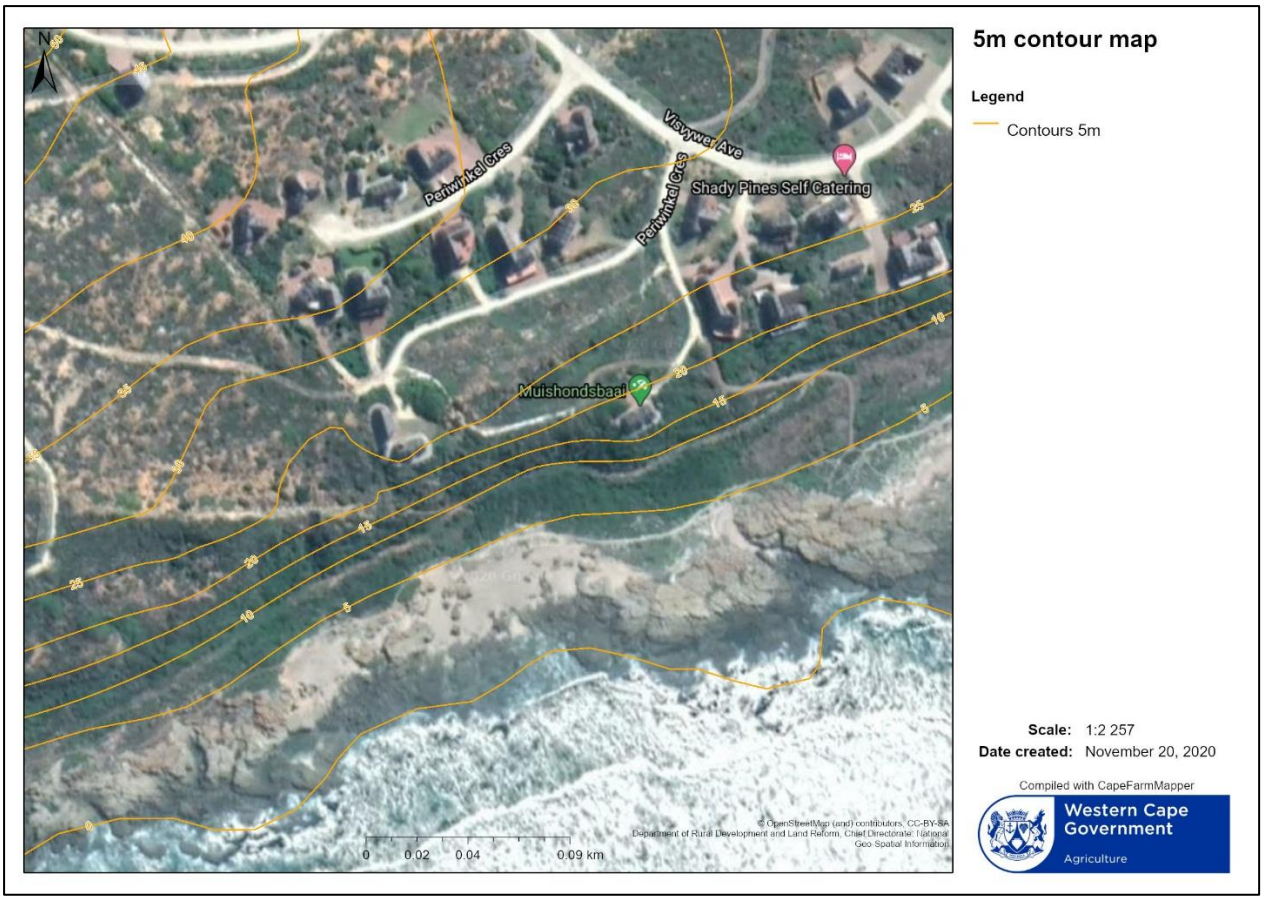


Figure 18: 5m Contour Map

d) The littorial active zone will not be impact by the proposal

e) The ecological integrity of the coastal environment will remain protect by the proposed placement of the erven.
f) The rocky nature of the coast line directly in front of the site is not ideal for performing rescue operations however access can be gained by the existing footpath located east of the site, in addition there is a small bay located north east of the site more suited for launching boats to rescue people however the ancient fish traps also make it an less than ideal location.

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.

A revised footprint for the screening tool report was produced however the site sensitivities remained unchanged.

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

The site currently has two constructed houses with approval to construct another two, the proposal is to allow for the development of 5 new house within a similar footprint. The proposal is therefore optimising vacant land which is within the Still Bay Urban Edge by increasing the number of units by 3 within the proposed site, thereby decreasing the need to develop areas outside of the Still Bay Urban Edge.

The proposed will increase the density of housing on the site while minimising the impact on ESA's and the more sensitive vegetation located on the southern reaches of the site as the proposed houses will be located further north.

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

The proposed units will tie into the municipal bulk services from the Bosbokduin Private Nature Reserve and as such, no additional bulk services need to be supplied to the area, therefore not placing any financial burden on the municipality.

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).

Services will tie into the adjacent Bosbokduin bulk municipal services, conformation of capacity was confirmed for the existing EA. Conformation of services letters, for the 3 extra units, from the Municipality will be included in the Draft or 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.

According to the Hessequa IDP, Figure 19 (Map 1 in the IDP) displays the spatial rationale of the Hessequa Region and identifies the major economic corridors of the Hessequa region. The N2 is an important access point to the Hessequa economy with economic paths towards the coastal towns. It also identifies the population contribution in the form of coloured circles with the size representing the population contribution to the region. Riversdale and Still Bay are the two towns with the largest contribution in terms of population and economic activity.

Figure 19: Hessequa Spatial Rationale (Map 1 of the Hessequa IDP)

The Hessequa Triangular-shaped Pyramid (Figure 20) shows there is a large number of youth between the ages of 0–9 among males and females as a result of high birth rates with more than 8 percentage representing the 0 to 4 age group. The top of the pyramid shows the impact of mortality on those 65+ for males and females. a large proportion of youth bringing a high youth dependency ratio, showing a need to meet the demands of resources and services such as schools, primary health care services, and recreational facilities such as sport fields in the Hessequa municipal area.

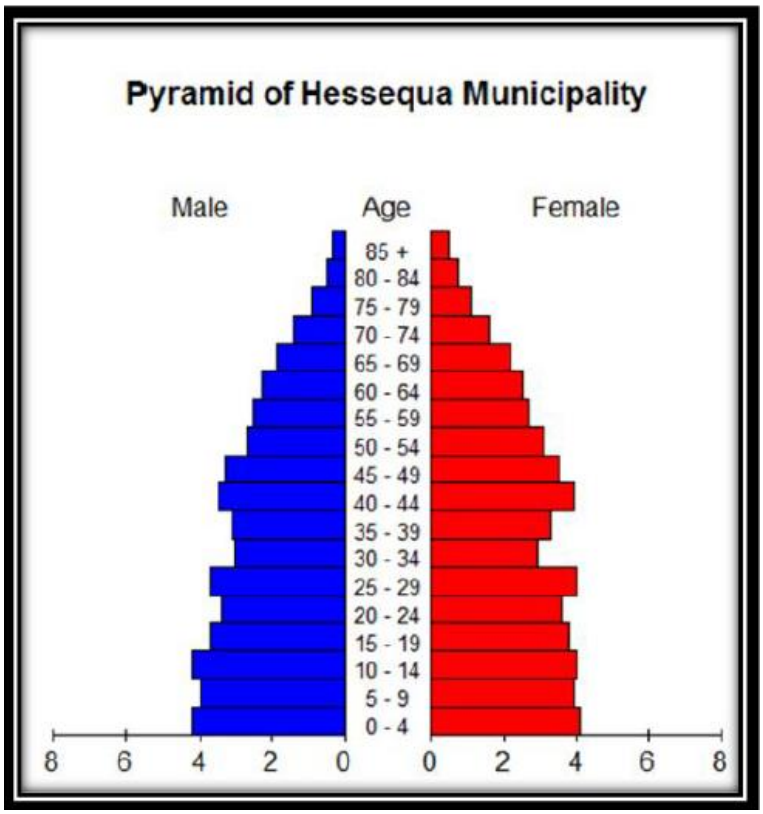


Figure 20: Hessequa Population Profile

According to Census 2011, the Hessequa Local Municipality has a total population of 52 642, of which 68, 5% are Coloured, 23,2% are White, 7,4% are Black African, with other population groups making up the remaining 0,9%. 78% of the population stays in the urban area's with 22% living on farms. Hessequa population grew at an annual average rate of 1.8 per cent between 2001 and 2011. The estimated population for Hessequa at the end of 2015 was 54 351 people.

In addition to population projections, the projections on the number of households form the basis of municipal service delivery planning and essentially inform budget allocations towards basic services such as water, electricity, sanitation and refuse removal.

The total number of households in the Hessequa Municipality was estimated to be 17 278 in 2015 (which equates to growth of 1.1 per cent, or 186 households, from 2014). As a proportion of the total number of households in the Eden District, Hessequa represents 9.8 per cent.

The above population profile and household growth rate show us that there is a growing demand for new houses to accommodate the growth in households in Still Bay. As the "Need" of a proposal refers to the timing of the proposal it is evident that the proposal is needed to assist in accommodating the household growth rate in Still Bay.

The development proposal is consistent with all the applicable spatial planning policies, it is Consistent with the Hessequa IDP and consistent with the character of the area. The proposal is therefore considered to be desirable.

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.

Not a linear activity

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

Please refer to Appendix F

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

Please refer to the I&AP list for all state departments and Organs of States consulted.

The list of Departments as provided in the NOI are as follows:

- Department of Environmental Affairs and Development Planning
- CapeNature
- Municipality (Still Bay)
- BGCMA
- Garden Route District Municipality

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

Only the applicable Organs of state will be consulted

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

- Western Cape Government: Department of Environmental Affairs and Development Planning - Development Management: Biodiversity & Coastal Management
- Western Cape Government: Department of Health
- Garden Route District Municipality
- Department of Oceans and Coasts
- Western Cape Government: Department of Agriculture
- Department of Agriculture, Forestry and Fisheries
- Breede-Gouritz Catchment Management Agency
- Hessequa Municipality, Manager
- Hessequa Municipality, Ward 3
- Eden District Municipality Municipal Manager
- South African Civil Aviation Authority

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.

Please refer to the C&R table (Appendix F)

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

1. Groundwater

1.1.	Was a specialist study conducted?	~~YES~~	**NO**
1.2.	Provide the name and or company who conducted the specialist study.		
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
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.		

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.		
Debbie Fordham (Sharples Environmental Services)			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
Sharples Environmental Services cc were appointed to conduct an independent specialist aquatic verification assessment. All potential watercourses within the area of the site were identified, delineated, and investigated infield. No aquatic habitat was identified within the study area. The assessment has determined that the development of the property will not impact upon any aquatic habitat. The site was determined to have a Low sensitivity and the project is deemed as acceptable.			

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.		
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.		

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

4. Biodiversity

4.1.	Were specialist studies conducted?	**YES**	~~NO~~
4.2.	Provide the name and/or company who conducted the specialist studies.		
Capensis – Paul Emms			
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.		

Vegetation map: A product of *The Vegetation of South Africa, Lesotho and Swaziland* (VEGMAP) (Mucina & Rutherford, 2006). The South African National Biodiversity Institute (SANBI) has updated the VEGMAP (2018). These shapefiles were used.

Ecosystem threat status: Informed by (1) The National List of Threatened Terrestrial Ecosystems (Government Gazette, 2011), (2) The Western Cape State of Biodiversity 2017 Report (Turner, 2017), and (3) The National Biodiversity Assessment (2018)(SANBI, 2019).

Biodiversity planning: The 2017 Western Cape Biodiversity Spatial Plan (CapeNature, 2017) GIS (Geographical Information System) shapefiles for the Hessequa Municipality is important for determining the conservation importance of the designated habitat. Ground-truthing is an essential component in terms of determining the habitat condition.

Important species: The presence or absence of threatened (i.e. species of conservation concern) and ecologically important species informs the ecological condition and sensitivity of the site. The latest conservation status of species is checked in the Red List of South African Plants (Raimondo et al. 2009) (www.redlist.sanbi.org).

Previous studies: Previous botanical studies at a local scale, if available, are consulted to provide additional information regarding the botanical attributes of the site.

Site boundary: these and other resource layers were used to define the site boundary and to compile several maps. This information is available on the CapeFarmMapper website (Department of Agriculture: gis.elsenberg.com).

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.

Please note that the following has been sourced from the Botanical Constraints Analysis Report, at the time of compilation the layout for Alternative B was used, the report is being updated in accordance with Alternative A (Preferred Alternative) and will be included with the DRAFT BAR.

