Annexure 6: Evidence of Comments Received

Western Cape Government

Department of Environmental Affairs and Development Planning
Steve Kleinhans
Development Management (Region 3)
Steve.Kleinhans@westerncape.gov.za | 044 814 2022
DEADPEIAAdmin.George@westerncape.gov.za | 044 814 2006

REFERENCE: 16/3/3/1/D1/13/0001/25
DATE OF ISSUE: **24 July 2025**

The Managing Director
FAMILY ROUX EIENDOMME (PTY) LTD
PO Box 12670
QUEENSWOOD
0121

Attention: Mr. Stephanus Roux E-mail: sroux@worldonline.co.za

Dear Sir,

COMMENT ON THE REVISED DRAFT BASIC ASSESSMENT FOR THE PROPOSED RESIDENTIAL DEVELOPMENT ON PORTION 91 OF THE FARM MATJES FONTEIN NO. 304, KEURBOOMSTRAND

1. The revised Draft Basic Assessment Report dated 24 June 2025, compiled by your appointed EAP and submitted to this Department on 25 June 2025, refers.

2. This Directorate: Development Management (Region 3) ("this Directorate") has reviewed the revised Draft Basic Assessment Report ("RBAR") and provides the following comment:

   2.1. *Upgrades to the existing bulk water supply network*

   With reference to Point 2.4.2 of this Directorate's letter 22 April 2025, it is understood that upgrades are required to the existing potable supply network to accommodate the proposed development in the existing system. According to the response from the appointed registered Environmental Assessment Practitioner ("EAP") the detailed pipeline route investigations and specific requirements such as materials and methods are not yet available to assess for incorporation into this environmental impact assessment process. According to the EAP the application for the upgrade of the bulk water infrastructure is the Bitou Municipality who will take responsibility for the required process. Furthermore, it has been reported that the implementation of the upgrades is entirely dependent of the availability of funding (developer contributions, as well as council funding where applicable) and no timeframe can be guaranteed for such implementation.

   Please be advised that this Department does not support incremental decision-making as it is unlawful to grant an environmental authorisation subject to further environmental impact assessment being carried out on important components of a proposed development, after the authorisation has been granted.

   Considering the above, you are advised that the uncertainty in respect of the requirements for the future upgrade of bulk water infrastructure, as well as the likelihood that certain of those

upgrades may require environmental authorisation, may prejudice the outcome of your application for environmental authorisation.

2.2. *Need and Desirability of the proposed development*

With reference to 2.1 above this Directorate is of the considered view that the consideration of a proposed development is premature as the required upgrades to the bulk water infrastructure have not been implemented or cannot be readily implemented as the detailed pipeline route investigations and specific requirements such as materials and methods are not yet available to be assessed. Furthermore, there is uncertainty regarding the implementation of the required upgrades due to funding requirements.

Further to the above, the Environmental Impact Assessment Regulations, 2014 (Government Notice No. 982 of 4 December 2014) (hereinafter "*EIA Regulations, 2014*") requires that the cumulative impacts[1] associated with the proposed activities are considered and assessed in the application for environmental authorisation. However, since the impact of the required upgrades to the bulk water infrastructure is unknown and have not been reported in the RBAR, the cumulative impacts of the proposed development and the required upgrades have not been assessed in the RBAR.

In light of the above, the need and desirability of the proposed development has not been adequately addressed in the RBAR.

3. *Submission of Basic Assessment Report*

The BAR must contain all the information outlined in Appendix 1 of the EIA Regulations, 2014 and must also include and address any information requested in any previous correspondence in respect of this matter.

Please be reminded that in accordance with Regulation 19(1)(b) of the EIA Regulations, 2014, the Department hereby stipulates that the BAR (which has been subjected to public participation) must be submitted to this Department for decision within **140 days** from the date of receipt of the application by the Department. With reference to this Directorate's letter of 18 February 2025, the 140-day period is reckoned to be until **30 July 2025**. If the BAR is not submitted by **30 July 2025**, the application will lapse in terms of Regulation 45 of Government Notice Regulation No. 982 of 4 December 2014, and your file will be closed. Should you wish to pursue the application again, a new application process would have to be initiated. A new Application Form would have to be submitted.

NOTE: Furthermore, in accordance with Environmental Impact Assessment best-practice, you are kindly requested to notify all registered Interested and Affected Parties including the authorities identified in the Public Participation Plan of the submission of the FBAR and to make the document available to them. This will provide such parties an opportunity to review the document and how their issues were addressed.

4. In accordance with Regulation 8 of the EIA Regulations, 2014, please be advised that the issue that has been highlighted related to the provisioning of potable water for the proposed development, is a matter that will likely prejudice the success of your application. In light hereof, you may consider withdrawing the current application and to resubmit it anew once all the matter can be addressed

[1] ***'cumulative impact'***, *in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.*

and all relevant information can be provided. Should you decide to opt to withdraw the application, please notify this office by 30 July 2025 of such decision.

5. Please note that a listed activity may not commence prior to an environmental authorisation being granted by the Department. It is an offence in terms of Section 49A of the National Environmental Management Act, 1998 (Act no. 107 of 1998) ("NEMA") for a person to commence with a listed activity unless the competent authority has granted an environmental authorisation for the undertaking of the activity. A person convicted of an offence in terms of the above is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine and imprisonment.

6. Kindly quote the above-mentioned reference number in any future correspondence in respect of the application.

7. This Department reserves the right to revise or withdraw initial comments or request further information from you based on any information received.

Yours faithfully

Francois Naudé Digitally signed by Francois Naudé
Date: 2025.07.24 12:22:43 +02'00'

*pp*_____

HEAD OF COMPONENT
ENVIRONMENTAL IMPACT MANAGEMENT SERVICES: REGION 3
DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING
(reference: 16/3/3/1/d1/13/0001/25)

Copied to:

Eco Route Environmental Consultancy:

(1) EAP: Ms. Joclyn Marshall E-mail: joclyn@ecoroute.co.za
(2) Administrative Officer E-mail: admin@ecoroute.co.za

forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042
Ref: Farm Matjesfontein
Enquiries: Portia Makitla /Orefemetse Ramantsi
Tel : 012 399 9411 **Email :** pmakitla@dffe.gov.za

Joclyn Marshall
Eco Route Environmental (Pty) Ltd
Email Address: admin@ecoroute.co.za

PER E-MAIL

Dear Ms. Marshall

COMMENTS ON THE REVISED BASIC ASSESSMENT REPORPROPOSED RESIDENTIAL DEVELOPMENT ON PORTION 91 OF FARM MATJESFONTEIN 304, KEURBOOMSTRAND, PLETTENBERG BAY, WESTERN CAPE PROVINCE

The Directorate: Biodiversity Conservation has reviewed and evaluated the report.

The report states that the proposed development of 60 residential housing stands and ample open spaces and landscaped streets is located within a Critical Biodiversity Area (CBA) and falls entirely within a single regional vegetation type, identified as Garden Route Shale Fynbos. This vegetation type is classified as Vulnerable in terms of its conservation status.

There is an area of the site north of the CBA1 classified as degraded CBA2 (Terrestrial), and to the south is classified as degraded CBA2 (Earmarked) with transformed areas due to human activities. Therefore, according to the Western Cape Biodiversity Spatial Plan (WCBSP) development is not permitted in the CBA area but is generally permitted in transformed areas with strict adherence to the avoidance, minimization and rehabilitation of species of conservation concern and sensitive key biodiversity areas to promote environmental sustainability in support of ecological functions.

The report further states that the proposed development will be equipped with solar systems, in relation to the sensitivity of the avian biodiversity. The Final Basic Assessment report must comply with all the requirements as outlined in the Environmental Impact Assessment (EIA) guideline for renewable energy projects and the Best Practice Guideline for Birds & Solar Energy for assessing and monitoring the impact of solar energy facilities on birds in Southern Africa.

In conclusion, the Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; BCAdmin@dffe.gov.za for the attention of Mr. Seoka Lekota.

Yours faithfully

Mr Seoka Lekota
Control Biodiversity Officer Grade B: Biodiversity Conservation
Department of Forestry, Fisheries & the Environment
Date: 28/07/2025

Batho pele – putting people first

forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Demar Centre, Main Road, Knysna, WC, Contact Number: 066 374 7795
Enquiries: TF Gwala, E-mail: TGwala@dffe.gov.za

EIA-WC-GR-0007-2025-26

RE: COMMENT ON REVISED BASIC ASSESSMENT REPORT FOR PORTION 91 OF FARM MATJES FONTEIN 304, KEURBOOMSTRAND, PLETTENBERG BAY

DATE: 28 July 2025

ECO Route
Attention: J. Marshall
Email: joclyn@ecoroute.co.za
Cell/ Tel: 0721266393

Dear Sir/ Madam

I refer to your e-mail notification of 24 July 2025.

Please receive comments from the Branch: Forestry Management, Directorate: Forest Resource Protection in the Department of Forestry, Fisheries and the Environment (DFFE) on the above-mentioned proposed dwelling application as well as access road. Site inspection was conducted 24 July 2025.

The mandate of the Forestry Branch in the Department of Forestry, Fisheries and the Environment (DFFE), as a commenting authority, is to ensure control over developments that affect State forests, natural forests, forest nature reserves and protected trees.

1.The applicant must assess and quantify the anticipated impacts on the indigenous forests. The National Forests Act of 1998 (as amended) provides the strongest and most comprehensive legislation and mandate for the protection of all natural forests in South Africa. The principles of the Act in Section 3 state clearly that "…natural forests may not be destroyed save in exceptional circumstances where, in the opinion of the Minister, a proposed new land use is preferable in terms of its economic, social or environmental benefits".

2. Section 7 of the National Forest Act (NFA), act no 84 of 1998 as amended provides for the prohibition of the destruction of indigenous trees in any natural forest without a license. Under section 62 (1) of the NFA any person who contravenes the prohibition of certain acts in relation to trees in natural forests referred to in Section 7 (1) is guilty of a second category offence. A person who is guilty of a second category offence may be sentenced on a first conviction for that offence to a fine or imprisonment for a period of up to two years, or to both a fine and such imprisonment. Section 15 of the NFA, prohibits the destruction of protected trees without a license- "No person may cut, damage, destroy or remove any protected tree; or collect, remove, transport, export, purchase, sell donate or in any other manner acquire or dispose of any protected tree……."Anyone contravening this prohibition, is guilty of a first category offence, and can be sentenced to up to 3 years imprisonment, or a fine, or both.

3. Section 7 of the Act prohibits the cutting, disturbance, destruction or removal of any indigenous living or dead tree in a forest without a licence, while Section 15 places a similar prohibition on protected tree species listed under the Act, some of which are also forest species.

4. Cutting or disturbing an indigenous tree in a natural forest without a valid Forest Act Licence is a criminal offence and a transgression of the National Forests Act, 1998 (Act No. 84 of 1998) and carries a fine or imprisonment or both.

5. Indigenous trees with active bird nests or other significant biodiversity features may not be destroyed without a valid Fauna Permit from the provincial conservation authority, the Western Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform ("DAERL"), if these would be affected.

DFFE studied the supporting documents for the above-mentioned Revised Basic Assessment Report and the following points related to Forestry's mandate i.e. the implementation of the NFA are applicable

6. According to the information provided the property: "the property was used as a horse-riding centre in the past, and is directly opposite the Milkwood Glen Residential Complex along Keurboomstrand Road MR395; the site access will be off Keurboomstrand Road MR395; this development aims to create affordable and sustainable housing product specifically targeting the middle-income group; the proposed development includes 60 single residential house stands with average erf sizes of ±500m²; the 60 residential erven are approximately 29 471m^2 in total, with the internal road network of approximately 12 013m^2 making a total permanent disturbance footprint of 41,484m^2- The communal open space II area within the development will be approximately 9 642m^2 of landscaped gardens and stormwater infiltration ponds systems; The property is 14.7ha in total size; proposed main road reserves are 12m wide- and all proposed secondary Streets measure 10m in width; the proposed open space system is made up of 9 642m^2 within the development footprint and 83 512m^2 of the remaining area- the open space areas within the development will be zoned as Open Space II and correspond to the position of indigenous vegetation, forest, and milkwood trees- the remaining undeveloped 83 512m^2 (indigenous forest area) will be zoned as Open Space III and will be managed as a conservation area in accordance with a Conservation Management Plan- the conservation area also incorporates an ecological corridor for wildlife movement and the historical fountain- the ecological corridor will run between the west and east boundary of the property along the foot of the slope and creates a buffer zone of 20 meters between the development and the forest area"; the back (north) of the property consists of pristine indigenous forest which has a very steep south facing slope, this area is a no-go area and will not be developed; the 20m forest ecotone (corridor) at the foot of the slope will be restored as such, where alien clearing will be conducted- and the area will be rehabilitated with endemic indigenous species; the proposed development will only be focused within the grass area towards the south of the property- only one protected Milkwood tree (situated more towards south-western quadrant) will fall within the footprint of the proposed services- but will be transplanted

Forestry has the following comments:

i. Forestry has a co-operative governance relationship with various Authorities as well as stakeholders, and thus will take their concerns into consideration if such should arise

ii. Forestry has no objection to above development proposal, provided that:
    1. The development footprint remains within the grass area
    2. The indigenous forest area at the back of the property to remain intact (as reported) and should be indicated as a no-go area- and greenbelt
    3. The 20m buffer zone at the foot of the slope be restored and rehabilitated into a forest ecotone area
iii. Kindly note that this letter is not a NFA licence
iv. Section 15 of the National Forest Act (NFA) (Act No. 84 of 1998) as amended prohibits the cutting, disturbing, damaging or destroying of protected tree species without a licence. Section 7 of the National Forest Act (NFA), act no 84 of 1998 as amended provides for the prohibition of the destruction of indigenous trees in any natural forest without a license.

Note: The Department reserves the right to revise the initial comment based on any additional information that may be received

Should you wish to correspond further on this matter, quote Reference EIA-WC-GR-0007-2025-26. Enquiries may be directed to Ms. TF Gwala at TGwala@dffe.gov.za, Cell 066 374 7795.