The 2017 WCBSP Handbook (Pool-Stanvliet et al., 2017) distinguishes between the various conservation planning categories. Critical Biodiversity Areas are habitats with high biodiversity and ecological value. Such areas include those that are likely to be in a natural condition (CBA 1) and those that are potentially degraded or represent secondary vegetation (CBA 2). Ecological Support Areas are not essential for meeting biodiversity targets but play an important role in supporting the functioning of Protected Areas or CBAs and are often vital for delivering ecosystem services. A distinction is made between ESAs that are still likely to be functional (i.e. in a natural, near-natural or moderately degraded condition; (ESA 1) and Ecological Support Areas that are severely degraded, or have no natural cover remaining, and therefore require restoration (ESA 2). Other Natural Area (ONA) sites are not currently identified as a priority, but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. Although not prioritised, they are still an important part of the natural ecosystem. Ground-truthing of the assigned CBA and ESA sites are described in the vegetation and sensitivity sections of the Botanical Constraints Analysis (Sections 6.4 and 7). The distribution of these sites is shown in Figure 21.

Figure 21: Conservation Planning Map

The 2017 WCBSP conservation planning category occupies the following proportions of the study area:
ESA1: 55% of the entire study area and 9% of the of focus area. If the Focus area is considered alone the calculated extent of ESA1 is 30% of this area. Reasons: Coastal corridor. The lower part of the study area that contains milkwood thicket is assigned as ESA1 for the same reason in addition to 'Wetland'. The ESA1 'Coastal Corridor' is a highly significant conservation planning category that should not undergo fragmentation. Thus, in considering the development options this needs to be carefully considered.

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

Site Sensitivity

Sensitivity is defined here as the 'conservation value' together with the 'degree of resilience to disturbance'. The conservation value relates to the conservation status (including the ecosystem threat status) and other factors including ecological connectivity, habitat condition, persistence of ecological process and the site's role in supporting biodiversity. The degree of resilience takes into consideration factors such as sensitivity to disturbance and restoration potential. Four sensitivity rating are applied. These are High, Medium, Low and Very Low sensitivity. The sensitivity map is indicated in Figure 22. The ratings categories and rationale for each rating is provided below:

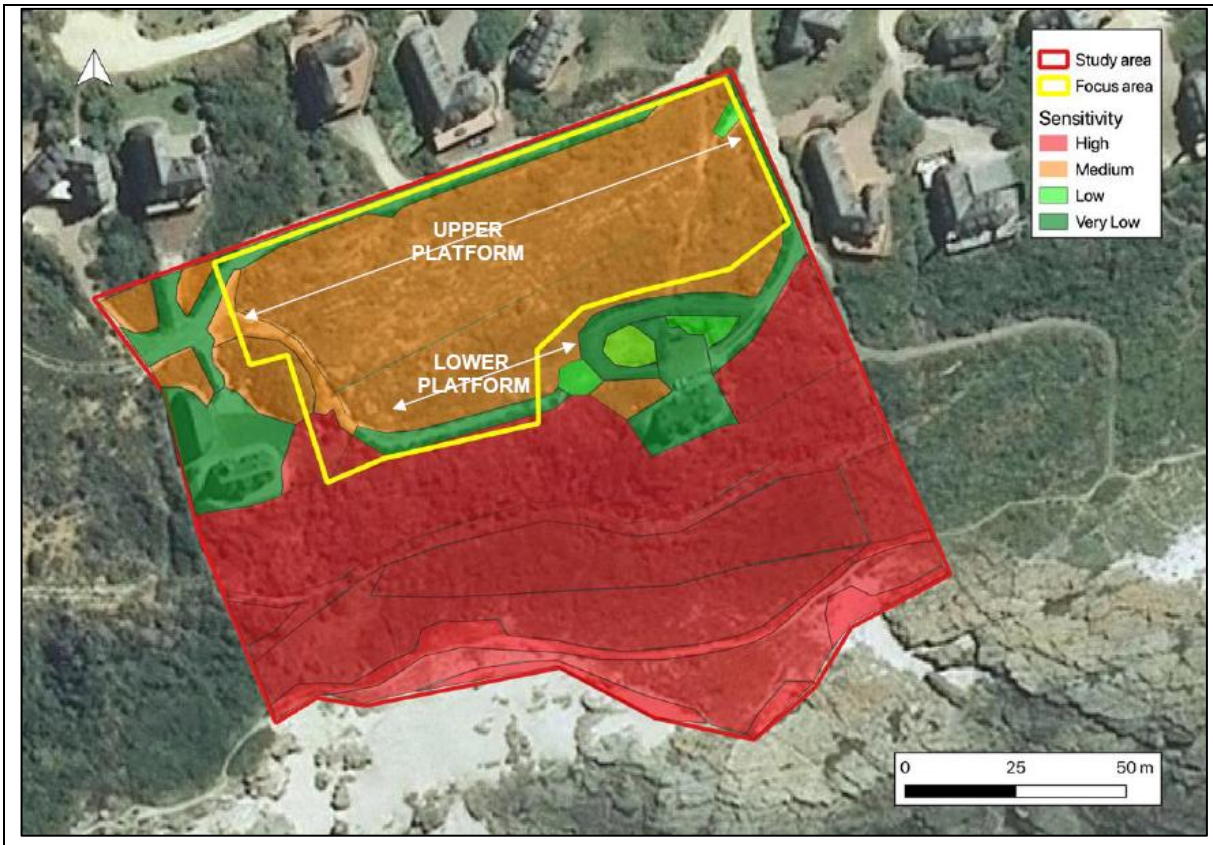


Figure 22: Site Sensitivity Map

High sensitivity areas

- Coastal ecological corridor. Plant and animal movement and gene flow must be maintained along the coastal corridor. Keeping coastal corridors intact and unfragmented is a non-negotiable.
- Intact vegetation on the steep drop-off and near the shoreline and High Water Mark.
- Highly erosion-prone steep slope that should not be considered for any development. Presence of PROTECTED milkwoods and the ENDANGERED Lampranthus diutinus. Lampranthsu diutinus is range restricted and in decline. The Red List of South African Plants describes the range and population status for the species: "Aliens are a moderate threat throughout the range but the threat is concentrated around Albertinia Agriculture is particularly threatening around Riversdale and Albertinia. Subpopulations from Resiesbaan and Melkhoutfontein are possibly now extinct due to farming. Coastal Development around Mossel Bay and Still Bay at Rein's Reserve. Rein's Nature reserve has 300 houses proposed for this site - L. multiseriatus (sic – taken to mean L. diutinus)(grows within an area proposed for development. This is a severe future potential threat as the property is going through the EIA process at the moment (D. Raimondo 2006)."
- Valid ESA1 and coastal corridor.

Medium sensitivity areas

- Areas supporting Semi-intact to Intact vegetation with a high species diversity.
- Ecological processes are mostly intact.
- Habitat not within key ecological corridor and has undergone fragmentation. Ecological connectivity exists but is limited in the north-south direction due to existing development.
- Areas with low to medium erosion potential.
- Limited overlap with ESA1.

Low sensitivity areas

- Disturbed areas with limited vegetation cover and high disturbance.

- Habitats with low to moderate restoration potential.
- Areas not within key ecological corridor of supporting important species.

Very low sensitivity areas

- Transformed habitats that cannot be restored (e.g. road and houses).

Constraints Analysis

The identification of potentially developable and No-Go areas is largely dependent on the habitat sensitivity. However, if it is reasonable to either include or exclude certain areas based on an evaluation of the best interests of the affected environment versus the proposed development activity, then this should be motivated accordingly. In this instance, most of the Medium sensitivity areas within the focus area are assigned as Potentially developable (Figure 23). Edges close to the High sensitivity area are excluded (i.e. buffers) to protect the High sensitivity habitats. It is emphasized that the Potentially developable area does not imply that the whole area can be developed but is intended to guide the development option. Furthermore, in keeping with the development ethos of the Muishondbaai Estate, houses, access roads and driveways should be the only footprints imposed. In this instance, there are existing access roads and no additional access roads should be constructed. No gardens are anticipated since the natural vegetation would need to be kept intact between houses. No set numbers of houses is provided here as this must be determined by the body corporate and competent authority, and, as stated, should be as at density guided by the Skuilpiesbaai development guidelines.

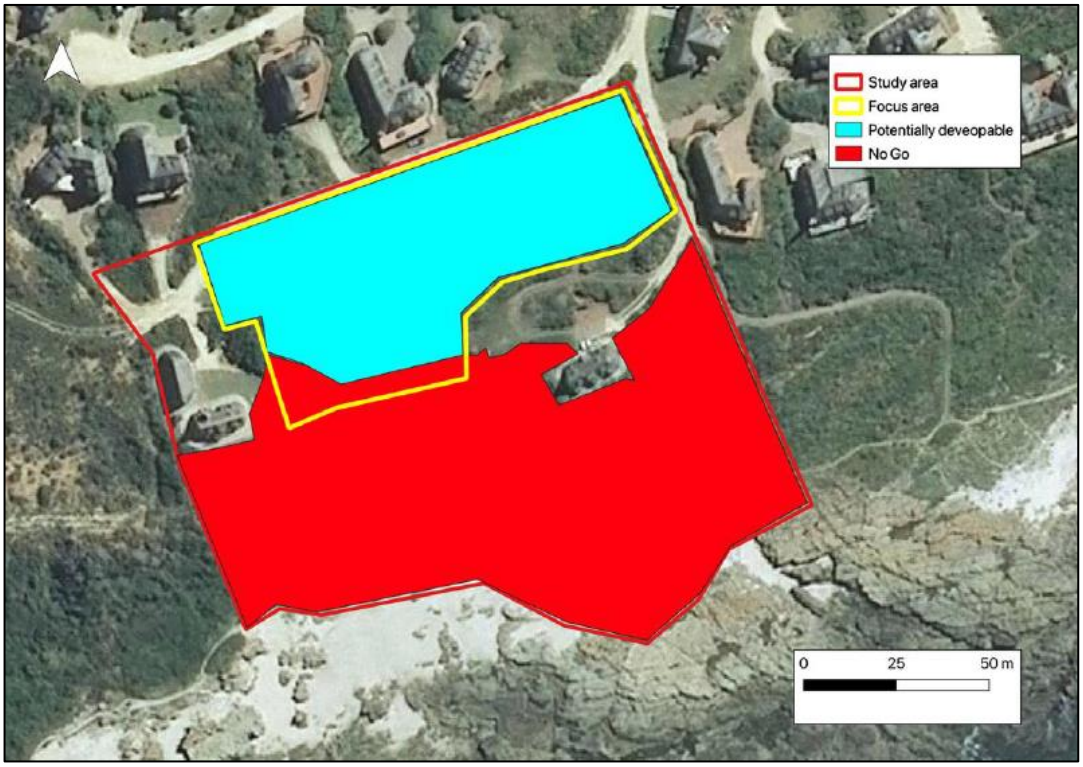


Figure 23: Constraints and Opportunities Map

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.
Not Applicable	
4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.
The open space in the southern half of the property (ESA) will ensure the unobstructed movements of fauna to and from the CBA's located either side of the proposed site.	

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.
There is a steep slope between the existing and developed erven, two erven are approved in this area. We do not believe that this area is best suited for the proposed erven due to the slope and the impacts this could have on the vegetation on the lower platform as the development activities (such as cut and fill, and stabilising techniques) could spill over to the vegetation. As such we advised that the proposed units be set back from this sloped area, creating a buffer between the proposed and the lower platform vegetation, this buffer will mitigate impacts associated with runoff from the houses roofs and impacts associated with installing services to the erven. In addition, less physical disturbances will be required as the proposed area is flatter and will not require and stabilisation of the areas surround the units, as would have been necessary for the currently approved erven.

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.		
ACRM			
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		
	The study has identified no impacts to archaeological resources that will need to be mitigated prior to any future development commencing on the site. Indications are that the Erf 3997 is not a sensitive archaeological site. Please refer to Appendix Q for the full Assessment.		

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.
Conclusion and recommendations from the HIA (Appendix Q) <u>Conclusion</u> The study has identified no impacts to archaeological resources that will need to be mitigated prior to any future development commencing on the site. Indications are that the Erf 3997 is not a sensitive archaeological site. The overall impact significance of the proposed consolidation, subdivision, and rezoning of Erven 4139, 4140, 4141, 4142 4143, 4144, and 4145 (i. e. Erf 3997) on archaeological heritage is assessed as LOW and therefore there are no objections, on archaeological grounds, to any eventual development proceeding. <u>Recommendations</u> 1. No archaeological mitigation is required prior to construction excavations commencing. 2. No archaeological monitoring is required during construction excavations. 3. Should any buried shell midden deposits, or unmarked human remains be uncovered during construction excavations these must be immediately reported to the archaeologist who will inform Heritage Western Cape. Burials especially, must not be disturbed until inspected by a professional archaeologist.

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.
	Hessequa's Economic Overview The following statistical overview aims to quantify the socio-economic environment in Hessequa Local Municipality in the context of neighbouring regions, the district, Western Cape Province and South Africa. The changing economic environment subsequently has an effect on the ability of the economy to create jobs. The purpose of the overview is to provide an analysis on the employment and subsequent income dynamics of Hessequa Local Municipality. This information is useful to inform stakeholders when implementing and

	monitoring plans and policies that will allow for a healthy, growing and inclusive economy and society. Hessequa Local Municipality does not function in isolation from Eden, the Western Cape Province, South Africa and the world. Hence it is critical to have reliable information on its economy for effective planning. Information is needed to empower local stakeholders to plan and implement policies that will encourage the social development and economic growth of the people and industries in the municipality respectively. Hessequa Local Municipality contributed 7,09% to the Eden District GDP of R39.9 billion in 2014 in comparison to the 5% in 2013, increasing its share of the Eden from 7.28% in 2004. In 2014, the Hessequa Local Municipality achieved an annual growth rate of 1.97% (1.3% in 2013), which is similar to the GDP growth than the Western Cape Province of 1.98%. Contrary to the short term growth rate of 2014, the long term average growth rate of Hessequa (2.44%) is slightly lower than that of South Africa (2.94%). The economic growth rate of Hessequa peaked in 2004 at 10.43%. Hessequa Local Municipality had a total GDP of R2.83 billion and in terms of total contribution towards the Eden District Municipality, Hessequa ranked sixth relative to all the regional economies to the total Eden GDP. In terms of its share, it was in 2014 (7.1%) slightly smaller compared to what it was in 2004 (7.3%). For the period 2004-2014, the average annual growth rate (e.g. 2.4%) of Hessequa was the fifth relative to its peers in terms of growth in constant 2010 prices. **ECONOMIC GROWTH FORECAST** It is expected that Hessequa Local Municipality will grow at an average annual rate of 2.18% from 2014 – 2019, in relation to the average annual growth forecast for Eden (2.45%) and Western Cape (2.80%). The South African annual growth rate for said period forecasted is 2.55%, which is higher than the Hessequa Local Municipality. **SECTOR GROWTH FORECAST** The GVA forecasts are based on forecast growth rates derived from the historical growth rate estimates and the national level industry forecasts. The projections are partly based on the notion that regions that have performed well in the recent pasts are likely to continue performing well (and vice versa) and partly on the notion that those regions that have prominent sectors that are forecast to grow rapidly in the national economy (e.g. finance and telecommunications) are likely to perform well (and vice versa). The construction sector is expected to grow fastest at an average of 4.2% annually from R180 million in Hessequa to R222 million in 2019. The community services sector is estimated to be the second largest sector within Hessequa in 2019, with a total share of 20.4% of the total GVA (as measured in current prices), growing at an average annual rate of 1.6%. The sector that is estimated to grow the slowest is the agriculture sector with an average growth rate of 0.7%. The primary sector (e.g. agriculture and mining) is expected to grow at an average annual rate of 0.83% between 2014 and 2019, with the secondary sector (e.g. manufacturing, electricity and construction) growing at 3.03% on average annually. The tertiary sector (e.g. trade, transport, finance and community services) is expected to grow at an average annual rate of 2.18% for the same period.
8.2.	Explain the socio-economic value/contribution of the proposed development.
Temporary Job opportunities will be available to the community members for the development phase of the proposal. The expected value hereof will be included in the Final BAR.	
8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

Temporary Job opportunities will be available to the community members for the development phase of the proposal. It is recommended that preference be given to local contractors and workers from Melkhoutfontein, Stilbaai and Riversdale to ensure that maximum economic benefit can be transferred to the local community.

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.

Paul Buchholz was appointed to undertake the visual assessment of the proposed. Please also refer to the full report attached as Appendix N, as the following points extracted from the report aim to provide a summary of the findings but does cover all aspects of the Visual Impact Assessment.

Visual Exposure

The first row of housing units (receptors) bordering (<500m) onto the northern and eastern boundaries of the project area will experience a high level of visual exposure. The single housing units located on the southern and western boundaries will also experience high visual exposure due to their proximity (<500m). Observers located on the beach will have no view of the project area due to steep slopes that screen views into the development and the visual exposure are therefore low. Observers (boats) on the ocean that are within a 500m radius of the project area will have moderate exposure.

Two narrow unobstructed viewing corridors exist on the western and northern boundaries of the project area that might allow views into the project area. But due to the narrow nature of the corridors and the slightly lower elevation of the project area compared to the surrounding area the visual exposure will be **low**.

Visual Sensitivity

The project area will not be visible to the larger landscape surrounding the project area due to the effective screening provided by the housing units on the northern, western, and eastern boundaries of the project area. The slightly lower elevation of the project area and the steep slopes on the southern boundary decreases the visibility of the project area even further. The two remaining narrow viewing corridors (gaps) on the northern and western boundary also limits the visibility of the project area.

Only the few housing units (first row) located directly next to the project area will have a high visual sensitivity. All areas in the landscape beyond 300m of the project area will have low visual sensitivity. Based on the abovementioned information the visual sensitivity of the site was categorised as a **medium** visual sensitivity.

Visual absorption capacity

The project area has a flat topography and lack any high scrubs or trees. The visual absorption capacity of the project site is therefore low. However, reducing building heights combined with effective landscaping could provide some screening to the development and increase the VAC.

Visual intrusion

The proposed development is an extension of the surrounding rural settlement and housing patterns and is as such compatible with the qualities of the area. The visual intrusion for the proposed development is therefore **low**.

Potential Visual Impacts

Pre-construction phase:

- Removal of some vegetation will be required for earthworks and increase the visibility of the project area, but the project area is covered predominantly in a few species of low growing shrubs that have been disturbed by earth works in the past. There will therefore be no loss of the vegetation visual resource.

Construction phase:

- Due to the flat nature of the project area, there will be very little cut and fill operations that create visual scarring. During the construction of buildings, there will be a temporary visual impact created by materials and construction activities.

Operational phase:

- The project area is currently undeveloped and covered with low growing shrubs and some invasive alien trees. The proposed development is located next to an existing low density existing housing development and will therefore not change the visual character of the surrounding landscape.

Visual Mitigation Measures

Building design guidelines have been compiled for the proposed development that will assist in mitigating some of the potential visual impacts. The following mitigation measures should be considered when constructing the proposed infrastructure for this project to reduce the visual impact.

Reducing unnecessary disturbance

As a general rule, reducing the amount of land disturbed during the construction of a project reduces the extent of visual impact. Measures relevant to the project include:

- Retain as much of the existing vegetation as possible and where practical to screen construction activities from key viewing locations. This is also referred to as vegetation manipulation.
- Establish limits of disturbance that reflect the minimum area required for construction.
- Existing vegetation should be retained where possible through the use of retaining walls.

Colour selection

The selection of the best colour for the planned project will have the greatest impact on the visual success or failure of the project. Strong contrasts in colour create easily recognizable visual conflicts in the landscape. Measures relevant to the project include:

- The selection of colours that blend with or are in harmony with the surrounding landscape will drastically reduce the visual impact of the project. Such colours would include tonal variations of existing colours in the surrounding landscape. Contrasting but discordant colours that stand out in the landscape should be avoided.
- Select colours for smooth structures that are two or three shades darker than the background colours to compensate for shadow patterns created by natural textures that make colours appear darker.
- Galvanized steel on structures should be darkened to prevent glare. Low lustre paints should be used wherever possible to reduce glare.

Reduce contrasts from earthworks

The scars left by excessive cut and fill activities during construction often leave long-lasting negative visual impacts. Once the dark surface soil layer is disturbed, exposing the much lighter colour of the subsurface soil, a strong contrast is created that may take many years to recover.

There are several ways to reduce the contrasts created by earthwork construction. Proper location and alignment are the most important factors. Other earthwork design techniques, such as balancing cut and fill or constructing with all fill or all cuts should be considered, where appropriate, as methods to reduce strong visual impacts. Measures relevant to the project include:

- The scars left by excessive cut and fill activities during construction often leave long-lasting negative visual impacts. Where possible fitting the proposed project infrastructure to the existing landforms in a manner that minimizes the size of cuts and fills will greatly reduce visual impacts from earthwork.
- The dumping of excess rock and earth on downhill slopes should be limited.

Limiting the footprints and heights of structures

Visual impact can be reduced by limiting the footprint of the buildings and hardscaping as well as the heights of buildings. Limiting the footprint of infrastructure will help to provide more greening areas in between buildings which will assist with screening and visual absorption of structures. The height of structures should be kept as low as possible to keep infrastructure unobtrusive as possible and allow scenic views. The proposed development may erect structures up to 8.5m in height (Local Zoning

Scheme By-Law) but this was reduced/limited to 4m to reduce impact on neighbouring homes scenic views of the coastline.

Development and architectural guidelines

Development and building guidelines need to address procedural, planning and aesthetic considerations required for the successful design and development of the property and the architectural ethos of the development. The purpose of design guidelines is to protect and safeguard the environment and scenic resources and guide the appropriate architectural character to protect the investment value of the development.

The guidelines should not be restrictive conditions but should promote an overall design sensitivity whilst allowing flexibility for individual expression. The buildings should aim to be as visually recessive as possible. Of importance to visual impact, aspects will be height, finishes and form, with the grouping of components in separate but linked forms providing a better visual impact than one larger component. Orientation, materials, low pitch roofscape will all contribute to visual mitigation. Colours of walls should be muted earth colours excluding white, beige and cream. Roof colour should be dark grey. Windows should be recessed with overhangs to prevent reflection of the sun.

Landscaping

A Landscape Plan must be drawn up by a professionally registered Landscape Architect. The objective of the Landscape Plan must be:

- To identify and retain indigenous trees and shrubs that will visually screen the development.
- To provide a planting plan of indigenous trees and shrubs for streets and open spaces that will allow for the medium – long-term visual screening of the development and enhance the living environment of the development.
- To draw up a management plan for phasing in indigenous trees and phasing out of invasive alien trees such that the proposed development will always be screened from sensitive receptors, by trees. The plan should include the planting of fast-growing, pioneer type trees, trees with a medium growth rate and those that have a slower growth rate. This management plan should be for a minimum of 20 years and should be monitored and revised every 5 years.
- The planting of lawns alone will exacerbate the visibility of the development. The mix of lawn, shrubs and trees should be carefully designed with the importance of trees and large shrubs emphasized, to provide further greening of the built environment.
- To draw up a Landscape Operational Maintenance Plan for the development to manage the open spaces effectively.
- To provide guidelines on visually permeable boundary treatments, using fencing for the most part and walls at entrances only.

Lightning design

Effective light management needs to be incorporated into the design of the lighting to ensure that the visual influence is limited.

Several measures can be implemented to reduce light pollution and those relevant to the project are as follows:

- Where possible construction activities should be conducted behind noise/light barriers that could include vegetation screens.
- Low flux lamps and direction of fixed lights toward the ground should be implemented where practical. Choose "full-cut off shielded" fixtures that keep light from going uselessly up or sideways. Full cut-off light fixtures produce minimum glare. They also increase safety because they illuminated people, cars, and terrain. Bright light bulbs can be seen from a distance.
- The design of night lighting should be kept to a minimum level required for operations and safety.
- The utilisation of specific frequency LED lighting with a green hue on perimeter security fencing.

- Where feasible, put lights on timers to turn them off each night after they are no longer needed.

Restoration and reclamation

Strategies for restoration and reclamation are very much similar to the design strategies for earthwork, as well as the design fundamentals of repeating form, line, colour, and texture and reducing unnecessary disturbance.

The objectives of restoration and reclamation include reducing long-term visual impacts by decreasing the amount of disturbed area and blending the disturbed area into the natural environment while still providing for project operations.

Though restoration and reclamation are a separate part of project design, they should not be forgotten or ignored. It is always a good idea to require a restoration/reclamation plan as part of the original design package. All areas of disturbance that are not needed for operation and maintenance should be restored as closely as possible to previous conditions. Measures relevant to the project include:

- The objective of restoration and reclamation efforts is to reduce the long-term visual impacts by decreasing the amount of disturbed area and blending the disturbed area into the natural environment while still providing for project operations.
- Topsoil should be stripped, saved, and replaced on earth surfaces disturbed by construction activities.
- Planting holes should be established on cut/fill slopes to retain water and seeds.
- Indigenous plant species should be selected to rehabilitate disturbed areas.
- Where possible rehabilitation efforts such should emulate surrounding landscape patterns in terms of colour, texture and vegetation continuums that historically occurred in the area.
- Replacing soil, brush, rocks and forest debris over disturbed earth surfaces when appropriate, thus allowing for natural regeneration rather than introducing an unnatural looking grass cover.
- Revegetation of disturbed areas should occur as soon as practicable possible after the completion of various construction activities.

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 site alternative.

The site consists of several properties, Erven 4139, 4140, 4141, 4142, 4143, 4144, 4145, Still Bay West. The site is largely undeveloped, only two of the four approved houses have been built. In addition, the northern most platform, where the new proposed units will be located, shows signs that the area has been previously disturbed, as noted by the unnatural terrain. This likely happened when the adjacent road and properties were constructed.

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

No alternative sites were investigated.

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

No alternative sites were investigated.

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

The landowner holds an existing EA for the property and proposed to amend the layout as per the layout for Alternative B, the proposed amendment was deemed inappropriate for the proposed changes and indicated that a new applicant for EA is required.