Yours Faithfully,

SIGNATURE OF DELEGATED AUTHORITY
Department of Forestry, Fisheries and the Environment
Letter signed by: Ms. TF Gwala
Designation: Deputy Director Forest Resource Protection
Branch: Forestry Management

DEPARTMENT OF FORESTRY, FISHERIES
WESTERN CAPE REGION
29/07/2025
PRIVATE BAG X12, KNYSNA, 6570
TEL: 044 302 6900/07FAX: 044 382 5461
AND THE ENVIRONMENT

CONSERVATION INTELLIGENCE: LANDSCAPE EAST

physical	4th Floor, York Park Building, York Street, George, 6530
website	www.capenature.co.za
enquiries	Megan Simons
telephone	087 087 3060
email	msimons@capenature.co.za
Reference	LE14/2/6/1/6/1/304/91_Residential_ Plettenberg Bay01
date	**25 July 2025**

Eco Route Environmental Consultancy,
P.O. Box 1252,
Sedgefield,
6573

Attention: Ms Joclyn Marshall
By email: joclyn@ecoroute.co.za

Dear Ms Joclyn Marshall

THE DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED RESIDENTIAL DEVELOPMENT ON PORTION 91 OF FARM 304, KEURBOOMSTRAND, PLETTENBERG BAY, BITOU LOCAL MUNICIPALITY, WESTERN CAPE.

DEA&DP Reference: 16/3/3/1/D1/13/0001/25

CapeNature would like to thank you for the opportunity to review the above report. Please note that our comments only pertain to the biodiversity related impacts and not to the overall desirability of the application.

CapeNature provided comment for the Draft Basic Assessment Report (dBAR) and after reviewing the revised dBAR, we have the following comments:

1. The degraded Critical Biodiversity Area (CBA) layer has been removed from the proposed development layout. The 2023 Western Cape Biodiversity Spatial Plan (CapeNature 2024)[1] layers were updated in May 2025 and removed modified areas.

2. The property was presented to CapeNature's Stewardship Committee, and a Biodiversity Agreement with title deed restrictions was recommended as the stewardship status. This designation would be further strengthened if neighbouring landowners were included to maintain and protect the broader CBA corridor. It is important to clarify that the stewardship component applies only to the northern section of the property, which is not part of the proposed development footprint. This area should not be interpreted as a form of compensation for the development under consideration.

3. Although the proposed development area has been transformed, this should not automatically justify maximising development. The proposed development footprint borders CBA and is adjacent to natural forest, both of which are ecologically sensitive.

[1] CapeNature. 2024. 2023 Western Cape Biodiversity Spatial Plan and Guidelines. Unpublished Report

Furthermore, the surrounding landscape remains largely intact and functions as an important ecological corridor within the broader CBA network.

4. CapeNature does not support the development where it overlaps (Fig. 1) with areas which has been indicated as medium sensitivity, CBA," secondary vegetation" situated between the forests and the flat part of the site, and the "fynbos with invaded aliens".

Figure 26: Preferred SDP versus CBAs.

Figure 1: Illustrating the Preferred Site Development Plan in relation to the biodiversity attributes.

5. The proposed 20-metre ecological corridor is inadequate given the ecological sensitivity of the pond and its surrounding landscape. We strongly recommend a qualified wildlife specialist assess whether this width supports ecological function, species movement, and habitat connectivity.

5.1. It is unclear whether camera traps, species-specific surveys, or other ecological monitoring methods informed the current buffer width. Impacts from construction such as disturbance from human activity, noise, and habitat disturbance, etc. must be assessed. Furthermore, light pollution is also a concern as it can disrupt the behaviour of nocturnal and sensitive wildlife.

5.2. According to the 2023 WC BSP ecological corridors and buffers within CBAs and Ecological Support Areas (ESAs) must be sufficient to maintain ecological infrastructure and connectivity. This is also in line with the NEMA Principles[2].

6. CapeNature proposes relocating some housing units below the area outlined in yellow (Fig. 2) to expand the buffer around the pond. The main reason is to have a more ecologically sustainable layout, preserving long-term ecological connectivity, especially for the natural areas to the north and across the landscape.

[2] National Environmental Management Act, 1998 (Act No. 107 of 1998), Section 2, Government Gazette No. 19519

Figure 2: Relocation of proposed housing units below the yellow line.

7. The revised dBAR mentioned that the development concepts were revised based on comments during public participation; however, the layouts (i.e., preferred alternative and layout alternatives) presented in the revised dBAR and dBAR are the same. We require clarity as to whether these are the same layout or if new layouts were developed.

8. Written confirmation from the Bitou municipality should be submitted to verify capacity and support for infrastructure service provision.

9. CapeNature reminds the applicant of Section 28 of National Environmental Management Act (NEMA) (Act 104 of 1998 as amended) (Duty of Care) that states the following: *"Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment."*

CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received.

Yours sincerely,

Megan Simons
For: Manager (Conservation Intelligence)

joclyn@ecoroute.co.za

From: admin@ecoroute.co.za
Sent: Wednesday, 09 July 2025 15:14
To: 'Joclyn Marshall'
Subject: Fw: Confirmation of Correspondence Received

Carina Leslie
Personal Assistant/Admin
Office: 064 691 4394
www.ecoroute.co.za

Eco Route
Environmental Consultancy

From: rekords@gardenroute.gov.za <rekords@gardenroute.gov.za>
Sent: Wednesday, 09 July 2025 14:30
To: admin@ecoroute.co.za <admin@ecoroute.co.za>
Subject: Confirmation of Correspondence Received

Dear JOCLYN MARSHALL,

With reference to your request titled -
NOTIFICATION OF PUBLIC PARTICIPATION: DEADP REF: 16/3/3/1/D1/13/0001/25 - REVISED BASIC ASSESSMENT REPORT - PORTION 91 OF FARM MATJIESFONTEIN 304, KEURBOOMSTRAND, PLETTENBERG BAY, WESTERN CAPE dated 2025-06-25.

Your request was distributed.
File Reference 18/3/4/4
Record Reference 45787927
To follow-up this request please contact us on 044 8031300.

Kind Regards

GARDEN ROUTE DISTRICT MUNICIPALITY

[Garden Route District Municipality Logo] admin

Admin2@edendm.co.za
Tel: |

, , , ,
Emergency Communications: 044 805 5071
Ethics and Fraud Hotline: 0800 116 616
www.gardenroute.gov.za<https://www.gardenroute.gov.za>

www.visitgardenrouteandkleinkaroo.com<https://www.visitgardenrouteandkleinkaroo.com>

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Attention: Joclyn Marshall

ECO-ROUTE Environmental Consultancy

Email: admin@ecoroute.co.za ; joclyn@ecoroute.co.za

Jeanne Muller
TOWN PLANNING
jmullerplanner@gmail.com
0832310918

Date: 16 July 2025

COMMENT ON THE REVISED BASIC ASSESSMENT REPORT FOR THE PROPOSED RESIDENTIAL DEVELOPMENT: MATJESFONTEIN 304, PORTION 91(PORTION OF PORTION 14), DIVISION PLETTENBERG BAY

1. Introduction

We, Jeanne Muller Town Planning, represent a number of concerned residents of Milkwood Glen and surrounding properties, specifically Dr. N. Frootko and Sam Duncan, hereby lodge formal comments against the Revised Basic Assessment Report (Revised BAR) for the Rezoning and Subdivision of Portion 91(Portion of Portion 14) of the Farm Matjesfontein No. 304 as submitted by Eco Route Environmental Consultancy (Eco-Route), dated 24 June 2025. Our previous comments submitted during the public participation in the Draft BAR remain applicable and the following comments should be seen as additional comments.

2. Comment on Appendix F4 (Town Planning response to comments) of the Revised BAR

Even though, Planning Space Town and Regional Planning typify the residents of Milkwood Glen as objecting on a “Not in My Back Yard” (NIMBY) basis, we strongly oppose this statement as the comments provided outlined legitimate and substantive planning and environmental concerns which should be seriously considered in the evaluation of the Revised BAR.

Milkwood Glen is governed by a strict set of estate rules that prioritise environmental conservation. These include prohibitions on boundary walls, impermeable fencing, and the keeping of domestic pets, all of which are intended to preserve ecological corridors, support biodiversity, and reduce human-wildlife conflict. In contrast, the proposed development

does not impose similar restrictions, and its approval would introduce elements that directly conflict with the established environmental framework of the surrounding area.

The site is also located in close proximity to a sensitive estuarine system, which is vulnerable to ecological degradation and hydrological change. The question remains whether the flood line determination has been updated to reflect current climate change data or coastal risk projections. With the increasing frequency of extreme weather events, rising sea levels, and changing rainfall patterns, there is significant concern that the development falls within an area at potential risk of pluvial and/or fluvial flooding. Planning Space Town and Regional Planning states that the road will block any flooding from the south. We strongly disagree. In the event of a severe flooding event, a road will not stop floodwater. Although there is no law requiring re-determination of a 1:100-year flood line, best practice could be reassessment every 10 years, with specific reference to upstream development, cumulative development and/or change in land use which may alter runoff characteristics.

Based on the Garden Route District Climate Change Adaptation Response Implementation Plan (2024), development below the 5.5m average mean sea level (AMSL) — even if it is located outside the current 1:100 year flood line — is still regarded as highly sensitive and potentially at risk. Specific reference is made to the following:

- All land under 5.5m AMSL is considered part of the "coastal zone" due to the maximum estimated height of land potentially affected by predicted sea level rise, storm surges, and tidal fluctuations by 2100.
- There is a strong emphasis on establishing coastal management lines, erosion setback lines, and coastal risk overlays, which are still being developed for the Garden Route District. These lines help define safe development zones that take future climate change impacts into account, not just current flood lines.
- The policy guidance is clear that areas within this 5.5m AMSL zone are vulnerable and that even if a site is outside the current 1:100 flood line, it might not remain so under projected sea level rise and increased storm surge conditions.

The critical points above are crucial development guidelines that must be followed to ensure sustainable development. Even if mitigation measures are put in place to safeguard the proposed development, no mitigation measures are mentioned in the revised BAR to safeguard the existing development areas, such as Milkwood Glen.

Furthermore, cumulative impacts must be considered. The introduction of additional dwelling units in a constrained area will contribute to increased traffic, pressure on local infrastructure, disruption to the ecological balance, and additional stormwater runoff. These statements and comments could not sufficiently be evaluated as none of the annexures to Planning Space Town and Regional Planners, undated report, known as Appendix F4 to the Revised BAR were attached. We reserve the right to provide further comment should additional information become available.

3. Aquatic Biodiversity Impact Assessment

During the commenting period for the Draft BAR the aquatic biodiversity impact assessment by Confluent Aquatic Consulting & Research recommended that:

> "**fencing** does not intersect the corridor between properties. Security is unlikely to be a concern along the base of the slope and it is therefore not necessary to fence off the area. If considered absolutely necessary however, it is feasible to fence the development off from the 20m corridor, while keeping the corridor as a continuous habitat between adjacent properties. Preferable fencing would be palisade because it allows the movement of small mammals between bars whereas clearvu type fencing prohibits (own emphasis) all movement barring very small animals like frogs."

However, the aquatic biodiversity impact assessment by Confluent Aquatic Consulting & Research changed their comment in their report dated February 2025, for the revised BAR as follows:

> *"It is recommended that fencing does not intersect the corridor between properties. Security is unlikely to be a concern along the base of the slope and it is therefore not necessary to fence off the area between properties. If considered absolutely necessary however, it is feasible to fence the development off from the 20m corridor, while keeping the corridor as a continuous habitat between adjacent properties. Preferable fencing would be clear vu-type fencing because it restricts the movement of pets out of the developed area and wildlife into the developed area.(own emphasis)"*

Furthermore, the Revised BAR's recommendations for the wildlife corridor added the following statements (underlined):

> *"A perimeter fence is recommended along the northern section of the property to preserve the wildlife corridor and natural area beyond. The fence line should not extend into the 20m corridor and should aim to separate the development area from the conservation / wildlife area."*
>
> *"Use clearVu fencing to separate the corridor from the development area. The spring must be incorporated into the corridor. The fence is to keep domestic animals (cats and dogs, etc) out of the wildlife corridor."*
>
> *"Clear vu type fencing would have the important benefit of excluding pets (cats and dogs) from the wildlife corridor area where they could deter or kill wildlife large and small."*

It is our assumption that the specialist changed their recommendations from the Draft BAR to the Revised BAR from palisade to Clearvu fencing, based on the above paragraphs as referenced from the Draft and Revised BAR. The question remains, what happened to the movement of the very small wildlife animals, like frogs, as stated in the earlier version of the report for the Draft BAR. It is clear that the Clearvu fence will not allow movement of wildlife through and that the purpose of the wildlife corridor will be lost as the restriction of small fauna will be restricted. The proposed development on Portion 91 of the Farm Matjesfontein No. 304 does not have due consideration for the protection of the environment and does not support co-habitation between wildlife and humans, which is in stark contrast to particular Milkwood Glen.

The changes with regard to the type of fence from a specialist without explanations are cumbersome and questionable.

4. Urban Edge and Spatial Development Framework

With reference to our previous comment with regards to the Urban Edge and the Bitou Spatial Development Framework and the additional information provided in Appendix E16 of the revised BAR, the Spatial Planner at Bitou Municipality confirmed via email dated 20 December 2024 the following:

> *"1. The applicant's motivation for the proposed development, as per section 4.2.3 of the motivating memorandum (with respect to forward-planning policy) is thorough, and is agreed with in all respects. Thus, it will serve little purpose to repeat the relevant considerations here.*
>
> *2. After consideration of the abovementioned, the proposal is considered to be consistent with the relevant forward-planning policy for the area, and is therefore supported from a Spatial Planning perspective (subject to the outcome of any amended/ supplementary aquatic biodiversity and/ or flood line studies that may be carried out as a result of objections received remaining positive/ conducive towards development)."*

The comment from the Spatial Planner is based on Section 19 the Land Use Planning Act (Act No. 3 of 2014) that reads as follows:

> *"19. (1) If a spatial development framework or structure plan specifically provides for the utilisation or development of land as proposed in a land use application or land development application, the proposed utilisation or development is regarded as complying with that spatial development framework or structure plan.*
>
> *19. (2) If a spatial development framework or structure plan does not specifically provide for the utilisation or development of land as proposed in a land use application or a land development application, but the proposed utilisation or development is not in conflict with the purpose of the relevant designation in the spatial development framework or structure plan, the utilisation or development is regarded as being consistent with that spatial development framework or structure plan."*

Although the spatial planner at Bitou Municipality provided the comment that the proposed development on Portion 91 of the Farm Matjesfontein No. 304 is considered consistent with the Bitou Spatial Development Framework, the Town Planners of Bitou Municipality should still determine **compliance** with all aspects of the Spatial Development Framework and environmental considerations to ensure sustainable development for current and future generations.