Taking the results of the screening tool report, site visits and specialist input into account, the lowest laying area of the property should be maintained as open space due to the good condition of the coastal thicket (with milkwoods).

The middle of the site where the existing erven were to be built was also advised to be avoided due to the steep nature of the topography and the close proximity to the coastal thicket as well as the connectivity with the shoreline. Therefore, by means of exclusion of the relatively more sensitive areas on the site, only left the previously disturbed relatively flat top platform of the site suitable for development. As such the Preferred Alternative A was developed and is being proposed in this BAR.

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

No other sites were considered as the landowner does not have access to other properties in the Still Bay area suited to this proposal.

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

Positive

- Income generation for the municipality by increasing the Tax Base and generating rates and taxes for the new proposed erven.
- Utilising vacant land within the Still Bay Urban Edge (and within an Urban Area)
- Temporary Job opportunities during the construction phase
- Provision of housing in the Operational Phase
- Providing functional connectivity between the open space and the coastline

Negative

- Loss of indigenous vegetation for the footprint of the houses
- Change in landuse, Vacant to developed
- Temporary negative construction phase impacts (noise, visual, potential dust)
- Additional minor pressure on bulk municipal services

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

Provide a description of the preferred activity alternative.

Housing is Proposed (residential development). The site currently has similar zoning and has two addition erven approved on the site, as such the proposed in line with the character of the site and surrounding properties. No activity alternatives were considered.

Provide a description of any other activity alternatives investigated.

No other activity alternative was considered as housing is considered suitable landuse for this site. The No-Go option will however result in the landowner implementing the least desirable option which is the existing EA's approved layout.

Provide a motivation for the preferred activity alternative.

- The site is included in the Still Bay Urban Edge and is therefore earmarked for residential development.
- The landowner's existing EA has two addition houses approved for development, the proposal therefore optimises vacant land within the Still Bay urban edge.
- The site has nearby connection point for bulk services (north-eastern corner of the property)
- The site and proposal is in line with municipal planning and the surround character of the site.
- The proposed provides better connectivity between the open space and coastline.

Provide a detailed motivation if no activity alternatives exist.

No activity alternative has been considered as if the proposed activity is not approved the landowner will develop the No-Go alternative which is also for residential housing.

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

Not Applicable

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 preferred alternative will result in three new erven being developed on the northern boundary of the site, the site already has two houses which will have been incorporated into the proposed layout. A road is proposed on the northern boundary of the site, there is already a road located at the proposed location so the existing road will be upgraded to accommodate the increase in residential units. The rest of the site will be zoned as open space. Please refer to Figure 24 for the Architectural development plan and the Figure 27 for the proposed erf layouts.

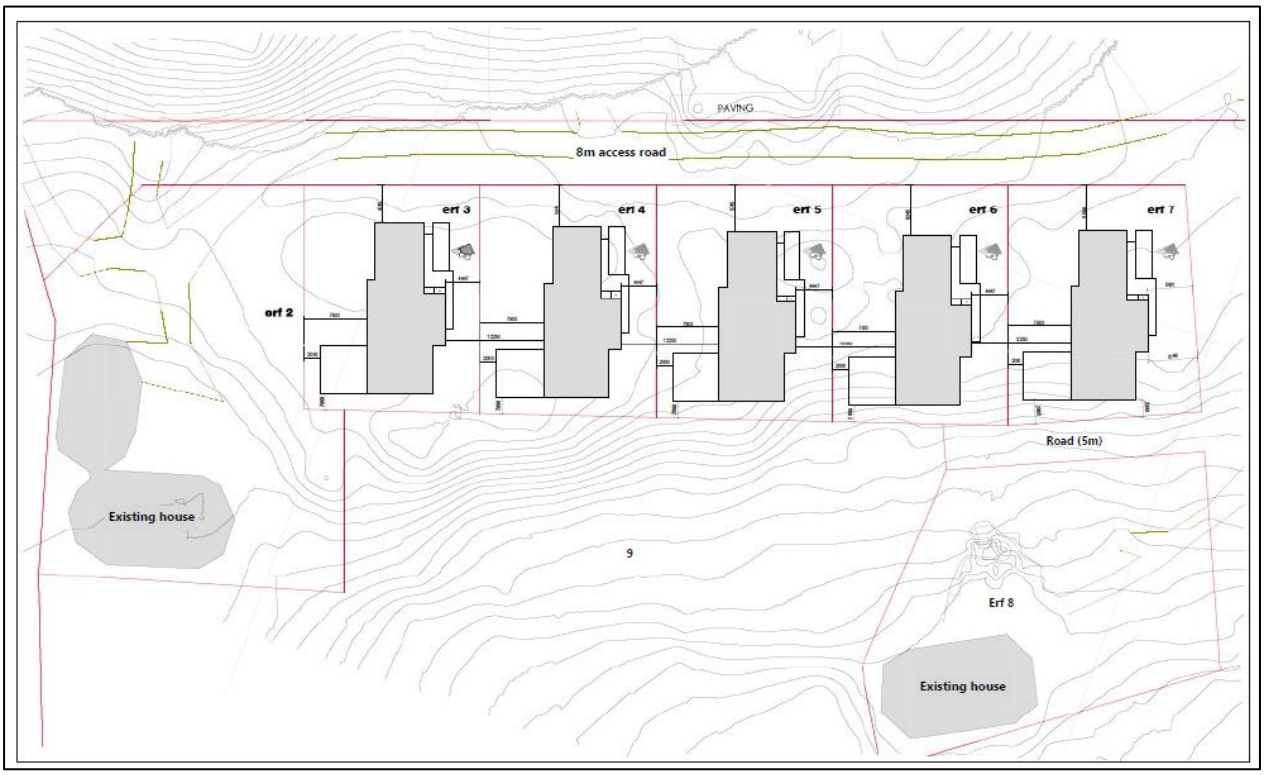


Figure 24: Architectural development plan

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

No-Go Alternative:

The existing approved layout, which allows for the development of an additional two houses as per the existing cadastral boundaries of the site (Figure 25) is the No-Go alternative for the proposal.

Figure 25: Current site layout

Alternative B:
This was the first proposed layout for the proposal (Figure 26), it entails the development 6 new erven (two already authorised, erf 8 and 9), four along the northern boundary of the site and two between the existing erven.

Figure 26: Alternative B

Alternative A (preferred alternative)
This alternative was produced after the environmental constraints and opportunities were assessed using the specialist input to identify and mitigate the positive and negative inputs.

Figure 27: Alternative A (Preferred Alternative)

Provide a motivation for the preferred design or layout alternative.

Even though the preferred Alternative has one less erf to construct, than the initial proposal, it is the preferred alternative due to the placement of the proposed erven in terms of the significance of the visual impact.

The southern half of the site has more intact vegetation in a better state and has received less disturbances than the northern platform where the erven are proposed. As such it utilises land already within the Still Bay Urban Edge and within and Urban Area, for development, while maintain a good buffer from the lower platform and the good vegetation located there. As such the Alternative A is the Preferred Alternative.

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

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

Positive

- Income generation for the municipality by increasing the Tax Base and generating rates and taxes for the new proposed erven.
- Utilising vacant land within the Still Bay Urban Edge (and within an Urban Area)
- Temporary Job opportunities during the construction phase
- Provision of housing in the Operational Phase
- Providing functional connectivity between the open space and the coastline

Negative

- Loss of indigenous vegetation for the footprint of the houses
- Change in landuse, Vacant to developed
- Temporary negative construction phase impacts (noise, visual, potential dust)
- Additional minor pressure on bulk municipal services

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:

Water Conservation

- In order to conserve water, the following conservation systems are mandatory.
- Dual flush toilets such as Geberit Twinline" or similar approved must be used.

- Where an irrigation system is installed, the use of "grey" water waste must be encouraged. For this purpose systems such as the 4ever plastic products "Grey Water Saver" or similar approved can be used.
- Water tanks: 10000 liter above ground and 10000 liter underground - must be installed on each property to be used to collect rainwater.
- These must be concealed adequately screened using one of the following materials: approved corrugated iron, to match roof, timber boarding or timber lattice & planting - concealed in service yard.
- The position of water tanks to be indicated on the site plan. No unsightly or overhead rain water leaders will be permitted.
- The top of rainwater tanks may not be positioned higher than the service yard screen wall (1.8m).

Energy Efficiency

- Energy efficient building design.
- To comply with SANS 10400-XA and SANS 204.
- Off-grid - total solution design
- Pre-design meeting with the DRP to discuss the requirement for the energy and services design
- Submit an all-inclusive energy and services design before finalizing the building plans – during stage 3 of the design process.

Provide a description of any other technology alternatives investigated.

Provide a motivation for the preferred technology alternative.

The energy efficient technology used will reduce demand on bulk services

Provide a detailed motivation if no alternatives exist.

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

No negative impacts on the environment however the energy efficient fittings and solar setups do have a higher upfront cost to the developer/property owner. The solar panels must not significantly reflect into other neighbours properties.

The positive impacts are that there will be a reduced demand on bulk services, therefore lower electrical demand and water demand. This in turn reduces the amount of fossil fuels needed to generate electricity, and reduces wasted water.

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

Provide a description of the preferred operational alternative.

Residential houses as per the proposed layout for Alternative A is the preferred operational alternative layout however all alternatives presented in this report have the same operational outcomes with the numbers and locations of the housing units varying.

Provide a description of any other operational alternatives investigated.

Provide a motivation for the preferred operational alternative.

Provide a detailed motivation if no alternatives exist.

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

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

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

The No-Go option will have a higher impact on the vegetation located on the lower platform. It will require far greater earth works by means of cutting and filling the steeply sloped bank to obtain a level platform to construct the houses on. This means the cost to develop the two houses will be extremely high. This alternative does not make good use of vacant land and previously disturbed areas. This

alternative means that the open space is cut off from the coast as there could be 2 house in between the open space and the coast.

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.

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

The proposed site is located within a residential area and has currently approval for more houses, the proposed is therefore inline with the current landuse of the site and surrounding properties. There are existing bulk services connection points and access is easily gained via the existing road network. The preferred alternative takes the site sensitivities into account and places the proposed units in the best position in terms of environmental impacts. This is achieved by avoiding the steeply sloped bank in the middle of the site and will also have no impact on the good condition coastal vegetation on the lower platform of the site, the residential units are therefore proposed on the top platform which has been previously disturbed but is relatively more level than the rest of the site. This also means that the open space is connected to the coastline

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).
The areas outside of the site boundaries, adjacent properties in addition to the proposed open space of the site layout are No-Go areas. The southern reaches of the site consist of a steep embankment with indigenous vegetation in a good state, no disturbances to this vegetation will be permitted.

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.

The assessment criteria utilised in this environmental impact assessment is based on, and adapted from, the *Guideline on Impact Significance, Integrated Environmental Management Information Series 5* (Department of Environmental Affairs and Tourism (DEAT), 2002) and the *Guideline 5: Assessment of Alternatives and Impacts in Support of the Environmental Impact Assessment Regulations* (DEAT, 2006).

Determination of Extent (Scale):

Site specific	On site or within 100 m of the site boundary.
Local	The impacted area includes the whole or a measurable portion of the site, but could affect the area surrounding the development, including the neighbouring properties and wider municipal area.
Regional	The impact would affect the broader region (e.g. neighbouring towns) beyond the boundaries of the adjacent properties.
National	The impact would affect the whole country (if applicable).

Determination of Duration:

Temporary	The impact will be limited to the construction phase.
Short term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than **6 months after the completion** of the construction phase.
Medium term	The impact will last up to the end of the construction phase, where after it will be entirely negated in a period shorter than **2 years after the completion** of construction activities.

Long term	The impact will continue for the **entire operational lifetime of the development** but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact that will be non-transitory. Such impacts are regarded to be **irreversible**, irrespective of what mitigation is applied.

Determination of Probability:

Improbable	The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
Probable	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
Highly probable	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up to mitigate the activity before the activity commences.
Definite	The impact will take place regardless of any prevention plans.

Determination of Significance (without mitigation):

No significance	The impact is not substantial and does not require any mitigation action.
Low	The impact is of little importance, but may require limited mitigation.
Medium	The impact is of sufficient importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
Medium-High	The impact is of high importance and is therefore considered to have a negative impact. Mitigation is required to manage the negative impacts to acceptable levels.
High	The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.
Very High	The impact is critical. Mitigation measures cannot reduce the impact to acceptable levels. As such the impact renders the proposal unacceptable.

Determination of Significance (with mitigation):

No significance	The impact will be mitigated to the point where it is regarded to be insubstantial.
Low	The impact will be mitigated to the point where it is of limited importance.
Medium	Notwithstanding the successful implementation of the mitigation measures, the impact will remain of significance. However, taken within the overall context of the project, such a persistent impact does not constitute a fatal flaw.
High	Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is considered to be a fatal flaw in the project proposal.

Determination of Reversibility:

Completely Reversible	The impact is reversible with implementation of minor mitigation measures
Partly Reversible	The impact is partly reversible but more intense mitigation measures

Barely Reversible	The impact is unlikely to be reversed even with intense mitigation measures
Irreversible	The impact is irreversible and no mitigation measures exist

Determination of Degree to which an Impact can be Mitigated:

Can be mitigated	The impact is reversible with implementation of minor mitigation measures
Can be partly mitigated	The impact is partly reversible but more intense mitigation measures
Can be barely mitigated	The impact is unlikely to be reversed even with intense mitigation measures
Not able to mitigate	The impact is irreversible, and no mitigation measures exist

Determination of Loss of Resources:

No loss of resource	The impact will not result in the loss of any resources
Marginal loss of resource	The impact will result in marginal loss of resources
Significant loss of resources	The impact will result in significant loss of resources
Complete loss of resources	The impact will result in a complete loss of all resources

Determination of Cumulative Impact:

Negligible	The impact would result in negligible to no cumulative effects
Low	The impact would result in insignificant cumulative effects
Medium	The impact would result in minor cumulative effects
High	The impact would result in significant cumulative effects

Determination of Consequence significance:

Negligible	The impact would result in negligible to no consequences
Low	The impact would result in insignificant consequences
Medium	The impact would result in minor consequences
High	The impact would result in significant consequences

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

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

The following impact assessment on vegetation has been extracted from the Botanical Assessment Report (Appendix G)

Construction phase: Loss of vegetation and ecological processes

Proposed Alternative A

Propose Alternative A is aligned along the existing gravel road on the northern boundary and would result in loss of most of the vegetation on the upper platform of the site. The footprint would result in loss of 3 155 m^2 (0.3 ha). Impacts are likely to be **Low Negative** based on the following:

1. Small footprint.
2. Loss of a small area (0.3 ha) of a Least Threatened vegetation type with no Species of Conservation Concern (SCC).
3. No loss of any valid CBAs or ESAs.
4. Alignment along an existing road and allowance for open space to the south, with some persistence of ecological process and retention of natural vegetation

Proposed Alternative B

Proposed Alternative B includes the same footprint as Proposed Alternative A but with an additional development area (Portions 8 and 9) to the south and extending to the lower platform of the site. Loss of vegetation would amount to 5110 m^2 (0.5 ha). Impacts are likely to be **Medium Negative** for the same reasons as Proposed Alternative A but would result in a higher impact since (a) more vegetation would be lost, (b) and more of the Medium Sensitivity habitat would be lost. A single, juvenile milkwood (*Sideroxylon inerme*) (PROTECTED) is also present in the footprint. Furthermore, a portion of the valid ESA1 would be lost in the vicinity of Portion 9.

CRITERIA	**'NO GO' ALTERNATIVE**		**PROPOSED CONSTRUCTION ACTIVITIES PROPOSED ALTERNATIVE A**		**PROPOSED CONSTRUCTION ACTIVITIES PROPOSED ALTERNATIVE B**	
Status of direct impact	Neutral		Negative		Negative	
Loss of vegetation and species	**WITHOUT MITIGATION**	**WITH MITIGATION**	**WITHOUT MITIGATION**	**WITH MITIGATION**	**WITHOUT MITIGATION**	**WITH MITIGATION**
Extent	Local (0)	Local (0)	Local (1)	Local (1)	Local (1)	Local (1)
Duration	None (0)	None (0)	Long-term (3)	Long-term (3)	Long-term (3)	Long-term (3)
Intensity	None (0)	None (0)	Low (1)	Low (1)	Low (2)	Low (2)
Consequence	Not significant (0)	Not significant (0)	Low (5)	Low (5)	Medium (6)	Medium (6)
Probability of occurrence	Probable	Probable	Definite	Definite	Definite	Definite
Confidence	High	High	High	High	High	High
Significance	No impact	No impact	Low	Low	Medium	Medium
Degree to which the impact may cause irreplaceable resources	Low	Low	Low	Low	Low	Low
Degree to which the impact can be reversed	High	High	Irreversible	Irreversible	Irreversible	Irreversible

Nature of the residual impact (post mitigation)	Neutral	Neutral	Negative	Negative	Negative	Negative
Proposed essential mitigation:	N/A					

Operational phase: Loss of vegetation and ecological processes

Operational phase impacts would be associated with potential edge effects and may result in disturbance around the edges of the proposed houses and driveways/access roads. Impacts would potentially include the following:

- Trampling of vegetation.
- Cutting of vegetation.
- Accidental introduction of weeds.
- Deliberate planting of extra-limital or exotic species, although this is unlikely since the estate has strict guidelines pertaining to which species can and cannot be planted.

The impact assessment methodology (Appendix 1 of the Botanical Assessment) scores a significance rating as Low Negative, however, this is more likely to be Very Low Negative.

CRITERIA	**'NO GO' ALTERNATIVE**		**PROPOSED CONSTRUCTION ACTIVITIES PROPOSED ALTERNATIVE A**		**PROPOSED CONSTRUCTION ACTIVITIES PROPOSED ALTERNATIVE B**	
Status of direct impact	Neutral		Negative		Negative	
Loss of vegetation and species	**WITHOUT MITIGATION**	**WITH MITIGATION**	**WITHOUT MITIGATION**	**WITH MITIGATION**	**WITHOUT MITIGATION**	**WITH MITIGATION**
Extent	Local (0)	Local (0)	Local (1)	Local (1)	Local (1)	Local (1)
Duration	None (0)	None (0)	Long-term (3)	Long-term (3)	Long-term (3)	Long-term (3)
Intensity	None (0)	None (0)	Low (1)	Low (1)	Low (1)	Low (1)
Consequence	Not significant (0)	Not significant (0)	Low (5)	Low (5)	Low (5)	Low (5)
Probability of occurrence	Probable	Probable	Definite	Definite	Definite	Definite
Confidence	High	High	High	High	High	High
Significance	No impact	No impact	Low	Low	Low	Low
Degree to which the impact may cause irreplaceable resources	Low	Low	Low	Low	Low	Low
Degree to which the impact can be reversed	High	High	Irreversible	Irreversible	Irreversible	Irreversible
Nature of the residual impact (post mitigation)	Neutral	Neutral	Negative	Negative	Negative	Negative
Proposed essential mitigation:	Proposed best practice mitigation: Ensure no disturbance to areas outside areas supported for development.					

<u>Mitigation</u>

Construction phase

Mitigation options are generally considered in terms of the following mitigation hierarchy:
(1) avoidance, (2) minimization, (3) restoration and (4) offsets. In this instance both avoidance and minimization are the two best options to mitigate impacts. However, since the client has proposed two alternatives with a set number of residential erven minimization is not a feasible option. As stated in Section 9.2.1 (of the Botanical Assessment Report, Appendix G) Proposed Alternative A is more

desirable from a botanical perspective. **Since Proposed Alternative B would have a higher impact than Proposed Alternative A it is not supported.**

Indirect impacts
Indirect impacts are those that do not occur as a direct result of the activity on the site but that occur further away. In this case no indirect impacts were identified.

Cumulative impacts
Cumulative impacts are those impacts linked to increased loss of vegetation type or the ecosystems listed in the National List of Threatened Terrestrial Ecosystems (Government Gazette, 2011). Cumulative impacts are assessed as the overall impact of loss of habitat in relation to loss of the same or similar habitat at a local scale due to past, present and future habitat loss. In the case of the study area the vegetation types is Least Threatened, and since the loss of vegetation is not extensive at a local scale cumulative impacts would be Very Low Negative.

Recommendations
The constraints analysis identified potentially developable versus No Go areas and concluded the following:

- Most of the study area and focus area supports either Semi-intact to intact or Intact Blombos Strandveld.
- Species diversity is high for the entire study area, with at least 47 species found within the focus area and at least 57 species record for the entire study area, even though the study was largely confined to the focus area. Important species include PROTECTED milkwood and the ENDANGERED Lampranthus diutinus; a species in population decline and threatened by coastal and agricultural development, which occurs near the coast. These species were included in the No Go area except one juvenile milkwood.
- The vegetation makeup, presence of important species (protected and species of conservation concern), proximity to the coast, varied topography, presence of a valid ESA1 coastal corridor allows for several definitive conclusions regarding the site sensitivity.
    - The lower portion of the study area was identified as a definite No Go during the constraints analysis since it is a crucial biodiversity corridor. The assigned ESA1 is a conservation planning area that must be protected from any disturbance and development in perpetuity.
    - The upper portion within focus area falls partially within the ESA1, however, the most important part of the ecological corridor is defined by the steep drop-off. This portion (upper and lower platform) was identified as Potentially developable but not the entire potentially developable area.

Subsequent to the constraints analysis the client provides two layout alternatives, namely Proposed Alternative A and Proposed Alternative B. These two options were assessed in terms of the associated impacts. The findings are as follows:

- Proposed Alternative A would lead to a residual Low Negative Impact.
- Proposed Alternative B would lead to a residual Medium Negative impact.
- Proposed Alternative B is not supported. Thus, Proposed Alternative A is the only supported option.

It is emphasized that no SCC would be impacted at Proposed Alternative A, nor do any SCC occur within the undesirable Proposed Alternative B.

In addition to the above the follow recommendations are proposed:

- No additional access roads should be constructed. Houses can be accessed from narrow and short driveways from existing roads.

Nature of the Visual impact
The nature of the visual impacts will be the visual effect the activity would have on the receiving environment. These visual impacts will be:

Pre-construction phase:

- Removal of some vegetation will be required for earthworks and increase the visibility of the project area, but the project area is covered predominantly in a few species of low growing shrubs that have been disturbed by earth works in the past. There will therefore be no loss of the vegetation visual resource.

Construction phase:

- Due to the flat nature of the project area, there will be very little cut and fill operations that create visual scarring. During the construction of buildings, there will be a temporary visual impact created by materials and construction activities. But the buildings will create a permanent visual impact.

Operational phase:

- The project area is currently undeveloped and covered with low growing shrubs and some invasive alien trees. The proposed development is located next to an existing low density housing development and will therefore not change the visual character of the surrounding landscape.

Visual Intrusion
The proposed development is an extension of the surrounding rural settlement and housing patterns and is as such compatible with the qualities of the area. The visual intrusion for the proposed development is therefore **low**.

Alternative:	**Alternative A (Preferred Alternative)**	**Alternative B**	**Alternative C (No-Go)**
DEVELOPMENT PHASE			
Potential impact and risk:	**Erosion: Unmanaged vegetation clearance and earthworks -** could result in erosion of the site and surroundings in addition to the removal/damaging of vegetation outside of the development footprint		
Nature of impact:	Negative		
Extent and duration of impact:	Site specific and medium to long term		
Consequence of impact or risk:	Low	Medium	Medium - High
	• Loss of developable land • Loss of topsoil • Integrity of surround infrastructure and buildings could be negatively affected • Loss of indigenous vegetation		
Probability of occurrence:	Probable		
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource		
Degree to which the impact can be reversed:	Reversible however easier to prevent impact		
Indirect impacts:	• Loss of developable land • Loss of topsoil • Integrity of surround infrastructure and buildings could be negatively affected • Loss of vegetation		

	• Decrease in ecosystem functionality • Eroded areas left vulnerable to the establishment of alien vegetation		
Cumulative impact prior to mitigation:	• Erosion of the vulnerable areas • Alien vegetation establishment • Loss of land (erosion) • Compromised integrity of infrastructure • Loss of ecological habitat		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Medium	Medium - High
Degree to which the impact can be avoided:	Can be avoided		
Degree to which the impact can be managed:	Can be managed		
Degree to which the impact can be mitigated:	Can be mitigated		
Proposed mitigation:	• The development footprint must be demarcated before earthworks are undertaken to clearly delineate the extent of the site. • Only the minimum require excavations and disturbances must be undertaken. No excessive excavations must be allowed. • Silt traps must be installed where appropriate to erosion of disturbed areas on site • Earthworks and excavations must be undertaken as prescribed in Section 8.11 EMPr. • The footprint of disturbance should be kept to an absolute minimum • Disturbed areas must be rehabilitated timelessly once activities in a certain area have concluded. • Open spaces must be regarded as No-Go areas.		
Residual impacts:	• Alien vegetation establishment on eroding areas bare of topsoil. • Alien vegetation may establish in rehabilitated areas despite implementing preventative measures		
Cumulative impact post mitigation:	Negligible/None – the proposed mitigation measure, if implemented correctly will completely mitigate the potential cumulative impacts		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**	**Medium**	**Medium-High**
OPERATIONAL PHASE			
Potential impact and risk:	**Erosion:** Increased hardened surfaces will increase the amount of runoff on the site, erosion may therefore occur where runoff is concentrated or directed in the case that the stormwater management system is blocked		
Nature of impact:	Negative		
Extent and duration of impact:	Site specific and long term to permanent		
Consequence of impact or risk:	Low	Medium	Medium-High
	• Loss of developable land • Loss of topsoil • Integrity of surround infrastructure and buildings could be negatively affected • Loss of indigenous vegetation		
Probability of occurrence:	Probable		
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource		