5. Conclusion

In conclusion, while we acknowledge the updates made in the Revised Basic Assessment Report and its associated appendices, we remain deeply concerned that the proposed development does not adequately address the legitimate planning, environmental, and sustainability issues raised by stakeholders, particularly those from Milkwood Glen and surrounding properties. These include the absence of updated flood line assessments in the context of climate change, insufficient detail and clarity regarding stormwater mitigation impacts on adjacent properties such as Milkwood Glen, and conflicting specialist inputs that undermine the integrity of the proposed 20m wildlife corridor and environmental best interest.

Furthermore, although the proposal may be considered generally consistent with the Bitou Spatial Development Framework, this alignment must be interpreted in conjunction with applicable zoning, environmental, and land use management regulations to ensure holistic and sustainable decision-making. The principle of sustainable development requires that due consideration be given to environmental preservation, the cumulative impact of development, and long-term resilience.

We therefore request that the competent authority take these matters into consideration prior to decision making. We reserve our rights to provide further comment should any additional or updated information be made available during the ongoing assessment process.

Yours faithfully

Jeanne Muller Pr. Pln. A/1429/2011

joclyn@ecoroute.co.za

From: joclyn@ecoroute.co.za
Sent: Friday, 25 July 2025 09:01
To: 'Rudi Martin'; 'Plett Environment Forum'
Cc: 'Janet'; 'admin@ecoroute.co.za'
Subject: RE: Notification of Public Participation: DEADP Ref: 16/3/3/1/D1/13/0001/25 - REVISED Basic Assessment Report - Portion 91 Of Farm Matjiesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape

Dear Mr Martin

Thank you for your email. Your comments have been received.

Your comments will be included as an attachment in Annexure 6 to the Comments and Response Report (Appendix F). Please note that your previous comments were also included in Annexure 6 as an attachment. I hope this addresses your concern.

Kind Regards,

Joclyn Marshall
MSc Environmental Science
EAPASA 2022/5006
072 126 6393

Eco Route
Environmental Consultancy

From: Rudi Martin <rudimartinarchitects@gmail.com>
Sent: Thursday, 24 July 2025 15:31
To: admin@ecoroute.co.za; Plett Environment Forum <info@plettenvironmentalforum.co.za>
Cc: Joclyn Marshall <joclyn@ecoroute.co.za>; Janet <janet@ecoroute.co.za>
Subject: Re: Notification of Public Participation: DEADP Ref: 16/3/3/1/D1/13/0001/25 - REVISED Basic Assessment Report - Portion 91 Of Farm Matjiesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape

Dear Joclyn and Janet,

we appreciate the renewed possibility to comment on the development proposal for portion 91 of farm 304 Keurboomstrand. The Plettenberg Bay Community Environmental Forum commented on the DRAFT BAR and wishes to remain with these concerns for the Revised basic assessment Report. We would however request that our comments are included as an attachment, in the folder you circulate [as per Cape Nature etc.] and not purely dealt with in the "Response to comments" as we feel not all concerns are addressed correctly in this method. Please confirm receipt of this email and that the Plett Enviro Forums previous comments are acceptable.
Kindest Regards
Rudi Martin
Chairman PBCEF
083 5737266

On Wed, 25 Jun 2025 at 14:06, admin@ecoroute.co.za <admin@ecoroute.co.za> wrote:

> Good day,

Kindly find below link to our website to view the Revised BAR and relevant appendices -

[REVISED Basic Assessment Report: Proposed Residential Development on Portion 91 of Farm Matjesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape | Eco Route]

A 30-day public participation for the Revised BAR will be held from **25/06/2025 – 25/07/2025**.

Please submit your comments to the EAP undersigned in this time.

ENVIRONMENTAL ASSESSMENT PROCESS

Notification of Public Participation:

The Proposed Residential Development on Portion 91 of Farm Matjes Fontein 304, Keurboomstrand, Plettenberg Bay, Western Cape.

Notice is hereby provided in terms of the National Environmental Management Act (Act 107 of 1998), the National Environmental Management Act: Environmental Impact Assessment Regulations 2014, as amended, of a 30-day Public Participation Process to be undertaken under the authority of the Department of Environmental Affairs and Development Planning (DEA&DP). The Public Participation Process will run from **25/06/2025 – 25/07/2025**.

An extension of the prescribed 90- day timeframe in terms of sub-regulation 19(1)(b) of Government Notice No. R.982 of 4 December 2014, was required due to new information.

DEADP Ref: 16/3/3/1/D1/13/0001/25

Activity:
The Basic Assessment Application is for the proposed development of a sustainable middle income residential development on Portion 91 of Farm Matjes Fontein 304, Plettenberg Bay. The development concept includes 60 group housing stands with average erf sizes of ±500m². The houses will vary in size but will be built in a similar style that will create a harmonious development. Ample open spaces and landscaped streets are incorporated into the design to enhance the quality of the neighbourhood.

The following EIA Listed Activities are applicable:

Government Notice No. R327 (Listing Notice 1): Activity 12(ii)(c), 27 & 28
Government Notice No. R324 (Listing Notice 3): Activity 4(i)(ii)(aa)&(bb), 12(i)(i)&(iii), & 14(ii)(c)(i)(ff)&(hh)

A Revised Basic Assessment Report and relevant appendices will be made available to all registered Interested and Affected Parties (I&APs) for public review and comment. All relevant documents may be accessed via our website during the public participation period.

Should you wish to gain further information regarding the project or wish to register as an Interested and Affected Party please contact the Environmental Assessment Practitioner (details below).

Please provide written comments with your name, contact details and an indication of any direct business, financial, personal, or other interest which you may have in the development. Please note that information submitted by I&AP's becomes public information. In terms of the Protection of Personal Information Act 4 of 2013 (POPIA), no personal information will be made available to the public.

Environmental Assessment Practitioner: Joclyn Marshall (EAPASA Reg 2022/5006)

www.ecoroute.co.za
P.O. Box 1252, Sedgefield, 6573
Email: admin@ecoroute.co.za
Cell: 082 55 77 122

Eco Route
ENVIRONMENTAL CONSULTANCY
REGISTRATION NO. 1998/031976/23

Kind regards,

Joclyn Marshall
MSc Environmental Science
EAPASA 2022/5006
072 126 6393

Eco Route
Environmental Consultancy

PLETTENBERG BAY
COMMUNITY ENVIRONMENT FORUM

ATT: Joclyn Marshall
Eco Route Environmental Consultancy
Via e-mail: joclyn@ecoroute.co.za

21st April 2025

Dear Ms Marshall

RE: DRAFT BASIC ASSESSMENT REPORT –
PORTION 91 MATJESFONTEIN 304, KEURBOOMSTRAND

Thank you for the opportunity to comment on the above application. We have reviewed the documents and submit our strong objection to this application:

1. **Non-Compliance with Spatial Planning Guidelines**
   The application does not align with the Keurboomstrand Local Area Spatial Plan (KELASP) and the Bitou Spatial Development Framework (BSDF), which specifically identify limited areas of the site suitable for development based on the 4.5m and 5m contours.
   - **Urban Edge Encroachment**: The proposed development encroaches on areas beyond the delineated urban edge, contributing to urban sprawl and undermining the growth management strategy set by the BSDF (2022). The BSDF aims to preserve the area's character, and the proposed density threatens to erode these efforts. The DBAR refers to the Draft Bitou SDF of 2013. This is no longer valid and has been updated (2022).
   - **Potential for Overdevelopment**: Allowing this proposal would set a negative precedent for future developments, encouraging applications that disregard established guidelines, which could lead to irreversible changes to the area's character and identity.
   - **Cumulative Impact on Coastal Corridor Development**: The development, if approved, risks damaging the very environmental assets that attract tourism and investment into the region, which have been carefully managed in the BSDF and KELASP.

2. **Inadequate Justification for Density and Layout Decisions**
   The proposed density of 60 units far exceeds the density recommended in the KELASP for development above the 4.5m contour.
   - **Financial Viability vs. Environmental Considerations**: The argument that higher density is required for financial viability overlooks the environmental and planning constraints. Economic factors should not override sustainable development goals.

- **Environmental Constraints**: The planning frameworks, based on extensive research, are designed to preserve the region's natural resources and rural character. The proposed density exacerbates risks to local infrastructure, environmental systems, and community character.
- **Impact on Keurbooms' Character**: Introducing urban intensity into an area known for its tranquil, low-density environment would significantly alter the area's character. This proposal undermines long-term sustainable planning and risks setting a precedent for overdevelopment in other sensitive areas.
- **Incompatible Layout**: The small erven sizes with insufficient space for natural areas will lead to visual and environmental impacts that do not align with the area's natural or rural character. Furthermore, the claim that there will be "ample open spaces" contradicts the proposed density and site limitations.

3. **Social Considerations and Sense of Place**

   The development fails to address concerns about preserving the unique sense of place in Keurboomstrand. This type and density of development is not in keeping with the sense of place for Keurbooms Village which is a valuable tourism asset to the economy of Plettenberg Bay.
   - **Mismatch with Community Needs**: The site is not suited for middle-income housing, as it is located far from employment opportunities and essential services in Plettenberg Bay. This development would be impractical for potential residents.
   - **Visual Sensitivity**: The proposed density and visual impact of the development would significantly detract from the area's aesthetic value. The idea of using vegetation to "hide" the development is insufficient and unlikely to mitigate the long-term impact on the sense of place.
   - **Cumulative Development Impacts**: The cumulative development impacts along the 'coastal corridor' on Main Road has been explicitly considered in the Bitou SDF and KELASP. This application fails to address this.

4. **Groundwater and Geotechnical Concerns**

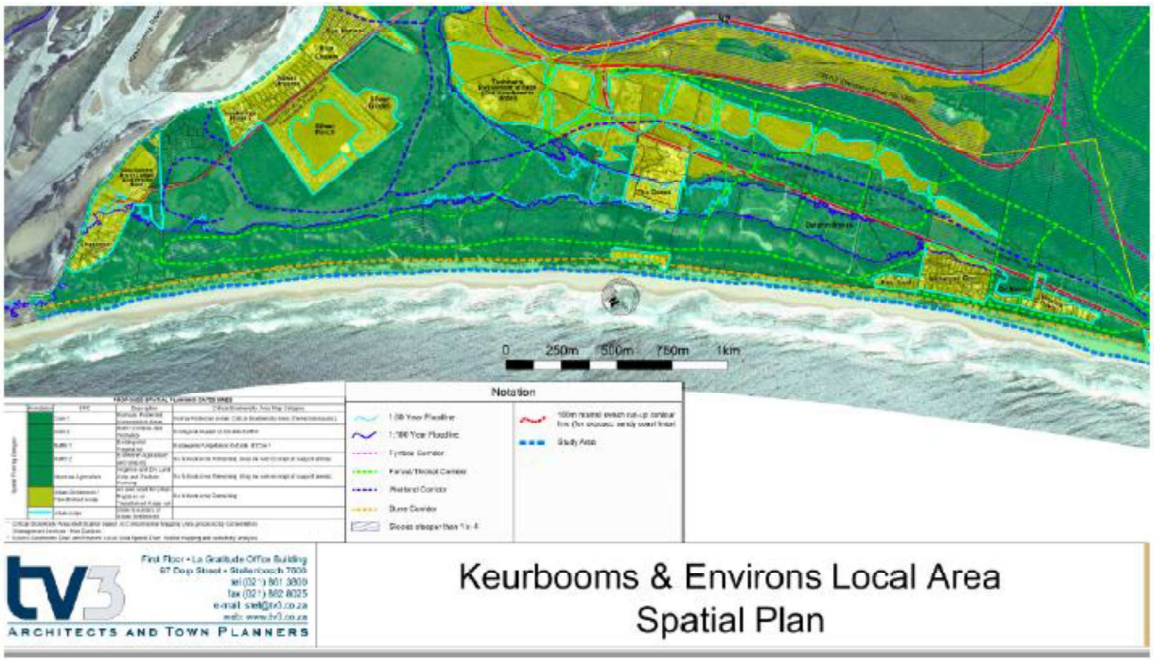
   The application overlooks critical aspects of groundwater and flood risks:
   - **Groundwater Levels:** The geotechnical assessments raise concerns about the site's groundwater levels. The absence of data on the seasonality of groundwater levels undermines the reliability of the findings.
   - **Flood Risk:** The site, historically a floodplain, remains prone to high water levels during heavy rainfall, with flooding risks exacerbated by development in the area. Concerns about groundwater table levels need to be addressed, particularly given the region's history of flooding.
   - The **soil profile**, according to the Geotechnical report, states that the "soil profile is dominated by estuarine sandy soil". This seems contrary to the aquatic report but supports other reports where it has been shown that the area forms part of the Tshokwane Wetland.
   - The Geotechnical report also highlights that "**surface wate**r was expected to accumulate temporarily after heavy rainfall events". This would imply that there should be concerns around flooding during such heavy rainfall events.
   - Despite comments in the application, we do not believe that one or two site visits are adequate to determine potential flooding. The **National Freshwater Ecosystem Priority Areas** (NFEPA) includes this portion as being part of the Keurbooms system.