Degree to which the impact can be reversed:	Completely reversible		
Indirect impacts:	• Loss of developable land • Loss of topsoil • Integrity of surround infrastructure and buildings could be negatively affected • Loss of vegetation • Decrease in ecosystem functionality • Eroded areas left vulnerable to the establishment of alien vegetation		
Cumulative impact prior to mitigation:	• Erosion of the vulnerable areas • Alien vegetation establishment • Loss of land (erosion) • Compromised integrity of infrastructure		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Medium	Medium-High
Degree to which the impact can be avoided:	Can be avoided		
Degree to which the impact can be managed:	Can be managed		
Degree to which the impact can be mitigated:	Can be mitigated		
Proposed mitigation:	It must be ensured that the stormwater directed off of roofs is dissipated before leaving the erven to reduce erosion potential.		
Residual impacts:	• Alien vegetation establishment on eroding areas bare of topsoil. • Left uncontrolled erosion could affect the integrity of the surround infrastructure and/or buildings.		
Cumulative impact post mitigation:	Negligible		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**	**Medium**	**Medium - High**

Alternative:	**Alternative A (Preferred Alternative)**	**Alternative B**	**Alternative C (No-Go)**
DEVELOPMENT PHASE			
Potential impact and risk:	**Contamination of soil as a result of unmanaged development activities –** Contaminants such as oil, diesel, etc could spill contaminating soil.		
Nature of impact:	Negative		
Extent and duration of impact:	Local and Long term		
Consequence of impact or risk:	High	High	High
	• Contamination of soil • Loss of fauna and flora • Loss of ecosystem functionality • Pollution		
Probability of occurrence:	Probable		
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource		
Degree to which the impact can be reversed:	Partly reversible		
Indirect impacts:	• Loss of biota		

	• Loss of ecosystem functionality • Loss of developable land • Loss of topsoil • Integrity of surround infrastructure and buildings could be negatively affected • Loss of indigenous vegetation		
Cumulative impact prior to mitigation:	• Contamination of soil • Loss of fauna and flora • Loss of ecosystem functionality • Loss of ecological habitat • Build-up of contaminates in water sources		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High	High	High
Degree to which the impact can be avoided:	Can be avoided		
Degree to which the impact can be managed:	Can be managed		
Degree to which the impact can be mitigated:	Can be mitigated		
Proposed mitigation:	• General management measures relating to the management of waste and hazardous substances stated in the EMPr must be implemented as and where applicable, in consultation with the ECO. In addition: General Pollution Management: • No pollution of ground water resources may occur due to any activity on the site (i.e. foreign chemicals or substances allowed to seep/leach into the soil) • No storm water runoff from any premises containing waste, or water containing waste emanating from construction activities may be discharged into the environment. Polluted stormwater must be contained on the site (i.e. laydown and storage areas must be demarcated in addition to the installation of a geo-textile on the downslope side of the areas to contain and filter any runoff that may have picked up contaminants from materials in the storage areas.) • Cement batching / mixing / rinsing may not take place directly on the soil surface, it must be done on an impervious lining that will prevent cement particles from contaminating the soil. General Waste Management: • Dedicated waste bins or skips must be provided on site and kept in a demarcated area on an impermeable surface. • Separate waste bins/skips must be provided for recyclable waste, general waste and hazardous waste. Recovered builder's rubble & green waste may be stockpiled on the ground within the site camp, or in separate skips until removal. • Waste must be placed in the appropriate waste bins/skips/ stockpiles. • Hazardous waste bins must be kept on an impermeable bunded surface capable of holding at least 110% of the volume of the bins. • Skips/ bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust. • Waste bins/skips must be regularly emptied and must not be allowed to overflow. • Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.		

	• The Contractor must ensure that all workers on site are familiar with the correct waste disposal procedures to be followed. • Waste generated on site must be classified and managed in accordance with the *National Environmental Management: Waste Act – Waste Classification and Management Regulations (GN No. R. 634 of August 2013)*. • Disposal of waste to landfill must be undertaken in accordance with the *National Environmental Management: Waste Act – National Norms and Standard for the Assessment of Waste for Landfill Disposal (GN No. R. 635 of August 2013)*. • All waste, hazardous as well as general, which result from the proposed activities must be disposed of appropriately at a licensed Waste Disposal Facility (WDF). Pollution Management – hydrocarbons (oil, fuel etc.) • Vehicles and machinery must be in good working order and must be regularly inspected for leaks. • If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired. • Repairs to vehicles/ machinery may take place on site, within a designated maintenance area at the site camp. Drip trays, tarpaulin or other impermeable layer must be laid down prior to undertaking repairs. • Refuelling of vehicles/ machinery may only take place at the site camp or vehicle maintenance yard. Where refuelling must occur, drip trays should be utilised to catch potential spills/ drips. • Drip trays must be utilised during decanting of hazardous substances and when refilling chemical/ fuel storage tanks. • Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is risk of leakage/spillage. • Where feasible, fuel tanks should be elevated so that leaks are easily detected. • A spill kit to neutralise/treat spills of fuel/ oil/ lubricants must be available on site, and workers must be educated on how to utilise the spill kit. • Soil contaminated by hazardous substances must be excavated and disposed of as hazardous waste. Pollution Management – Ablution facilities • Chemical toilets should be kept at the site camp, on a level surface and secured from blowing over. • Toilets must be located well outside of any storm water drainage lines, and may not be linked to the storm water drainage system in any way. • Chemical toilets must be regularly emptied and the waste disposed of at an appropriate waste water disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets. Pollution Management – Hazardous Substances • Any hazardous substances (materials, fuels, other chemicals etc.) that may be required on site must be stored according to the manufacturers' product-storage requirements, which may include a covered, waterproof bunded housing structure.

	• Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases. • Hazardous chemicals and fuels should be stored on bunded, impermeable surfaces with sufficient capacity to hold at least 110% of the capacity of the storage tanks.		
Residual impacts:	Areas used to employ mitigation measures to prevent contamination will still require rehabilitation afterwards, thereby the mitigation measures will create additional but manageable disturbance.		
Cumulative impact post mitigation:	Low – the proposed mitigation measure, if implemented correctly will mitigate the potential cumulative impacts however mismanagement of mitigation measures could still result in contaminants not being appropriately contained on site, resulting in small isolated contaminated patches.		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**	**Low**	**Low**
OPERATIONAL PHASE			
Potential impact and risk:	**Contamination of soil and stormwater runoff:** Pollution (oil from cars, paint and other contaminated runoff from the erven into the surrounding vegetation) and litter not stored correctly could be transported via runoff or wind into surrounding vegetation		
Nature of impact:	Negative		
Extent and duration of impact:	Site specific and medium term to permanent		
Consequence of impact or risk:	Medium-High • Contamination of soil • Loss of habitat • Loss of vegetation • Decrease in ecosystem functionality		
Probability of occurrence:	Improbable		
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource		
Degree to which the impact can be reversed:	Partly reversible		
Indirect impacts:	• Loss of biota • Loss of ecosystem functionality		
Cumulative impact prior to mitigation:	High • Contamination of soil • Loss of fauna and flora • Loss of ecosystem functionality		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High	High	High
Degree to which the impact can be avoided:	Can be avoided		
Degree to which the impact can be managed:	Can be managed		
Degree to which the impact can be mitigated:	Can be mitigated		
Proposed mitigation:	• Waste must be stored in lidded bins		

	• Rubbish bags must only be place out for collection on the day of collection		
Residual impacts:	Windblown and runoff swept pollution and litter tend to end up in rivers and then the ocean		
Cumulative impact post mitigation:	Build up of plastics and other harmful chemicals in our rivers and oceans		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**	**Low**	**Low**

Alternative:	**Alternative A (Preferred Alternative)**	**Alternative B**	**Alternative C (No-Go)**
DEVELOPMENT PHASE			
Potential impact and risk:	**NOISE GENERATED BY CONSTRUCTION ACTIVITIES:** Construction related noise could cause nuisance to the surrounding environment.		
Nature of impact:	Negative		
Extent and duration of impact:	Local and Temporary		
Consequence of impact or risk:	Negligible • Frustrations and disruptions experienced by surrounding landowners • Detract from sense of place (peacefulness)		
Probability of occurrence:	Definite		
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource		
Degree to which the impact can be reversed:	Irreversible		
Cumulative impact prior to mitigation:	Low		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low		
Degree to which the impact can be avoided:	Not avoidable		
Degree to which the impact can be managed:	Can be managed by limiting noise impacts to unavoidable noise only		
Degree to which the impact can be mitigated:	Can barely be mitigated		
Proposed mitigation:	• Construction should only be allowed during normal construction working hours. • A register will be kept on site in order to report any complaints received. • No unnecessary noise disturbances should be allowed to emanate from the construction site (i.e. loud music).		
Residual impacts:	Noise impacts, even with mitigation, will emanate from the site during the construction phase		
Cumulative impact post mitigation:	Negligible		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**		

Alternative:	Alternative A (Preferred Alternative)	Alternative B	Alternative C (No-Go)
DEVELOPMENT PHASE			
Potential impact and risk:	**FACILITATED INVASION BY ALIEN FLORA:** Alien species are fast growing and establish rapidly in disturbed areas. Disturbance associated with the proposed development could facilitate the further spread of these species		
Nature of impact:	Negative		
Extent and duration of impact:	Local and Long term		
Consequence of impact or risk:	Medium • Loss of biodiversity • Decrease soil stability • Increase water consumption of alien vegetation		
Probability of occurrence:	Probable		
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource		
Degree to which the impact can be reversed:	Partly reversible		
Indirect impacts:	• Erosion prone slopes • Change of habitat characteristics for fauna		
Cumulative impact prior to mitigation:	Medium	Medium	Medium-High
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Medium	Medium-High
Degree to which the impact can be avoided:	Can be avoided		
Degree to which the impact can be managed:	Can be managed		
Degree to which the impact can be mitigated:	Can be mitigated		
Proposed mitigation:	• Disturbed areas should be revegetated with appropriate indigenous vegetation as soon as practically possible. • Control of alien invasive plant species should be undertaken • Use should be made of manual removal and the application of appropriate herbicides, where necessary. Manual removal should not be carried out by any machinery larger than a chainsaw.		
Residual impacts:	Even after mitigation and/or alien vegetation removal, alien seeds could still lay dormant within the seed bank until the ground is disturbed once more in the future		
Cumulative impact post mitigation:	Low		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**	**Low-Medium**	**Medium**
OPERATIONAL PHASE			
Potential impact and risk:	**FACILITATED INVASION BY ALIEN FLORA:** Landscaping/gardens associated with the proposed development could facilitate the further spread of these invasive alien species		
Nature of impact:	Negative		
Extent and duration of impact:	Local and Medium term to Permanent		
Consequence of impact or risk:	Medium	Medium-High	Medium-High
Probability of occurrence:	Probable		

Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resources		
Degree to which the impact can be reversed:	Completely reversible		
Indirect impacts:	• Planting of exotic plants and trees may result in the spread of their seeds into adjacent properties. • Indigenous avifauna and small mammals may struggle to adapt to the change in vegetation types.		
Cumulative impact prior to mitigation:	• Medium – Slight decrease in indigenous vegetation biodiversity, however the loss of indigenous vegetation for the development has been taken into account and for the purpose of this assessment it is assumed that all vegetation from within the footprint of the development will be permanently lost.		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low		
Degree to which the impact can be avoided:	Can be avoided		
Degree to which the impact can be managed:	Impact must be managed		
Degree to which the impact can be mitigated:	Can be easily mitigated		
Proposed mitigation:	• Residents must comply with all the relevant legislation. • Only indigenous vegetation should be used for landscaping and gardens. • Permits must be obtained from CapeNature before planting any exotic plant species		
Residual impacts:	Some residents may not comply with the requirements and still plant exotic species.		
Cumulative impact post mitigation:	Negligible		
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low**	**Low**	**Low**

Alternative:	**Alternative A (Preferred Alternative)**	**Alternative B**	**Alternative C (No-Go)**
DEVELOPMENT PHASE			
Potential impact and risk:	**Temporary Job creation –** The development phase is expected to provide jobs for between 15 to 75 people. This could vary greatly however it takes approximately 15 labourers 4 months to construct an average house. Depending on the implementation of the EA (how many labourers are brought to site) and if all houses are built at once, up to 75 labourers could be required to construct the proposed houses.		
Nature of impact:	Positive		
Extent and duration of impact:	Local and Temporary		
Consequence of impact or risk:	Medium • Temporary income for those employed during the construction phase • Skill building for first time construction labourers		
Probability of occurrence:	Definite		