- It is interesting that there is debate regarding the various established **set back lines** (1:50 and 100 year flood lines, 4,5m coastal setback line [the coastal management line], 100m high water mark, Tshokwane Wetland system). Eden District Municipality, Bitou Municipality, the KELASP, CapeNature, SANBI, CSIR, Water Affairs, Environmental Affairs (and others) have identified these bio-physical constraints. Are these documents incorrect?
- **Photographs, maps, guideline documents and local knowledg**e (below) all demonstrate the potential for flooding on Portion 91. Historic knowledge, experience and scientific expertise all show the site to be unsuitable for development as proposed.
- Furthermore, the Town Planning Report for the BAR clearing shows that the proposed development site falls within the **Estuarine Functional Zone** (EFZ).
- The **Keurbooms Local Area Spatial Plan** recommends that future development below the 6.5mamsl swash contour and 4.5m coastal management contour line should be monitored, and preferably prevented.
- The **Bitou SDF r**efers to the 1:100 flood line and states that no development should occur in these areas and that the precautionary principle should apply.
- Aside from past experience and flooding events, the application has failed to consider the increased risks of flooding as a result of the development (hard surfaces, removed vegetation, etc).

Fig A: Cape Farm Mapper showing EFZ of the Keurbooms system:

Fig B: 2007 Flooding close to Portion 91

Fig D: KELASP Plan Demonstrates including flood risk areas. A detailed map is available: https://ecoroute.co.za/sites/default/files/2025-03/Appendix%20B2%20-%20KELASP.pdf



5. **Rehabilitation of Pastures**

   The claim that historically cultivated pastures cannot recover to a natural state is questionable. With time, effort, and proper rehabilitation practices, such lands can indeed be restored. Dismissing this possibility undermines sustainable land management principles.

6. **Traffic Flow and Controlled Access**

   The addition of 60 units will exacerbate traffic challenges on local roads. The proposed single entrance with a minimum 15m setback raises concerns about its adequacy to handle traffic, especially during peak tourist seasons when traffic is already a concern. Additionally, the assertion that roads will function as “open spaces” is ambiguous and lacks practicality.

7. **Architectural and Landscaping Standards**

   We strongly support the recommendation to appoint a qualified Landscape Architect and emphasise that the Landscape Plan should prioritise locally indigenous, non-invasive vegetation to ensure ecological integrity. However, the lack of detail on architectural style and green principles weakens the case for sustainable development.

8. **Environmental Concerns**

   The development includes areas below the 5m Mean Sea Level (MSL) and within the Estuarine Functional Zone (EFZ), which exposes the area to flooding and sea-level rise risks:

   - **Flood Risk:** The site’s location near the 1:100-year flood line raises concerns, especially as climate change threatens to intensify flooding risks. Flood management strategies need to be detailed and evaluated through flood modelling and simulations.

- **Coastal Management Lines:** The proposed site falls within the identified Coastal Management Lines which are the recommended set back lines to address coastal flooding. In the event of a disaster, who will be the responsible agent should coastal/estuarine/wetland flooding occur up this valley?
- **Environmental Management Plan (EMP):** The lack of a comprehensive EMP for post-construction monitoring and mitigation is concerning. A long-term environmental management plan that includes required roles and responsibilities is essential to mitigate the ongoing environmental impacts of the development.
- **Sewage and Wastewater Treatment Plants:** The application states that if necessary, "excess effluent will be discharged to the stormwater infiltration ponds system". However, it is concerning that the Breede Olifants Catchment Management Agency's comments require confirmations from the appropriate government agencies and Municipal departments regarding wastewater treatment capacity, the dam, etc. These are not attached under Appendix E3.
- **Wastewater**: The Municipal wastewater system lacks capacity to manage additional wastewater loads. Until this has been addressed and the Municipal infrastructure upgraded we believe it to be irresponsible to rely on a privately managed Bio Sewage System Treatment Plant as, should issues be encountered that impact the environment in the vicinity of this development, the question of the responsible body to rectify/rehabilitate will become a contested point.
- **Sewage Plant:** Similarly, a privately installed and managed sewage plant that is required to manage a capacity of 60 residential units is, in our opinion, highly risky considering the management and risk responsibilities and we object to this. Excess effluent being discharged into the stormwater infiltration ponds system is not acceptable.
- **Light Pollution:** Given the sensitivity of the environment, any proposed lighting should be designed to minimise light pollution, ensuring the protection of the local wildlife and scenic value. We note that this has been given consideration. However, it seems logical that the proposed density will inevitably result in light pollution.
- **Water:** The application address "bulk infrastructure capacity" but does not address the availability of raw water. Is there confirmation from the Municipality and/or Department of Water Affairs that there is an adequate supply of raw water to provide for the cumulative water needs of this and other pending development applications?
- **Aquatic Report:** This report includes assumptions and limitations and it is notable that the site assessments are "undertaken on a once-off basis" but that two site assessments were conducted. How reliable are these assessments if the information is only based on two visits? Can two visits be sufficient to determine the EFZ?
- **Wildlife Corridor:** We support the inclusion of the wildlife corridor. However, we note that the development will be a "gated security complex" and will be fenced. What type of fencing will be used to enable animal movement?

In conclusion, the Plettenberg Bay Community Environment Forum strongly objects to the proposed development for the following reasons:

- Inappropriate density proposed, detrimental to the character of the area
- Proposed development in "no-go" areas of site in the 4,5m flood contour/coastal setback lines
- Extremely sensitive environment

- High groundwater tables around the site
- The precedent that this type of development in this area will set in terms of density
- Lack of consideration of cumulative impacts of this and similar developments on Sense of Place and biodiversity should such a precedent for dense, middle-income housing be established
- Damage to environmental assets that draw tourism and investment into the area
- Lack of reference to the capacity of raw water sources and availability

The Plettenberg Bay Community Environment Forum thanks you for the opportunity to comment and we look forward to your response to our queries and concerns. We reserve the right to submit further comments should additional information become available.

Yours sincerely

OBO Plettenberg Bay Community Environment Forum

joclyn@ecoroute.co.za

From: Chantal Tracy <[redacted]>
Sent: Wednesday, 16 July 2025 16:20
To: admin@ecoroute.co.za
Cc: 'Joclyn Marshall'; Janet
Subject: Re: Notification of Public Participation: DEADP Ref: 16/3/3/1/D1/13/0001/25 - REVISED Basic Assessment Report - Portion 91 Of Farm Matjiesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape

Good afternoon

I still object strongly to proposed development as most of the previous questions have not been clarified.

Regards

From: admin@ecoroute.co.za <admin@ecoroute.co.za>
Sent: Wednesday, June 25, 2025 14:42
Cc: 'Joclyn Marshall' <joclyn@ecoroute.co.za>; Janet <janet@ecoroute.co.za>
Subject: Notification of Public Participation: DEADP Ref: 16/3/3/1/D1/13/0001/25 - REVISED Basic Assessment Report - Portion 91 Of Farm Matjiesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape

Good day,

Kindly find below link to our website to view the Revised BAR and relevant appendices -

REVISED Basic Assessment Report: Proposed Residential Development on Portion 91 of Farm Matjesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape | Eco Route

A 30-day public participation for the Revised BAR will be held from **25/06/2025 – 25/07/2025**.

Please submit your comments to the EAP undersigned in this time.

ENVIRONMENTAL ASSESSMENT PROCESS

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Activity:
The Basic Assessment Application is for the proposed development of a sustainable middle income residential development on Portion 91 of Farm Matjes Fontein 304, Plettenberg Bay. The development concept includes 60 group housing stands with average erf sizes of ±500m². The houses will vary in size but will be built in a similar style that will create a harmonious development. Ample open spaces and landscaped streets are incorporated into the design to enhance the quality of the neighbourhood.

The following EIA Listed Activities are applicable:

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A Revised Basic Assessment Report and relevant appendices will be made available to all registered Interested and Affected Parties (I&APs) for public review and comment. All relevant documents may be accessed via our website during the public participation period.

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Please provide written comments with your name, contact details and an indication of any direct business, financial, personal, or other interest which you may have in the development. Please note that information submitted by I&AP's becomes public information. In terms of the Protection of Personal Information Act 4 of 2013 (POPIA), no personal information will be made available to the public.

Environmental Assessment Practitioner: Joclyn Marshall (EAPASA Reg 2022/5006)

www.ecoroute.co.za
P.O. Box 1252, Sedgefield, 6573
Email: admin@ecoroute.co.za
Cell: 082 55 77 122

Eco Route
ENVIRONMENTAL CONSULTANCY
REGISTRATION NO. 1998/031976/23

Kind regards,

Joclyn Marshall
MSc Environmental Science
EAPASA 2022/5006
072 126 6393

Eco Route
Environmental Consultancy

Attention: Joclyn Marshall 21st April 2025

ECO-ROUTE Environmental Consultancy

Email: admin@ecoroute.co.za and joclyn@ecoroute.co.za

Please acknowledge receipt of this email.

Re: The Proposed Basic Assessment Report for the Proposed Residential Development Matjiesfontein 304, Portion 91 (Portion of Portion 14), Division Plettenberg Bay.

Herewith are my comments and objections to the Draft Basic Assessment Report (Draft Bar) for the Rezoning and Subdivision of Portion 91 (Portion of Portion 14), of the Farm Matjiesfontein No. 304, as submitted by Eco Route Environmental Consultancy, dated 20th March 2025.

I am an interested and affected party being the owner of Erven 925,824,833,832,831 and 830 at Milkwood Glen, situated to the south of, and immediately opposite portion 91/304 Matjiesfontein, Keurboomstrand.

I am a retired Consultant Surgeon and I have lived in Keurboomstrand for 20 years.

Dr. Nicholas Frootko MB. BCh., (Wits), M.Sc., (Oxon), F.R.C.S. (Eng).
26 Milkwood Glen
Keurbooms Road
Keurboomstrand 6600
Email: [redacted]

I have reviewed the following documents:

1) The draft BAR from Eco Route Environmental Consultancy.
2) Comments relating to the draft BAR from Cullinan & Associates.
3) Water Use Licence Application (WULA) from Confluent Environmental.
4) Comments relating to the WULA from Cullinan & Associates.
5) Expert report from Professor Denis Hughes.(Institute of Water Research. Rhodes University), relating to the WULA.
6) Expert engineering report from Hugo Ras. Pr. Eng. (ZS2 Consult), relating to the WULA.
7) Comments relating to the WULA from the Plettenberg Bay Ratepayers Association.
8) Motivation for Rezoning and Subdivision. Portion 91/304 of the Farm Matjies Fontein. Keurboomstrand. Bitou Municipality from. Open Space Town and Regional Planners.
9) Comments relating to the Application for Rezoning and Subdivision from Cullinan & Associates.
10) Numerous peer reviewed articles on the hydrology of the Coastal Zone. Present and Future.

I AM OF THE OPINION THAT THE PRIMARY RISK TO THE PROPOSED DEVELOPMENT IS FLOODING

Portion 91/304 is a 14.7 hectare, undeveloped coastal property in the Keurbooms valley, classified Agriculture Zone 1 in 1997.The southern boundary is the PO394 road reserve, +/-300metres inland from the high water mark, on a sandy, wave dominated tidal coast, protected by a barrier dune system.

The entire property lies within the Coastal Protection Zone and the Outeniqua Sensitive Coastal Area Extension (OSCAE).

Fig. 1: Drone photograph looking east over the Keurbooms- Bitou Estuarine Functional Zone. Portion 91/304 (arrrow) is situated to the left of the PO394 road and directly opposite Portion 14/304 - Milkwood Glen. April 2024

Fig. 2: Aerial photograph showing the location of Portion 91/304 in the Keurbooms-Bitou Estuarine Functional Zone flood plain.

Fig. 3: Satellite photograph of Portion 91/304 (seaward is Portion 14/304 which is Milkwood Glen). The PO394 road running between both properties.

For practical purposes, Portion 91/304, can be divided into a steep indigenous forested northern portion, and a flat southern portion.The flat southern portion lies within:

1) the Coastal Groundwater Zone, where the ocean and ground water are an interconnected water body.

2) The Keurbooms / Bitou Estuarine Functional Zone, less than 5m above

mean sea level..

3) The National Freshwater Ecosystem Priority Area.

4) Below the current high water mark.

This flat southern portion is currently classified in the Keurbooms & Environs Local Area Spatial Plan (KELASP) as “Transformed”. This is because human activity over many years (continued bush-cutting, live-stock farming, horse stabling), has transformed the land from having “very high” aquatic biodiversity (so classified by The Department of the Environment,Forestry and Fisheries DFFE) to pasture, recently grazed by stable-yard horses. There has been no activity on the site for the past year and already one can observe regeneration of flora.

The soils on the southern portion, are permeable estuarine sandy soils, typically found in estuarine zones.

Fig. 4: Photograph showing the PO394 road in the foreground, the flat southern portion and steep northern forested area of Portion 91/304 (April 2025).

The northern portion is a steep hill slope (slope 47%.,25.5 degrees.,1 in 2.1), extending to +/-140m above mean sea-level.

The slope is vegetated by indigenous Afromontane Forest, overlying mainly unstable sandstone and conglomerate of the Enon Formation. These overlie shale of the Gyro Formation and sandstone and shale of the Baviaanskloof Formation, which outcrop above the DR 1888 road to the west of portion 91/304. The DR1888 road runs through Portion 91/304 close to the northern boundary.

Fig. 5: Photograph showing exposed unstable sandstone conglomerate above the DR1888 road, immediately to the west of portion 91/304

The entire flat southern portion lies within The Keurbooms-Bitou Estuarine Functional Zone (mapped in 2018 to be less than 5m above mean sea-level, with the lateral boundary contour drawn at 5m above mean sea-level.

It is an integral part of the flood plain of the Keurbooms-Bitou River estuary.

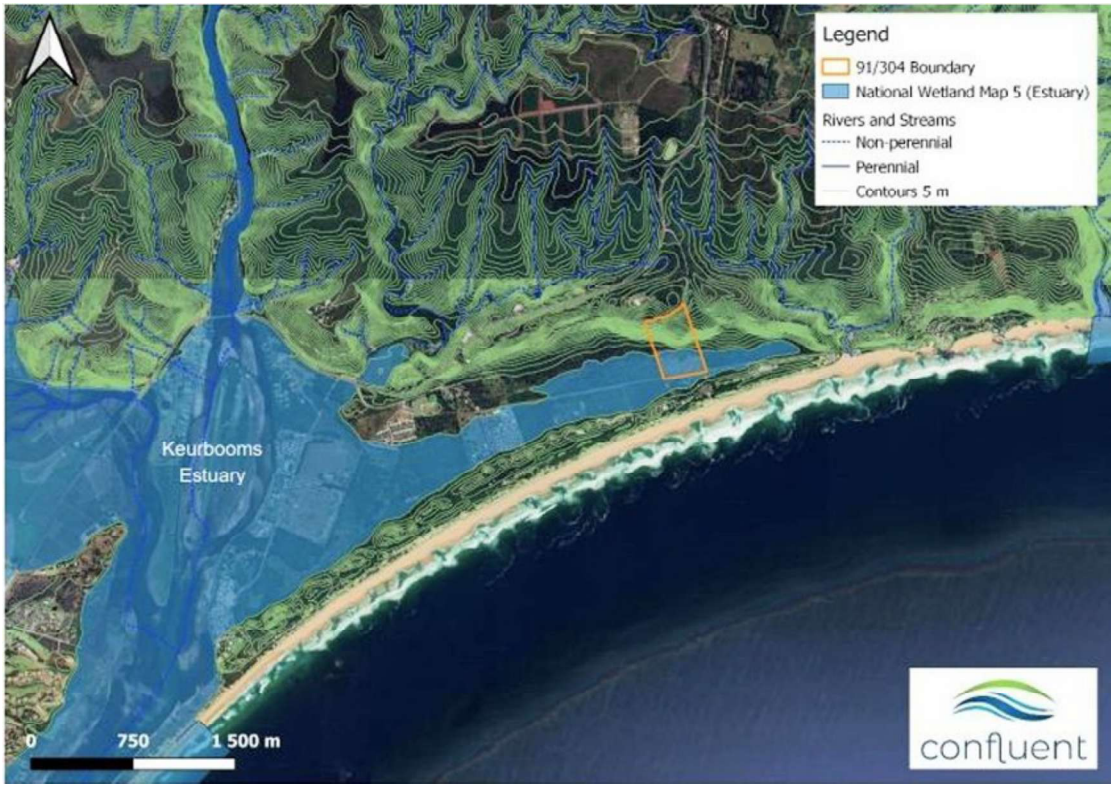


Fig. 6: Map of The Keurbooms-Bitou Estuarine Functional Zone (less than 5m above mean sea level and coloured in blue), showing the site of Portion 91/304.

This Estuarine Functional Zone, also overlies a National Freshwater Ecosystem Priority Area (NFEPA), mapped as part of the Keurbooms system and the Coastal Groundwater System, where salty waters of marine origin and fresh groundwater of meteoric origin interact.

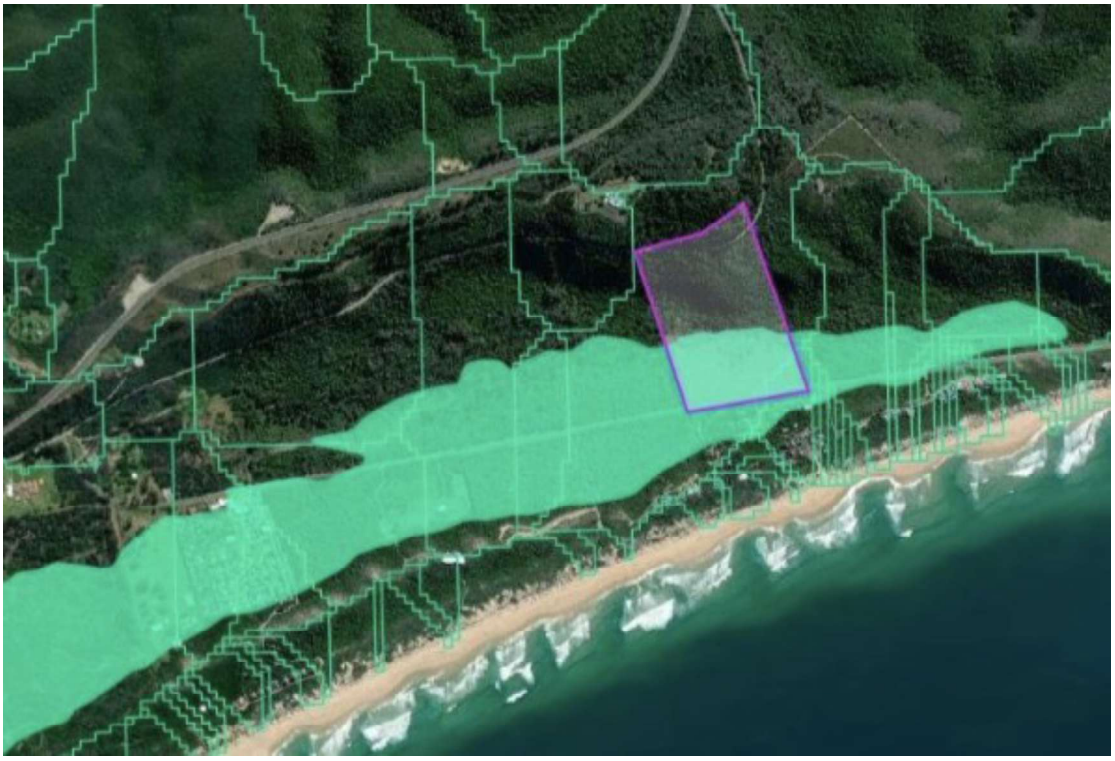


Fig. 7: Map of the National Freshwater Ecosystem Priority Area underlying the Keurbooms Estuary functional Zone and showing the site of Portion 91/304

The PO394 road (asphalt), including the road reserves on either side of it, and parts of Portion 14/304, are less than 4m above mean sea-level. Almost all of the southern portion of Portion 91/304, is also less than 4m above mean sea-level, with small areas above 4m, and a few islands of land close to the forested portion that are 5m above mean sea-level, as per the detailed survey of VPM Surveys 2023.

Fig. 8: Detailed Aerial Contour Plan of the the southern portion of Portion 91/304, the PO394 road, and the road reserves. VPM Surveys. 2023). The original detailed survey that can be magnified, showing precise contour levels at each point on 91/304, is available in the draft BAR 2023. For reference, the little red islands are the only areas on the southern portion that are 5m above mean sea-level.

Fig. 9: Aerial Contour Plan of Portion 14/304 and Portion 91/304. (Beacon Surveys. June 2024) showing the line A to A' for the mapped cross section contour (see fig.10).

The aerial contour plan of Portion 14/304 and Portion 91/304, together with the detailed Aerial Contour Plan of the southern portion of Portion 91/304,VPM

Surveys 2023, provided the contours required to plot a topographical cross-section map of the two properties, the PO394 road and the road reserves.(section A-A').

From these contour plans it can be seen that:

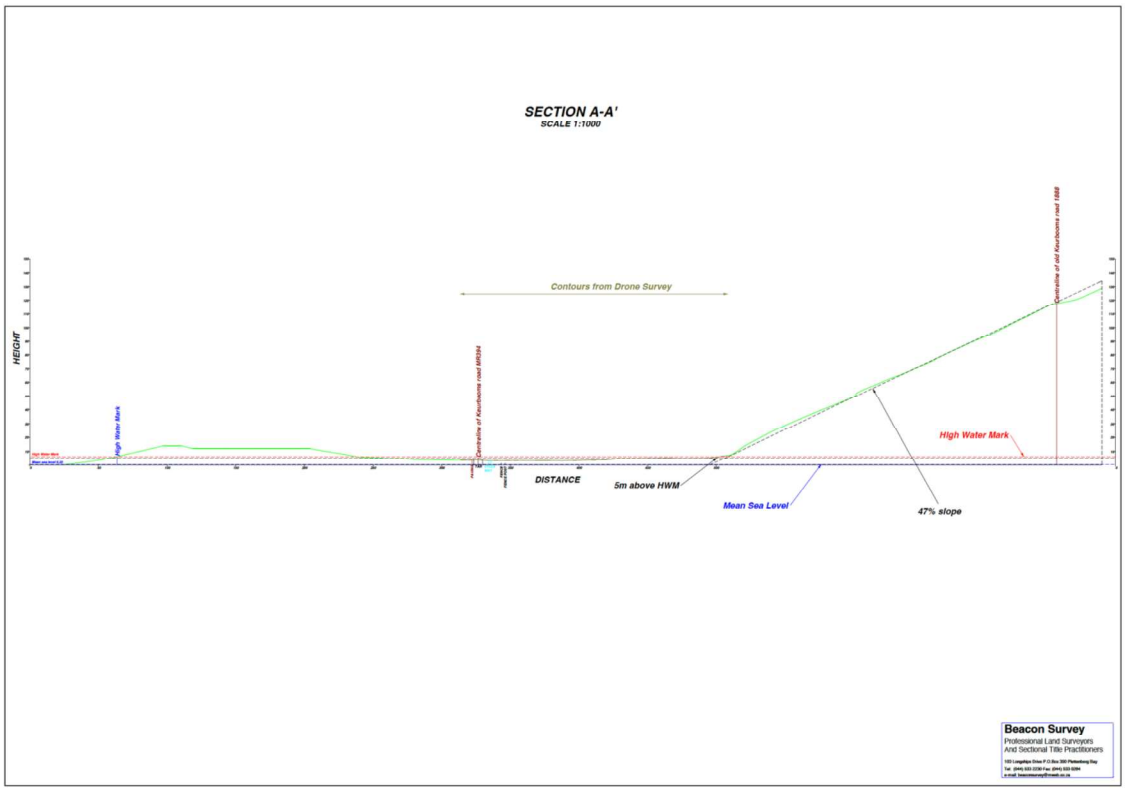
1) Part of the developed Portion14/304, Milkwood Glen site (seaward of Portion 91/304), is less than 5m above mean sea-level.

2) All of the PO394 road and the road reserves either side, are less than 4m above mean sea-level.

3) Almost all of the southern flat portion of Portion 91/304, is less than 4m above mean sea-level.

All of the above mentioned sites ie 1), 2) and 3) are BELOW the high water mark.

All of the above mentioned sites ie 1), 2) and 3), are situated in the Keurbooms-Bitou Estuarine Functional Zone, a flood plain, which is less than 5m above mean sea-level.



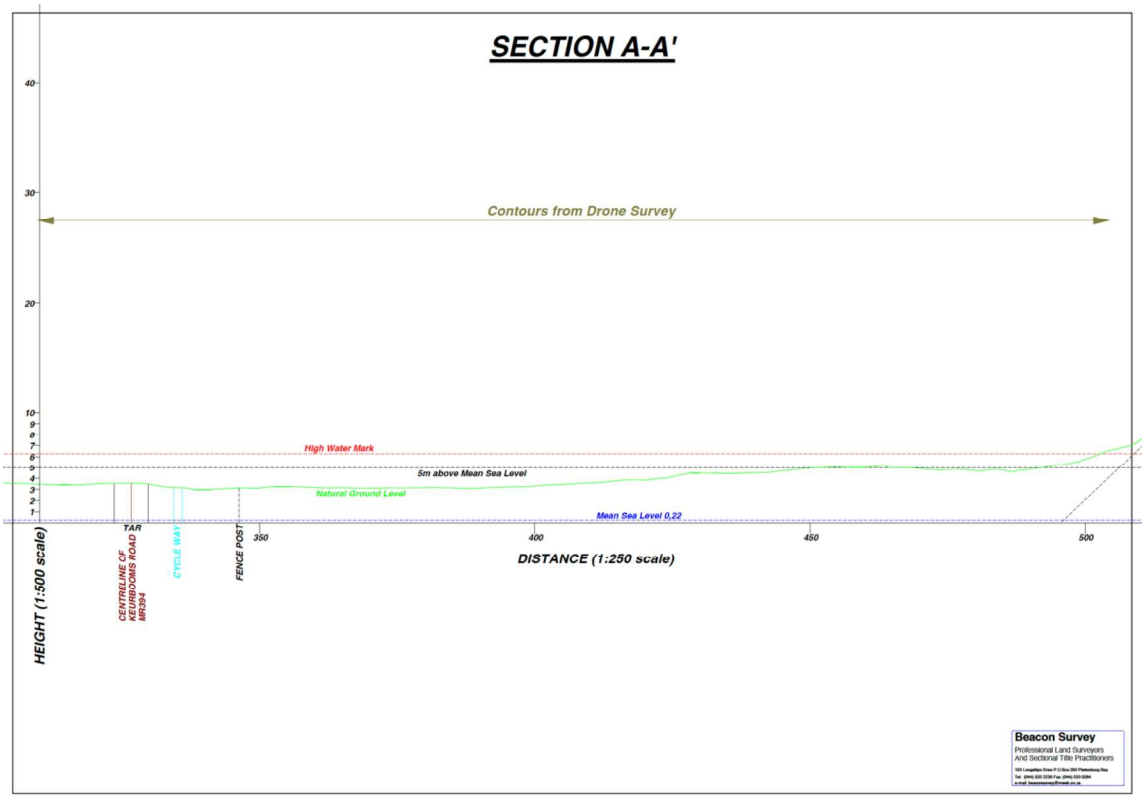


Fig.10: Topographical cross-sectional plans A to A' as per Fig.9 . Beacon Survey June 2024 and VPM Survey 2023.

The 1 in 50 and 1 in 100 year flood lines are mapped in the Keurbooms Estuary: Estuary Management Plan (2022). This shows that the 1 in 100 year flood line extends to the southern side of the PO394 road. ie the road is regarded and mapped as the flood barrier. This is questionable because the road, the road reserves and most of Portion 91/304 are NOT above the 1 in 100 year flood line. They are below the mapped flood line.

The Keurbooms Estuary floods frequently (fluvial flooding). (E H Schumann, 2015). In the compound floods of 2007 (fluvial and heavy rainfall), the PO394 road was flooded and the undeveloped vacant land to the north of the road flooded and acted as a flood water "soak away".

In the November 2007 floods the water level measured at the Angling Club on the Keurbooms River was 4.23m above mean sea level, based on benchmark 36H59A. (Personal communication with S.J. McMillan Surveys, Plettenberg Bay).