Degree to which the impact may cause irreplaceable loss of resources:	Not Applicable		
Degree to which the impact can be reversed:	Not Applicable		
Indirect impacts:	• Quality of life for labourers is temporarily uplifted • Capital influx for households		
Cumulative impact prior to mitigation:	Not Applicable		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)			
Degree to which the impact can be avoided:			
Degree to which the impact can be managed:			
Degree to which the impact can be mitigated:			
Proposed mitigation:			
Residual impacts:			
Cumulative impact post mitigation:			
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**	**Medium**	**Medium-Low**
OPERATIONAL PHASE			
Potential impact and risk:	**Permanent Job creation –** Once completed the proposed houses will create permanent jobs in the form of domestic work.		
Nature of impact:	Positive		
Extent and duration of impact:	Local and permanent		
Consequence of impact or risk:	High Opportunities for people to make a living	Medium-High	Medium
Probability of occurrence:	Definite		
Degree to which the impact may cause irreplaceable loss of resources:	Not Applicable		
Degree to which the impact can be reversed:			
Indirect impacts:	Employment will provide income to those employed and in return enable expenditure of that income, therefore "spreading Capital" and supporting other industries.		
Cumulative impact prior to mitigation:	Not applicable		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)			
Degree to which the impact can be avoided:			
Degree to which the impact can be managed:			
Degree to which the impact can be mitigated:			
Proposed mitigation:			
Residual impacts:			
Cumulative impact post mitigation:			
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**	**Medium**	**Low**

Alternative:	Alternative A (Preferred Alternative)	Alternative B	Alternative C (No-Go)
DEVELOPMENT PHASE			
Potential impact and risk:	**Capital expenditure –** It is anticipated that the development will cost approximately R20 to 40 million, all of which will be sent within the municipality to source materials to undertake the development		
Nature of impact:	Positive		
Extent and duration of impact:	Local and temporary		
Consequence of impact or risk:	High Capital influx for those business which will supply materials and services to the contractors undertaking the development of the site.		
Probability of occurrence:	Definite		
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable		
Degree to which the impact can be reversed:	Not applicable		
Indirect impacts:	Growth for business involved in the development and general influx of capital into the construction sector support industries (services such a portable toilet companies, etc)		
Cumulative impact prior to mitigation:	Not applicable		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium-High	Medium-High	Medium-High
Degree to which the impact can be avoided:	Not applicable		
Degree to which the impact can be managed:			
Degree to which the impact can be mitigated:			
Proposed mitigation:			
Residual impacts:			
Cumulative impact post mitigation:			
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Medium**	**Medium**	**Medium-Low**
OPERATIONAL PHASE			
Potential impact and risk:	**Creation of municipal revenue –** The Tax Base and Revenue Base for Hessequa municipality will be increased		
Nature of impact:	Positive		
Extent and duration of impact:	Local and permanent		
Consequence of impact or risk:	• Increased revenue for municipality to send as needed within the municipality • Contribute to the growth of the municipality		
Probability of occurrence:	Definite		
Degree to which the impact may cause irreplaceable loss of resources:	Not applicable		
Degree to which the impact can be reversed:			
Indirect impacts:	Upliftment of other areas in the municipality as a result of revenue created by the proposed development		
Cumulative impact prior to mitigation:	Not applicable		

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low-Medium	Low-Medium	Low-Medium
Degree to which the impact can be avoided:	Not applicable		
Degree to which the impact can be managed:			
Degree to which the impact can be mitigated:			
Proposed mitigation:			
Residual impacts:			
Cumulative impact post mitigation:			
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low-Medium**	**Medium**	**Low**

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.

Freshwater Impacts

Debbie Fordham (SES) undertook an Aquatic Biodiversity Compliance Statement as there was a mapped wetland in the southern reaches of the site. No aquatic habitat was identified within the study area. The assessment has determined that the development of the property will not impact upon any aquatic habitat. The site was determined to have a Low sensitivity and the project is deemed as acceptable.

Heritage Impacts

ACRM undertook a Heritage Impact Assessment of the site and found that no impacts to archaeological resources that will need to be mitigated prior to any future development commencing on the site. Indications are that the Erf 3997 is not a sensitive archaeological site.

- No archaeological mitigation is required prior to any construction excavations commencing.
- No archaeological monitoring is required during construction excavations.
- Should any buried shell midden deposits, or unmarked human remains be uncovered during construction activities these must be immediately reported to the archaeologist who will inform Heritage Western Cape. Burials must not be disturbed until inspected by a professional archaeologist.

Botanical assessment

Paul Emms (Capensis) compiled the Botanical Assessment Report for the proposal. According to the report, proposed Alternative A is aligned along the existing gravel road on the northern boundary and would result in loss of most of the vegetation on the upper platform of the site. The footprint would result in loss of 3 155 m2 (0.3 ha). Impacts are likely to be Low Negative based on the following:

- Small footprint.
- Loss of a small area (0.3 ha) of a Least Threatened vegetation type with no Species of Conservation Concern (SCC).
- No loss of any valid CBAs or ESAs.
- Alignment along an existing road and allowance for open space to the south, with some persistence of ecological process and retention of natural vegetation.

Mitigation options are generally considered in terms of the following mitigation hierarchy:
(1) avoidance, (2) minimization, (3) restoration and (4) offsets. In this instance both avoidance and minimization are the two best options to mitigate impacts. However, since the client has proposed two alternatives with a set number of residential erven minimization is not a feasible option. As stated in Section 9.2.1(of the Botanical Assessment) Proposed Alternative A is more desirable from a botanical

perspective. Since Proposed Alternative B would have a higher impact than Proposed Alternative A it is not supported.

Recommendations

The constraints analysis identified potentially developable versus No Go areas and concluded the following:

- Most of the study area and focus area supports either Semi-intact to intact or Intact Blombos Strandveld.
- Species diversity is high for the entire study area, with at least 47 species found within the focus area and at least 57 species record for the entire study area, even though the study was largely confined to the focus area. Important species include PROTECTED milkwood and the ENDANGERED Lampranthus diutinus; a species in population decline and threatened by coastal and agricultural development, which occurs near the coast. These species were included in the No Go area except one juvenile milkwood.
- The vegetation makeup, presence of important species (protected and species of conservation concern), proximity to the coast, varied topography, presence of a valid ESA1 coastal corridor allows for several definitive conclusions regarding the site sensitivity.
    - The lower portion of the study area was identified as a definite No Go during the constraints analysis since it is a crucial biodiversity corridor. The assigned ESA1 is a conservation planning area that must be protected from any disturbance and development in perpetuity.
    - The upper portion within focus area falls partially within the ESA1, however, the most important part of the ecological corridor is defined by the steep drop-off. This portion (upper and lower platform) was identified as Potentially developable but not the entire potentially developable area.

Subsequent to the constraints analysis the client provides two layout alternatives, namely Proposed Alternative A and Proposed Alternative B. These two options were assessed in terms of the associated impacts. The findings are as follows:

- Proposed Alternative A would lead to a residual Low Negative Impact.
- Proposed Alternative B would lead to a residual Medium Negative impact.
- Proposed Alternative B is not supported. Thus, Proposed Alternative A is the only supported option.

It is emphasized that no SCC would be impacted at Proposed Alternative A, nor do any SCC occur within the undesirable Proposed Alternative B.

In addition to the above the follow recommendations are proposed:

- No additional access roads should be constructed. Houses can be accessed from narrow and short driveways from existing roads.

Visual Impact assessment

The proposed development is an extension of the surrounding rural settlement and housing patterns and is as such compatible with the qualities of the area. The visual intrusion for the proposed development is therefore **low.** The appointed architect has been working hand in hand with the Visual Impact Specialists and developed the preferred Alternative to ensure that the Visual Intrusion is Low. The Mitigation measures have already been incorporated into the Building Design Guidelines.

Visual Mitigation Measures

Building design guidelines have been compiled for the proposed development that will assist in mitigating some of the potential visual impacts. The following mitigation measures should be considered when constructing the proposed infrastructure for this project to reduce the visual impact.

Reducing unnecessary disturbance

As a general rule, reducing the amount of land disturbed during the construction of a project reduces the extent of visual impact. Measures relevant to the project include:

- Retain as much of the existing vegetation as possible and where practical to screen construction activities from key viewing locations. This is also referred to as vegetation manipulation.
- Establish limits of disturbance that reflect the minimum area required for construction.
- Existing vegetation should be retained where possible through the use of retaining walls.

Colour selection

The selection of the best colour for the planned project will have the greatest impact on the visual success or failure of the project. Strong contrasts in colour create easily recognizable visual conflicts in the landscape. Measures relevant to the project include:

- The selection of colours that blend with or are in harmony with the surrounding landscape will drastically reduce the visual impact of the project. Such colours would include tonal variations of existing colours in the surrounding landscape. Contrasting but discordant colours that stand out in the landscape should be avoided.
- Select colours for smooth structures that are two or three shades darker than the background colours to compensate for shadow patterns created by natural textures that make colours appear darker.
- Galvanized steel on structures should be darkened to prevent glare. Low lustre paints should be used wherever possible to reduce glare.

Reduce contrasts from earthworks

The scars left by excessive cut and fill activities during construction often leave long-lasting negative visual impacts. Once the dark surface soil layer is disturbed, exposing the much lighter colour of the subsurface soil, a strong contrast is created that may take many years to recover.

There are several ways to reduce the contrasts created by earthwork construction. Proper location and alignment are the most important factors. Other earthwork design techniques, such as balancing cut and fill or constructing with all fill or all cuts should be considered, where appropriate, as methods to reduce strong visual impacts. Measures relevant to the project include:

- The scars left by excessive cut and fill activities during construction often leave long-lasting negative visual impacts. Where possible fitting the proposed project infrastructure to the existing landforms in a manner that minimizes the size of cuts and fills will greatly reduce visual impacts from earthwork.
- The dumping of excess rock and earth on downhill slopes should be limited.

Limiting the footprints and heights of structures

Visual impact can be reduced by limiting the footprint of the buildings and hardscaping as well as the heights of buildings. Limiting the footprint of infrastructure will help to provide more greening areas in between buildings which will assist with screening and visual absorption of structures. The height of structures should be kept as low as possible to keep infrastructure unobtrusive as possible and allow scenic views. The proposed development may erect structures up to 8.5m in height (Local Zoning Scheme By-Law) but this was reduced/limited to 4m to reduce impact on neighbouring homes scenic views of the coastline.

Development and architectural guidelines

Development and building guidelines need to address procedural, planning and aesthetic considerations required for the successful design and development of the property and the architectural ethos of the development. The purpose of design guidelines is to protect and safeguard the environment and scenic resources and guide the appropriate architectural character to protect the investment value of the development.

The guidelines should not be restrictive conditions but should promote an overall design sensitivity whilst allowing flexibility for individual expression. The buildings should aim to be as visually recessive as possible. Of importance to visual impact, aspects will be height, finishes and form, with the grouping of

components in separate but linked forms providing a better visual impact than one larger component. Orientation, materials, low pitch roofscape will all contribute to visual mitigation. Colours of walls should be muted earth colours excluding white, beige and cream. Roof colour should be dark grey. Windows should be recessed with overhangs to prevent reflection of the sun.

Landscaping

A Landscape Plan must be drawn up by a professionally registered Landscape Architect. The objective of the Landscape Plan must be:

- To identify and retain indigenous trees and shrubs that will visually screen the development.
- To provide a planting plan of indigenous trees and shrubs for streets and open spaces that will allow for the medium – long-term visual screening of the development and enhance the living environment of the development.
- To draw up a management plan for phasing in indigenous trees and phasing out of invasive alien trees such that the proposed development will always be screened from sensitive receptors, by trees. The plan should include the planting of fast-growing, pioneer type trees, trees with a medium growth rate and those that have a slower growth rate. This management plan should be for a minimum of 20 years and should be monitored and revised every 5 years.
- The planting of lawns alone will exacerbate the visibility of the development. The mix of lawn, shrubs and trees should be carefully designed with the importance of trees and large shrubs emphasized, to provide further greening of the built environment.
- To draw up a Landscape Operational Maintenance Plan for the development to manage the open spaces effectively.
- To provide guidelines on visually permeable boundary treatments, using fencing for the most part and walls at entrances only.

Lightning design

Effective light management needs to be incorporated into the design of the lighting to ensure that the visual influence is limited.

Several measures can be implemented to reduce light pollution and those relevant to the project are as follows:

- Where possible construction activities should be conducted behind noise/light barriers that could include vegetation screens.
- Low flux lamps and direction of fixed lights toward the ground should be implemented where practical. Choose "full-cut off shielded" fixtures that keep light from going uselessly up or sideways. Full cut-off light fixtures produce minimum glare. They also increase safety because they illuminated people, cars, and terrain. Bright light bulbs can be seen from a distance.
- The design of night lighting should be kept to a minimum level required for operations and safety.
- The utilisation of specific frequency LED lighting with a green hue on perimeter security fencing.
- Where feasible, put lights on timers to turn them off each night after they are no longer needed.

Restoration and reclamation

Strategies for restoration and reclamation are very much similar to the design strategies for earthwork, as well as the design fundamentals of repeating form, line, colour, and texture and reducing unnecessary disturbance.

The objectives of restoration and reclamation include reducing long-term visual impacts by decreasing the amount of disturbed area and blending the disturbed area into the natural environment while still providing for project operations.