In addition to this flooding we can often observe surface water on the southern portion of Portion 91 of 304, that remains there for days and sometimes weeks. This happens more frequently in the winter months following heavy prolonged rains accompanied by rain water "run-off" from the steep forested northern slopes and the spring water.

The surface soils become super-saturated and when this flooding accompanies high tides, the surface soils become super saturated, and this resembles groundwater shoaling.

Fig. 11 Southern area of Portion 91 of 304, showing surface water in winter months 2023

(Please also refer to the photographs in the appendix (attached) taken the day after the floods of 2007 in the Keurbooms Estuarine Zone. Ref Cullinan & Associates comments.)

I would strongly agree that the 1 in 100 year flood line, should therefore be reviewed, as per the recommendations of the Garden Route District Climate Change Adaptation Response Implementation Plan (2024).

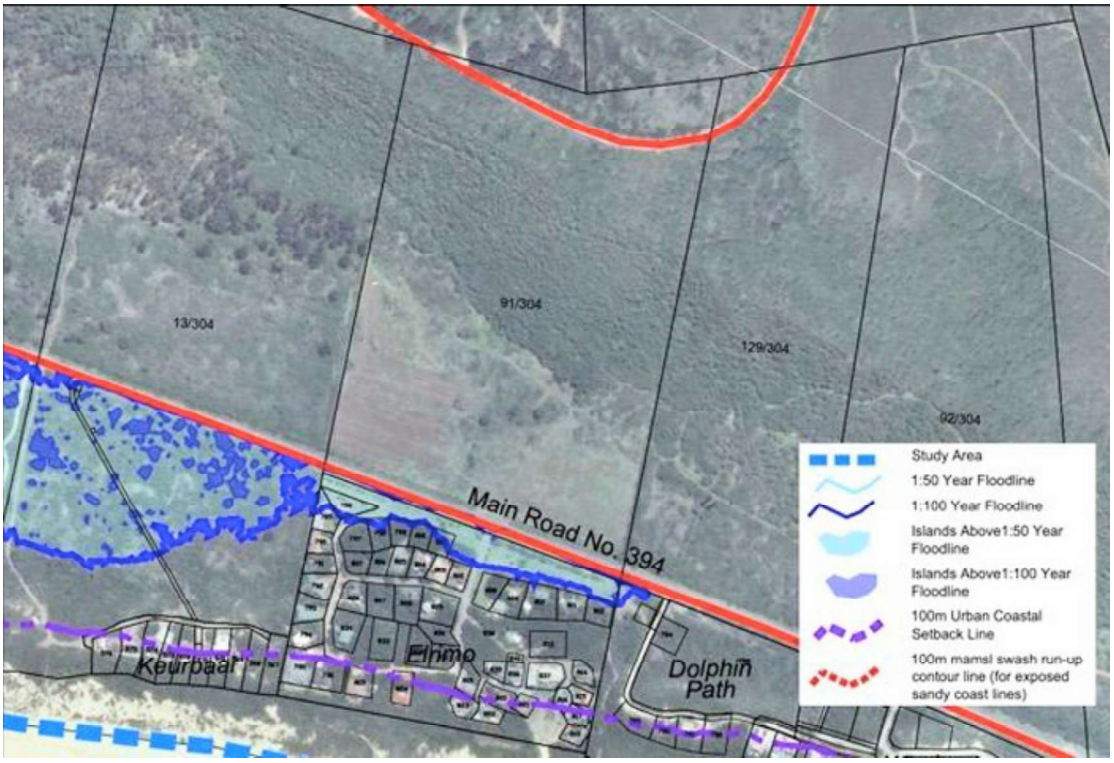


Fig.12: Keurbooms Estuary: Estuarine Management Plan showing 1 in 50 and 1 in 100 flood lines.

As mentioned previously, the predominantly open tidal Keurbooms- Bitou estuary and its Functional Zone, are prone to episodic flooding (freshwater floods and marine (storm) floods),and this flooding has had catastrophic consequences for landowners and infrastructure and posed a risk to human safety.

In response to this flooding, together with climate change weather predictions, and rising sea-levels, the Keurbooms Estuary Estuarine Management Plan (2022) was approved by Province and implemented in 2023.

This plan recommends NO NEW DEVELOPMENTS on land within the risk area, defined as within the 1 in 100 year flood line, or less than 5m above mean sea-level. ie NO NEW DEVELOPMENTS ON LAND LESS THAN 5 METRES ABOVE MEAN SEA LEVEL OR WITHIN THE 1 IN 100 YEAR FLOOD LINE, WHICH EVER IS THE GREATEST.

The Bitou Municipal Spacial Development Framework (MSDF) (2022) recommends similar setback lines, within the urban edge for Keurboomstrand, and includes estuaries and flood plains.

It is therefore my logical interpretation that the recommended 5m above mean sea-level set back line should be adopted, when considering new coastal developments in the Keurbooms-Bitou Estuary Functional Zone at the present time. I also

understand that the Keurbooms Estuary Estuarine Management Plan, and the Garden Route District Climate Change Adaptation Response Implementation Plan (2024), will be subject to change based on new data published from time to time. It is probable that flood lines and new development set back lines will continue to be raised in the coastal areas of South Africa in the future.

The developer refers only to the former 4.5m setback line as per KELASP (2013).

My interpretation is that the KELASP(2013) set back line of 4.5m above mean sea level, has been superseded by the Keurbooms Estuary Estuarine Management Plan (2022) and the Bitou MSDF (2022), which recommends a 5m above mean sea level set back and no development in flood plains.Even this may already be superseded by the Garden Route District Climate Change Adaptation Response Implementation Plan (2024), which recommends a 5.5m above mean sea level set back.

WHY FLOODING OF THE PROPOSED DEVELOPMENT ON THE SOUTHERN PORTION OF 91/304 IS INEVITABLE

SEA LEVEL RISE AND COASTAL GROUND WATER

Portion 91/304 Matjes Föntein is in the Coastal Zone, where by definition, salty waters of marine origin and fresh groundwater of meteoric origin interact. (Jiao and Post. 2019).

Policy makers and town planners have concentrated on sea-level rise, coastal erosion, excessive rainfall events, higher tides, higher wave action and storm surges, affecting coastal developments. Rising coastal groundwater has been largely ignored, either because they have been unaware of this or because the bias has been towards addressing problems that can easily be seen. (K Pierre-Louis, 2021).

The ocean and coastal groundwater systems are an interconnected water-body, and coastal ground-water levels are influenced not only by sea-level rise, but also by the action of ocean tides and waves.The action of ocean tides and waves tends to cause cyclic and irregular flows of water through the groundwater system and other connected inland water bodies. Tides and waves also act like a pump to elevate the water table in the coastal groundwater system, above the mean water- level of the ocean or estuary. (D H Anderson. 2017). The obscured realm of marine influenced groundwater is such that rising groundwater levels, can occur decades before sea level rise-induced surface inundation. (S Habel et al.2024.Simon C. Cox et al. 2025.).

At Milkwood Glen (Portion14/304), immediately seaward of the proposed development site, we are able to observe this when we measure the height of the shallow (less than 2m) ground water table in the open water-abstraction pit, close to the PO394 road. The ground water table rises and falls with the tides and with drought and rainfall events . Sometimes the water is more salty. This can also be observed on the large man-made lake seaward of the PO394 road on Portion 11/304 (Keurbooms Cottage), to the west of Portion 91/304. (Ref Fig. 1: The lake at the bottom right hand corner of the photograph).

Fig.13: The open water abstraction pit on Milkwood Glen-Portion 14/304.

As a result of planetary heating, global mean sea-level has increased since the end of the nineteenth century. Sea-level rise is now accelerating and will continue to rise over the 21st century and beyond. (L C Allison et al, 2022). Sea-level rise will also continue to influence coastal groundwater by elevating the water table and shifting salinity profiles landward, making the subsurface increasingly corrosive. (R Rahimi et al. 2020, K Pierre-Louis. 2021, S Habel et al 2024).

This can be explained as follows:

The water beneath our feet, nestled in sediments underground, started as rain, that seeped down to form a layer of saturated soil, that rests below a layer of unsaturated soil. The boundary between the two is known as the water table. In the Keurbooms Estuarine Zone, this layer of saturated soil, which is probably many meters thick, rests on top of salt water from the ocean and the tidal Keurbooms Estuary. As sea-levels rise, the fresh coastal groundwater gets pushed up, because salt water is denser than fresh water.

Low lying coastal areas are susceptible to multiple types of flooding from marine, subsurface and surface sources. (Y Sangsefidi et al. 2023). Coastal groundwater levels have been rising and will continue to rise in concert with sea-level rise. This together with predicted more frequent and severe storm surges, higher tides, higher wave action and more frequent and severe rainfall events, will result in flooding of ground infrastructure and surface structures. Ground water will also become more saline, causing untold damage to ground infrastructure, that is not salt resistant. (R Rahimi et al 2020, K Pierre- Louis. 2021, Y Sangsefidi et al. 2023, S Habel et al 2024).).

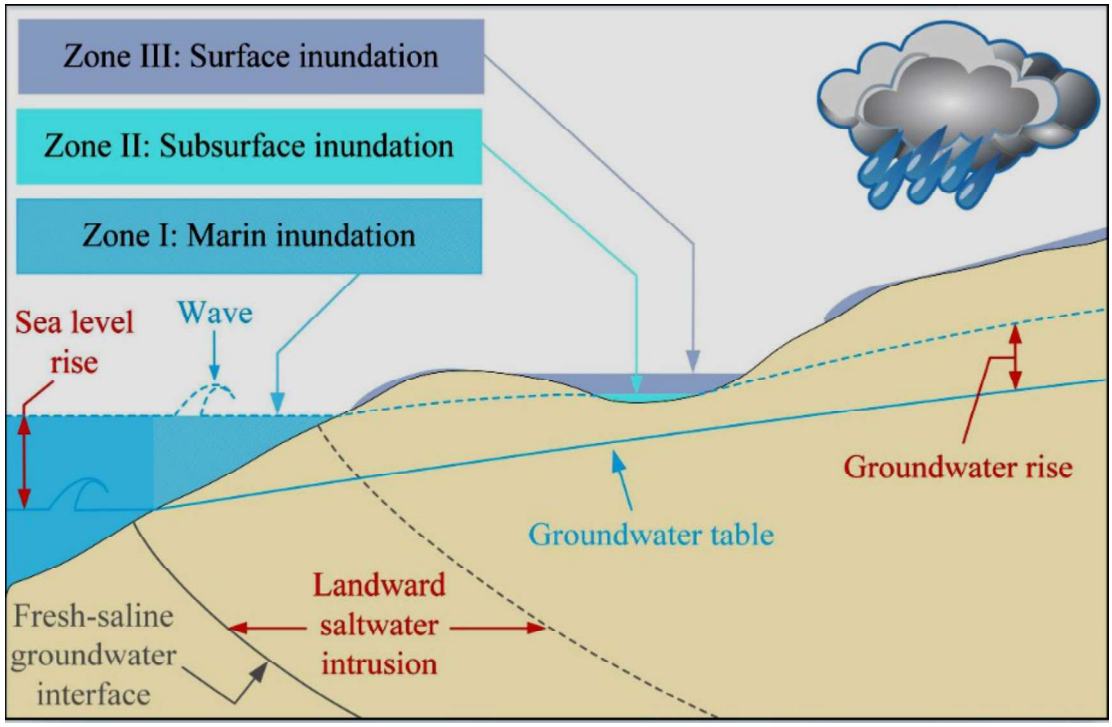


Fig.14: Schematic diagram of different sources of flooding in coastal areas along with sea-level, groundwater table, and fresh-saline groundwater interface levels, for current (solid line) and future (dashed line) conditions.
(Y Sangsefidi et al. 2023).

The southern portion of Portion 91/304, the PO394 road and its road reserves, together with some northern parts of Milkwood Glen (Portion14/304) are less than 4m above mean sea level. All these areas are already below the high water mark and ground water levels have been measured at approx 2m below natural ground level on Portion 91/304 (February 2023 and 2025),and at 1.5m-1.8m (April 2024 and April 2025), below ground level on Portion 14/304.

The expert for the developer, Dr Jackie Dadrovski Pr.Sci.Nat., of Confluent Environmental, (Ref: draft BAR June 2023), does not mention rising coastal groundwater in her report. Nonetheless she does report as follows: “The property is located on the edge of the 1 in 100 year flood line, which is not mapped to extend beyond the boundary of the property. In reality, the frequency of 100-year flood events is increasing due to climate change, and when co-incident with sea-level rise and high tide events, it is not impossible that minor flooding could affect low-lying area of the property in future”.

It is apparent that climate change will continue to increase sea-levels, cause more frequent severe weather events associated with higher tides and wave action, more frequent and severe rainfall events and more frequent and severe storm surges. Compound storms involving two or all three of these events will also occur. As a result, flooding of Portion 91/304 and the surrounding low-lying areas will come from marine inundation, groundwater inundation and surface inundation

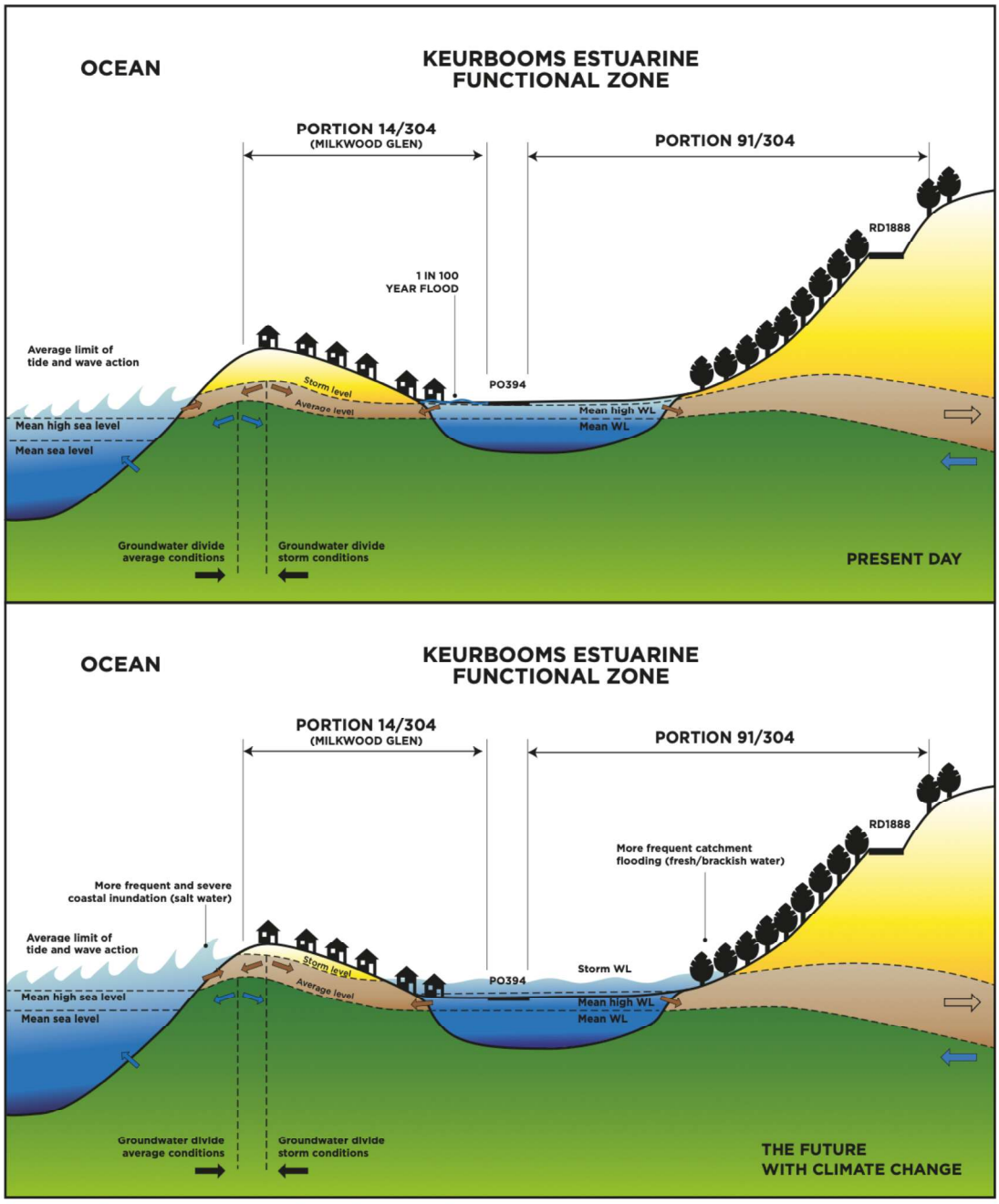


Fig.15: Schematic diagrams: "The Present Day" and "The Future with Climate Change" on Portion14/304 and Portion 91/304 in the Keurbooms Estuarine Functional Zone. Ground water levels will continue to rise in concert with sea level rise, increased frequency of extreme rainfall events, higher tides, higher wave action and more frequent and severe storm surges, with resultant flooding of underground infrastructure and surface structures. Adapted from D H Anderson, 2017. "Ground Water and Climate Change". Water Research Laboratory. School of Civil and Environmental Engineering. University of New South Wales, Sydney, Australia.)

CONCLUSION

Given our present knowledge about the predicted effects of climate change on the Garden Route Coastal Region, it is inevitable that a development on the southern portion of Portion 91/304, almost all of which is less than 5m above mean sea- level, will flood repeatedly over the foreseeable future and will eventually be permanently flooded.

It is the responsibility of the Western Cape Government to ensure that Spatial Planning and Development Planning, reduces risks to people, infrastructure and assets (Western Cape Climate Change Response Strategy (Vision 2050) Nov.2021. Draft for public discussion.).

My view is that it would not only be irresponsible to allow this development to proceed, it would be a dereliction of the Bitou Municipality's duty to protect society and preserve the inherent value of the ever changing and dynamic Western Cape coastal zone, at a time of rapid climate change.

RECOMMENDATION

Because of my concern about flooding, I would recommend that Portion 91/304 remains Agricultural zone1.It lies within the most easterly of the proposed Keurboomstrand Spacial Development nodes, most of which is less than 5m above mean sea level and therefore inappropriate for mass housing development.

I recommend therefore, that only one farmhouse dwelling, and necessary ancillary farm buildings, be allowed to be built on the site, on ground 5m above mean sea level, and with floor levels at least 5.5m above mean sea level.

That much of the southern part be allowed to rehabilitate, with restoration of endemic flora.

The spring should be allowed to continue to function naturally and without hinderance, contributing as it has done for centuries to the hydrology of the area and as a fresh water source for flora and fauna.

REFERENCES:

1) L C Allison et al. 2022. "Projections of 21st century sea level rise for the coast of South Africa" Environ. Res. Commun. 4 025001.

2) D H Anderson.2017. "Ground Water and Climate Change". A technical monograph prepared for the National Climate Change Adaptation Research Facility "Coast Adapt Program" Water Research Laboratory. University of New South Wales.
School of Civil and Environmental Engineering.

3) Simon C. Cox et al. 2025. "Empirical Models of Shallow Groundwater and Multi-

Hazard Flood Forecasts as Sea-Levels Rise". Earths Future: Volume 13, Issue 2

4) S Habel et al. 2024. "Hidden Threat: The Influence of Sea-Level Rise on Coastal Groundwater and the Convergence of Impacts on Municipal Infrastructure. Annual Review of Marine Science.Vol 16: 81-103.

5) J Jiao and V Post. 2019. Coastal Hydrogeology Cambridge, UK: Cambridge University Press. (Google Scholar).

6) K Pierre-Louis. 2021. "How Rising Groundwater Caused by Climate Change Could Devastate Coastal Communities". M I T Technology Review. Climate change and Energy. 13/12/2021.

7) R Rahimi et al. 2020 "Compound Inundation Impacts of Coastal Climate Change: Sea-Level Rise, Groundwater Rise, and Coastal Precipitation". Water. 2020,12 (10). 2776.

8)Y Sangsefidi et al, 2023. "Data Analysis and Integrated Modeling of Compound Flooding Impacts on Coastal Drainage Infrastructure under a Changing Climate". Journal of Hydrology, (616), 128823

9) E H Schumann. 2015. "Keurbooms Estuary,Floods and Sedimentation". S Afr J Sci., 111(11/12).

ANOTHER RISK TO THE PROPOSED DEVELOPMENT IS LANDSLIDE

The northern portion of Portion 91/304 is a forested hill with a slope of 47%, 25.5 degrees, 1 in 2.1, approx.270 m wide and approx. 140 m high. The Afro-Montaine forest grows on an unstable sandstone and conglomerate substrate. We believe that there is a potential for a heavy rainfall induced landslide to occur, with catastrophic consequences to people and housing in the vicinity of the northern slope on Portion 91/304. This is apparently what happened in the severe "cut-offf low" weather and heavy rains in October 2023, when a landslide occurred onto the the Kaaimaans Pass N2 road at Wilderness.

Landslides and mudslides also occurred in the Franschoek and other areas in September 2023, following heavy rainfall. More recently there were similar events in the heavy rainfall "cut- off low's" in the Western Cape between the 6-9 June 2024.

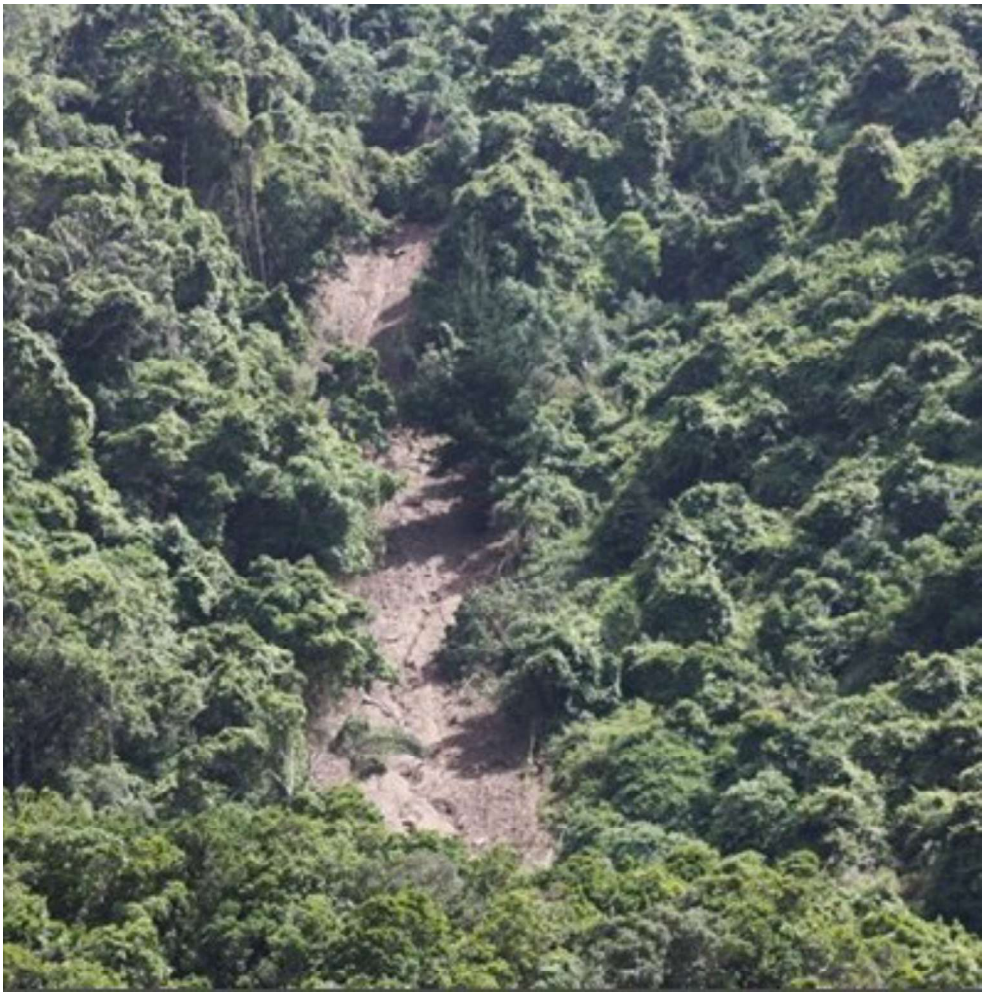


Fig. 1: Photograph of the Kaaimaans Pass landslide. Wilderness, Western Cape. October 2023.

Fig. 2: Photograph of the Kaaimaans Pass landslide onto the N2 road, Wilderness, Western Cape. October 2023.

Fig 3: Photograph showing exposed unstable sandstone conglomerate above the DR1888 road to the west of portion 91/304, similar to the sandstone conglomerate on the Kaaimans Pass

Fig. 4 : Photo showing how steep and high the northern forested hill is, ie. slope 47%, 25.5 degrees, 1 in 2.1, and 140m high. The people on horseback are dwarfed by the hill.

Dr. Nicholas Frootko

21st April 2025

APPENDIX PHOTOS 2007 FLOOD KEURBOOMS ESTURINE ZONE

Photos showing flood levels the day after the 2007 floods in the Keurbooms flood plain of the Keurbooms-Bitou Estuarine Zone.

joclyn@ecoroute.co.za

From: Pieter Luttig [redacted]
Sent: Wednesday, 25 June 2025 23:15
To: admin@ecoroute.co.za
Cc: Joclyn Marshall; Janet; KPOA
Subject: Re: Notification of Public Participation: DEADP Ref: 16/3/3/1/D1/13/0001/25 - REVISED Basic Assessment Report - Portion 91 Of Farm Matjiesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape
Attachments: image.png; Outlook-e452wqrj.png

Hi All

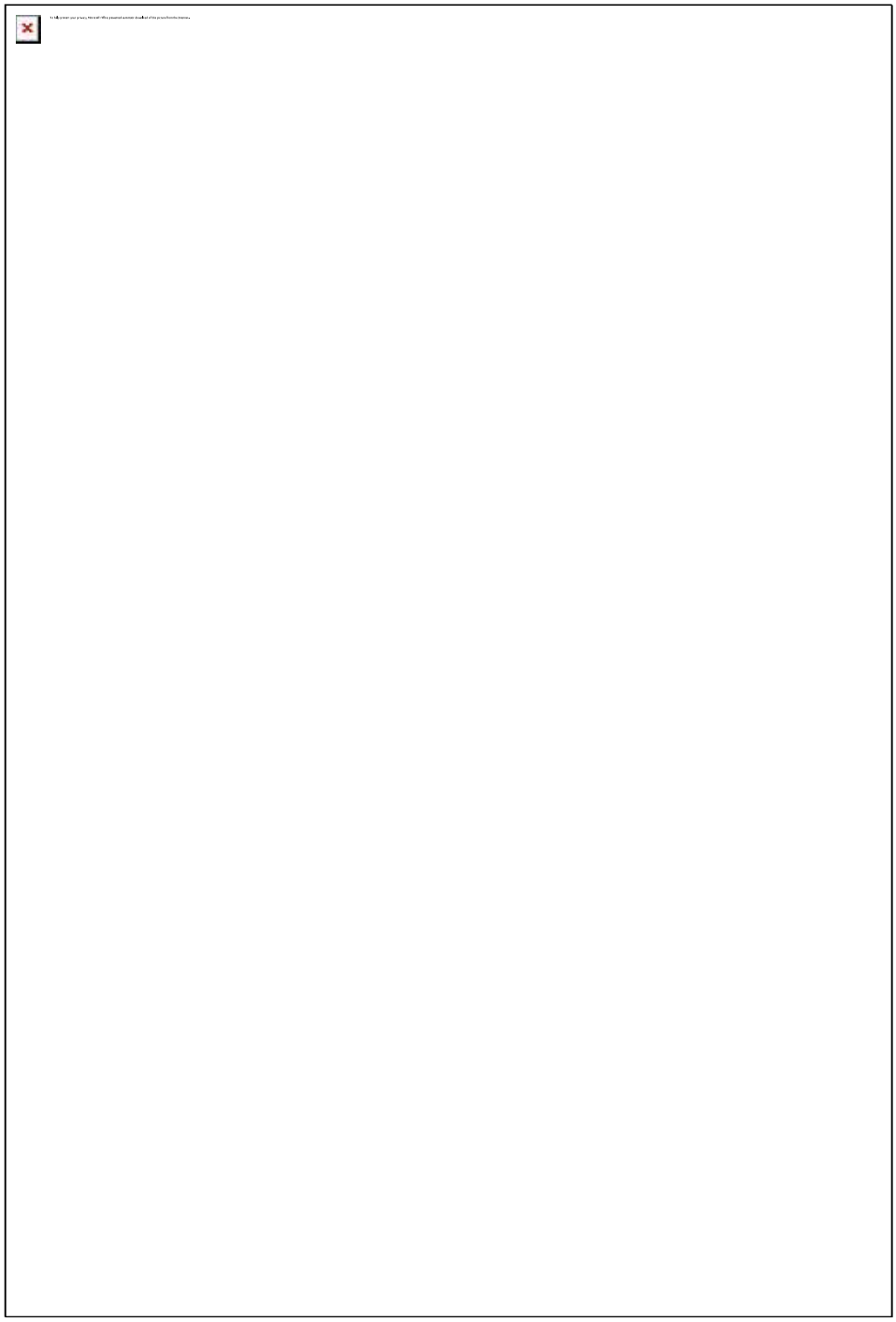
Thanks very much for making me part of your cc.