Though restoration and reclamation are a separate part of project design, they should not be forgotten or ignored. It is always a good idea to require a restoration/reclamation plan as part of the original design package. All areas of disturbance that are not needed for operation and maintenance should be restored as closely as possible to previous conditions. Measures relevant to the project include:

- The objective of restoration and reclamation efforts is to reduce the long-term visual impacts by decreasing the amount of disturbed area and blending the disturbed area into the natural environment while still providing for project operations.
- Topsoil should be stripped, saved, and replaced on earth surfaces disturbed by construction activities.
- Planting holes should be established on cut/fill slopes to retain water and seeds.
- Indigenous plant species should be selected to rehabilitate disturbed areas.
- Where possible rehabilitation efforts such should emulate surrounding landscape patterns in terms of colour, texture and vegetation continuums that historically occurred in the area.
- Replacing soil, brush, rocks and forest debris over disturbed earth surfaces when appropriate, thus allowing for natural regeneration rather than introducing an unnatural looking grass cover.

Revegetation of disturbed areas should occur as soon as practicable possible after the completion of various construction activities.

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

Shown above under each Specialists field

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.

All will be implemented

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

Low significance visual impacts to the neighbouring houses for the operational phase.
There will be some temporary noise, visual (construction site) and potential dust impacts during the construction phase which will be managed and mitigated by the EMPr and ECO during the construction phase.

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.

The water saving fixtures and rainwater tanks will help to address the potential scarcity of water which climate change may bring on by reducing the demand on bulkwater.
The solar systems will reduce the demand on fossil fuel derived power, reducing the carbon footprint of the houses.
The elevation of the houses will be more than 25 meters above mean sea level and as such is not deemed to be vulnerable to rises in sea level.

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

None

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 recommendation of the specialists have been incorporated into the EMPr, and compliance will be monitored by the appointed ECO during the construction phase.

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

1	AVOID IMPACTS	Alternative A avoids the largescale earthworks on the steep slope and disturbance to the good vegetation located on the lower platform of the site.
2	MINIMISE IMPACTS	The recommended mitigation measures of the specialists reports in addition to the compressive mitigation measures contained in the EMPr will minimise the impact of the development.
3	RECTIFY	The rehabilitation measures in the EMPr are provided to return the impacted areas, outside of the development footprint, back to a functional state and the developer will be responsible for rectifying any non-compliances with the conditions of the EA and EMPr
4	REDUCE	The incorporation of solar power systems, rainwater tanks and low consumption fixtures reduces the overall demand on resources.
5	OFFSET	None necessary

SECTION J: GENERAL

1. Environmental Impact Statement

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

The proposal is aligned with the surrounding landuses (residential houses) with capacity and availability of bulk services. The proposal is in line with spatial planning for Still Bay and will result in optimising of vacant land within the urban edge of Still Bay.

Freshwater Impacts
Debbie Fordham (SES) undertook an Aquatic Biodiversity Compliance Statement as there was a mapped wetland in the southern reaches of the site. It was found that no aquatic habitat was identified within the study area. The assessment has determined that the development of the property will not impact upon any aquatic habitat. The site was determined to have a Low sensitivity and the project is deemed as acceptable.

Heritage Impacts
ACRM undertook a Heritage Impact Assessment of the site and found that no impacts to archaeological resources that will need to be mitigated prior to any future development commencing on the site. Indications are that the Erf 3997 is not a sensitive archaeological site.

Botanical assessment
Paul Emms (Capensis) compiled the Botanical Assessment Report for the proposal. According to the report, proposed Alternative A is aligned along the existing gravel road on the northern boundary and would result in loss of most of the vegetation on the upper platform of the site. The footprint would result in loss of 3 155 m2 (0.3 ha). Impacts are likely to be Low Negative.

Visual Impact assessment
The proposed development is an extension of the surrounding rural settlement and housing patterns and is as such compatible with the qualities of the area. The visual intrusion for the proposed development is therefore **low.**

Table 2: Summary of Assessment of Impacts

Impact	Alternative A (Preferred Alternative)	Alternative B	Alternative C (No-GO)
Construction Phase			
Loss of indigenous vegetation	**Low**	**Medium**	**Medium - High**
Visual Impact	**Low**	**Not assessed but will be comparatively higher due to Increased unit number in Alternative B and increased height for the No-Go Alternative**	
Erosion: Unmanaged vegetation clearance and earthworks	**Low**	**Medium**	**Medium-High**
Contamination of soil/groundwater	**Low**	**Low**	**Low**
Noise generated by construction activities	**Low**	**Low**	**Low**
Facilitated invasion by alien flora	**Low**	**Low**	**Low**
Temporary job creation	**Medium**	**Medium**	**Medium-Low**
Capital expenditure	**Medium**	**Medium**	**Medium-Low**

Operational Phase			
Loss of indigenous vegetation and ecological processes	**Low**	**Medium**	**Medium - High**
Visual Impact	**Low**	**Not assessed but will be comparatively higher due to Increased unit number in Alternative B and increased height for the No-Go Alternative**	
Erosion of the site and surroundings	**Low**	**Medium**	**Medium - High**
Contamination soil and stormwater runoff	**Low**	**Low**	**Low**
Facilitated invasion by alien flora	**No Significance**	**No Significance**	**No Significance**
Permanent job creation	**Medium**	**High**	**Low**
Municipal revenue	**Low-Medium**	**Medium**	**Low**

From the findings of the Specialists reports and the assessment of impacts the proposal is deemed to be an environmentally appropriate proposal for the site

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)
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	Negative
Income generation for the municipality by increasing the Tax Base and generating rates and taxes for the new proposed erven.	Loss of indigenous vegetation for the footprint of the houses
Utilising vacant land within the Still Bay Urban Edge (and within an Urban Area)	Change in landuse, Vacant to developed
Temporary Job opportunities during the construction phase	Temporary negative construction phase impacts (noise, visual, potential dust)
Provision of housing in the Operational Phase	Additional minor pressure on bulk municipal services even though there will be a reduced demand (solar power, rainwater tanks)
Creating a permanent link between open space and the coastline	

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

Potential impacts were assessed and mitigation measures to minimise the negative impacts were explored in greater depth in this BAR.

Within the Environmental Management Programme (attached as Appendix H) the Environmental Impact Management has been separated into 4 sections, Planning and design phase (section 9); Pre-construction Phase, Construction phase and post construction rehabilitation phase.

Table 3: Impact management objectives and impact management outcomes included in the EMPr

PLANNING AND DESIGN PHASE	
IMPACT MANAGEMENT OBJECTIVES	**IMPACT MANAGEMENT OUTCOMES**
To appoint a suitably qualified and experienced Environmental Control Officer	The conditions of Environmental Authorisation and the requirements of the EMPr are implemented and monitored during all phases of the development, which will promote sound environmental management on site.
To compile a detailed design and site layout plan that adheres to the conditions of the Environmental Authorisation	Development is compliant with Environmental Authorisation and the EMPr
To ensure the EMPr adheres to the requirements of the Environmental Authorisation and makes provision for the final detailed site layout.	Good environmental management is promoted on site
PRE-CONSTRUCTION PHASE	
Identify and demarcate no-go areas, working areas and site facilities	Future construction activities will be restricted to within the designated areas & environmentally sensitive areas (no-go areas) will be protected from disturbance
To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.
Environmental Control Officer to conduct an inspection prior to the commencement of construction activities on site	Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases. Site facilities are appropriately located on site. Construction workers receive environmental awareness training before commencing work on site
CONSTRUCTION PHASE	
To prevent soil loss on site	Soil erosion is kept to a minimum
To prevent environmental pollution and contamination of soil	The environment (including soil, surface water and groundwater) is not contaminated
To create habitat free of alien vegetation	The level of alien infestation decreases over time.
To create employment opportunities with potential for skills transfer, for members of the local community	The local community benefits from the employment opportunities created during the construction phase.
POST CONSTRUCTION REHABILITATION PHASE	
To rehabilitate all areas disturbed by construction activities in an environmentally sensitive manner	The site is neat and tidy and all exposed surfaces are suitably covered/ stabilised. There is no construction-related waste or pollution remaining on site.

In order to obtain/reach the impact management objects the corresponding mitigation measures prescribed in the BAR and EMPr must be implemented.

The Impact monitoring will be undertaken by an appointed and independent ECO.

The impact management outcomes will be monitored by the appointed ECO, in addition to the implementation of mitigation measures during the duration of the development, if all management

mitigation measures are implemented successfully the resulting impact management outcomes will mean that the develop was undertaken with no significant or avoidable impacts to the environment.

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.

The EMPr must be implemented, this is however a standard condition of Environmental Authorisation. All mitigation measures from the specialists have been incorporated into the EMPr and as such are conditional to the environmental authorisation.

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.

The Preferred Alternative A should be authorised for development as it takes the environmental sensitives of the site, inferred by specialists into consideration and avoids these areas. The outcome of the impact assessment is that of mainly of low significant environmental impacts (with mitigation). The proposal is in line with the character of the area and the design guidelines for the houses ensures that the houses are fitted with solar powered systems and rainwater tanks to decrease the demand on bulk services.

Condition of Authorisation:

- The EMPr must be implemented.
- An ECO must be appointed to monitor compliance with the EMPr

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.
	It is assumed that the proposed mitigation measures as listed in this report and the EMPr (Appendix H) will be implemented and adhered to as the significance of impacts ratings are conditional on implementation of the mitigation measures.
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.

10-year validity period for the EA.

Date when activity will be concluded: is unknown at this stage, but the Applicant anticipates commencing in 2022 and finishing in 2032.

Post-construction monitoring must be finalised within 6 months of completion.

In the event that unforeseen events result in a delay with the construction implementation programme, the period for which the Environmental Authorisation is granted by be extended for a maximum further period of five (5) years.

The EA must for the period during which it is valid, be audited and such audits must be submitted to the competent authority.

A Completion Reports must be compiled by the ECO after completion of the development. The report must be submitted within 30-days from completion.

An independent external audit must be compiled post-completion of the project by an independent Environmental Auditor.

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

Construction phase: The use of potable water during the construction phase must be avoided if possible

Operational phase:
The following points have been extracted from the Building Design Guidelines, Section V (Appendix P)

V. WATER CONSERVATION
In order to conserve water, the following conservation systems are mandatory.

- Dual flush toilets such as Geberit Twinline" or similar approved must be used.
- Where an irrigation system is installed, the use of "grey" water waste must be encouraged. For this purpose systems such as the 4ever plastic products "Grey Water Saver" or similar approved can be used.
- Water tanks: 10000 liter above ground and 10000 liter underground - must be installed on each property to be used to collect rainwater.
- These must be concealed adequately screened using one of the following materials: approved corrugated iron, to match roof, timber boarding or timber lattice & planting - concealed in service yard.
- The position of water tanks to be indicated on the site plan. No unsightly or overhead rain water leaders will be permitted.
- The top of rainwater tanks may not be positioned higher than the service yard screen wall (1.8m).

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.
An integrated waste management system must be adopted on site during the construction phase

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.

The following points have been extracted from the Building Design Guidelines, Section X (Appendix P)

- Energy efficient building design.
- To comply with SANS 10400-XA and SANS 204 (Energy Usage in Buildings, of the National Building Regulations).
- Off-grid - total solution design - to be submitted.
- Pre-design meeting with the DRP to discuss the requirement for the energy and services design - layout and detail plans to be submitted.
- Submit an all inclusive energy and services design before finalizing the building plans – during stage 3 of the design process (or even before that).
- The energy and services layout plans shall be to a scale of 1:100 and shall show the following:
    - Electricity, water, construction, waste and material selection
    - SANS 10400-XA calculations
    - Compliance with SANS 204-2011 and address the following:
        - Site orientation and building.
        - Shading and shading elements.
        - Roofs – thermal insulation.
        - Lighting and power – min. lighting levels (5 power watts/m² and 100lux – use of day light to reduce energy use.
        - Building envelope – roofs, external walls and floors (form the building envelope) and any doors and windows to be constructed to minimize air leakage – sealing done by skirting, cornices, etc
        - Chimneys – solid fuel burning appliances must be provided with a flap that can be close to seal the chimney flue.
        - Hot water – Solar, gas, heat pump or any other alternative approved by the DRP – warm water system – thermal insulation.
        - Water tanks: 10000 liter above ground and 10000 liter underground

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

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

I, Irma Oosthuizen, ID number 6203260028083 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.

J. Oosthuizen — 02/3/22
Signature of the Applicant: Date:

IRMA OOSTHUIZEN
Name of company (if applicable):

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

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

Willem Adriaan Nel 5404065111089

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.

2022/03/02

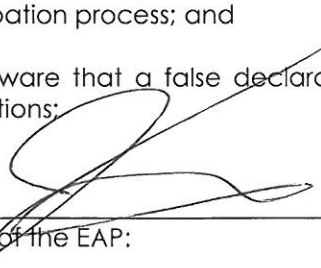
Signature of the Applicant: Date:

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I John Sharples, EAPASA Registration number 1485 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;



9 March 2022

Signature of the EAP: Date:

Sharples Environmental Services

Name of company (if applicable):