Kindly remove my name and cc kpoa at [redacted]

Thank you

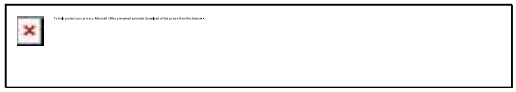
On Wed, 25 Jun 2025, 14:30 admin@ecoroute.co.za, <admin@ecoroute.co.za> wrote:

> Good day,
>
> Kindly find below link to our website to view the Revised BAR and relevant appendices -
>
> REVISED Basic Assessment Report: Proposed Residential Development on Portion 91 of Farm Matjesfontein 304, Keurboomstrand, Plettenberg Bay, Western Cape | Eco Route
>
> A 30-day public participation for the Revised BAR will be held from **25/06/2025 – 25/07/2025**.
>
> Please submit your comments to the EAP undersigned in this time.



Kind regards,

Joclyn Marshall
MSc Environmental Science
EAPASA 2022/5006
072 126 6393



Pieter Luttig
[redacted]

CULLINAN & ASSOCIATES
Environmental and green business attorneys

TRANSMITTED BY EMAIL

		Date:	25 July 2025
To:	Eco Route Environmental Consultancy	Your ref.:	DEADP Ref: 16/3/3/1/D1/13/0001/25
Att:	Joclyn Marshall	joclyn@ecoroute.co.za	
From:	Phillipa King & Sarah Kvalsvig	phillipa@greencounsel.co.za; sarah@greencounsel.co.za	
Total pages:	18 (excluding annexures)	Our ref:	M73-01

Dear Ms Marshall

COMMENTS ON THE REVISED BASIC ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT OF A SUSTAINABLE MIDDLE INCOME RESIDENTIAL DEVELOPMENT ON *PORTION 91 OF FARM MATJESFONTEIN 304, PLETTENBERG BAY*

INTRODUCTION

1. We act for the individuals listed in Annexure '**A**' hereto ("our clients"), all of whom own, or reside on, properties located close to *Portion 91 of Farm Matjesfontein 304, Plettenberg Bay* (the "Property").

2. Eco Route Environmental Consultancy published a first draft basic assessment report ("BAR") for the proposed development of a sustainable middle income residential development on *Portion 91 of Farm Matjesfontein 304, Plettenberg Bay* (the "proposed development") on 20 March 2025 and our clients submitted their comments on the draft BAR on 24 April 2025. Eco

Route has subsequently advertised that the **revised** basic assessment report ("revised BAR") would be available for public comment from 25 June until 25 July 2025.

3. This document constitutes our clients' comments on the revised BAR and should be read as an addendum to its comments on the first draft BAR.

GENERAL COMMENTS CONCERNING FLAWS IN THE BASIC ASSESSMENT PROCESS

4. Morris Environmental & Groundwater Alliances ("MEGA") was requested by Cullinan & Associates to comment on the revised BAR for the proposed development on the Property. A limited review was undertaken and MEGA's report is attached as Annexure '**B**'. A summary of the key findings is provided below:

Public participation: The Comments and Responses Report shows that although a response may be recorded against each comment made by I&APs ("Interested and Affected Parties"), these demonstrate a poor level of engagement with the substance of the concerns raised. Furthermore, the fact that the same comments are made each time an opportunity to comment is provided is a symptom of a poor level of engagement with concerns. Given the level of concern raised by I&APs, including commenting authorities the public participation process ("PPP") is inadequate.

Consideration of alternatives: The proposed development as envisaged in the 'preferred alternative' is not aligned with all applicable policies, plans and / or strategies. Moreover, the preferred alternative has been determined on the basis of financial feasibility to the Applicant (developer). This is a flawed premise. The preferred alternative ought to be determined primarily on the basis of the environmental characteristics of the site and the broader area in which it is located, and must take account of principles such as the duty of care, the precautionary principle and the mitigation hierarchy. The basic assessment process is deficient in this regard.

Need and desirability: The emphasis in the 'need and desirability' section of the revised BAR is to focus on motivating the proposed project, based on provision of 'affordable housing for middle income families'. In order to support this argument, the Environmental Assessment Practitioner ("EAP") persists in misusing terminology that is applied in the housing sector. Similarly, the environmental 'benefits' that are purported (e.g. stewardship agreement) to flow from the development are in fact, wholly independent of the proposed development in order to be realised. The question as to whether the proposed development is desirable in the given location, based on ecological sustainability criteria has not been meaningfully addressed.

Baseline information: There are material gaps in baseline information and the scope of specialist studies insofar as the issues we reviewed are concerned. Associated with this is limited reference to and / or application of available guidelines, strategies, policies and research (e.g. the 2005 DEA&DP Guidelines for Involving Biodiversity Specialists in EIA; the 2016 Fynbos Forum Ecosystem Guidelines for Environmental Assessment in the Western Cape). There is also no indication that efforts were made to confirm information through additional site

investigations (e.g. across seasons) or through consultation with owners of information (e.g. where there was poor correlation between mapped information and site observations).

Environmental sensitivity determination: It appears that heavy reliance has been placed on the KELASP[1] (i.e. the Keurbooms and Local Environs Spatial Plan) in determining the environmental sensitivity of the site which shows the lower portion of the Property as 'transformed'. This categorisation is the primary justification that has been pursued for the development throughout the basic assessment process. The reliance on the transformed characterisation of the site has resulted in other layers of important biodiversity information receiving less focus / emphasis. In the context of the mitigation hierarchy, the precautionary principle and the duty of care, this approach is misplaced. Overall, the result is that the sensitivity of the site has not been adequately established due to the uncertainties and gaps in the information base.

Information integration: Information is presented in 'silos' and is largely copied and pasted from specialist studies. As a result, there is a general lack of integration of information across specialist studies. There is also no clear indication that the specialist information was reviewed and interrogated by the EAP to ensure cross-pollination between studies and to identify gaps / questions that required further input or clarification.

Identification and assessment of impact significance: Due to the limitations described in the foregoing point, the identification and assessment of significance of impacts is compromised and cannot be relied upon with any level of certainty. This is of particular concern in relation to impacts on the biophysical environment. The socio-economic benefits attributed to the project are nebulous and not based on rigorous analysis and as such are considered to be over-emphasised and overrated. Of particular concern is the fact that socio-economic impacts associated with flood risk have not been considered.

Mitigation measures: Similarly, reliance cannot be placed on the mitigation measures, given the limitations in relation to baseline information and the identification and assessment of impacts. There has been poor application of the mitigation hierarchy. The principle of 'avoidance' has not been appropriately applied in determining and assessing alternatives.

Adequacy for decision-making: The definition of "assessment" when used in Chapter 5 of the National Environmental Management Act, 1998 (NEMA) is "the process of collecting, organising, analysing, interpreting and communicating information that is relevant to decision-making." In its current form, the revised BAR is inadequate for decision-making purposes due to, among others, material gaps in baseline information, inadequate scoping of specialist studies, the application of misplaced criteria to motivate the project (need and desirability), understatement of the significance of impacts and mitigation measures that are insufficient. It is therefore inappropriate for a recommendation to authorise the proposed project to be given in the revised BAR.

The adequacy of an environmental impact assessment (EIA) process is not only to be judged on whether there is information that corresponds with each of the steps and content requirements

[1] KELASP was formulated in 2013 and has been incorporated into the Bitou SDF, 2022.

of the BAR. This is akin to a 'tick box' approach. The quality of the information provided and how it is integrated is of greater importance. Numerous weaknesses and shortcomings were identified in the first draft BAR and these largely persist in the revised BAR. In particular, significant additional effort must be placed on the development of alternatives that are fully responsive to the environmental sensitivities of the site and the surrounding landscape. The approach that has been adopted, that of applying financial feasibility to select the preferred alternative is flawed. It is not in keeping with the mitigation hierarchy or the purpose of alternatives consideration. Effectively it amounts to trying to shoehorn a square peg into a round hole.

FAILURE TO ASSESS FLOOD RISKS ASSOCIATED WITH THE PROPOSED DEVELOPMENT SITE

Relevant policy considerations

5. The Property is located within the hab Functional Zone ("EFZ") which is mapped in terms of the Keurbooms – Bitou Estuary Management Plan (2018) ("KBEMP") as being the area below the 5m contour line. Significantly the KBEMP states that the EFZ "*provides a useful guideline for a coastal management line, as much of the land below this mark is currently subject to flooding or may be in the future due to climate change (sea-level rise and increased flooding).*"[2]

6. The KBEMP goes on to state that *"the 5 m contour … must be included in all planning documents*". While the coastal protection zone is intended to inform land use planning schemes, a coastal management line ("CML") is intended to limited development in ecologically sensitive areas. In this regard the KBEMP notes that "*for estuaries, the CML is delineated by the 5 m above msl contour or 1:100yr floodline, whichever is wider, to differentiate a zone where formal development should be discouraged*."[3]

7. Given the guidance provided by the KBEMP, development below the 5m contour line should, as far as possible be avoided in light of potential flooding risks in that zone. This is particularly so where the nature and extent of such flooding risks is uncertain (as is the case given the growing risks posed by climate change and sea level rise). The location of the proposed development within the EFZ therefore requires careful consideration from both a town planning and environmental authorisation perspective.

8. Taking account of the implications of development within the EFZ, the Keurbooms and Environs Local Area Spatial Plan (2013) ("KELASP") *identifies areas that are most vulnerable to coastal, estuarine and fluvial erosion and inundation based on three swash run-up contour lines, including the 4.5 mamsl swash (for exposed or sandy coastlines) which is relevant to the Property. In this regard the* KELASP goes on to recommend that authorities should *"strictly monitor (and preferably prevent) future development below the 6.5 mamsl swash contour and*

[2] Para 6.1.1 of the KBEMP.
[3] 6.1 of the KBEMP.

4.5 m estuary/river flood contour, …"[4]. From the extract from the KELASP annexed as '**C**', it is significant to note that:

8.1. the lower reaches of the Property (where the proposed development will be situated) are largely located within the wetland corridor delineated in terms of the KELASP; and

8.2. only a narrow area falling between the forested slope and the wetland corridor area on the Property are identified for residential development.

9. The Property is also located only just outside of the 1:100 floodline (as is evidenced by the KELASP floodline map annexed as "**D**").

10. Significantly, the KELASP also indicates that the development potential of the Property (which is based on a gross density of 12 units per ha) is 19 units on the 1.6ha portion of the site which is identified as suitable for development as it falls above the 4.5m contour.[5] The development proposal however seeks to develop 60 residential units on 6ha of the Property, meaning that a substantial portion of the development will be located below the 4.5m contour.

11. The footprint of the proposed development also extends well beyond the area designated on the Property for residential development in terms of the Bitou Spatial Development Framework ("SDF")). The Bitou SDF also specifically states that no development may occur within 1:100 floodline[6] surrounding rivers and delineates a limited area within the urban edge (which falls above the 5m contour) for residential development on the Property, with the remainder of the Property being designated for "Biodiversity/ Conservation" (as reflected in the map from the SDF Annexed as '**E**').

12. Significantly the SDF also points out that "*decisions and actions related to the coastal zone must take a risk averse and cautious approach, which takes into account the limits of current knowledge about the consequences of decisions and actions, and which promotes the integrity of coastal ecological systems and functions.*"[7] (underlining supplied). This is particularly relevant in the context of risks posed to coastal areas by climate change and sea-level rise. As we have set out previously, section 2 of NEMA requires that "*coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure*."[8]

13. The importance of restricting development which is vulnerable to flooding as a result of coastal climate change impacts is echoed in the Garden Route District Climate Change Response Implementation Plan which specifically considers Long-Term Adaptation Scenarios concerning all land below the 5.5 metre contour (which is considered to be the coastal zone) on the basis that "*this is the maximum estimated height of land that could be affected by the predicted increases in storm surges, sea level rise and tidal fluctuations by the year 2100*".

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[4] Page 13 and 14 of the KELASP.
[5] Page 21-22 of the KELASP
[6] Page 17 of the SDF.
[7] Page 35 of the SDF.
[8] Section 2(4)(r).

Site features and historical flooding of the surrounding area

14. The comments submitted on behalf of our clients in respect of the draft BAR raise the following relevant points regarding the proposed development:

14.1. The cross-section survey diagram (annexed as "**F**") developed by Beacon Survey shows that the natural ground level of the proposed development site (surveyed between the two points A-A) is less than 5m above mean sea level.

14.2. The 1:100 floodline mapped in terms of the KELASP tracks Keurboom Road, which is at much the same height above mean sea level as the Property. The road is therefore unlikely to act as a barrier to flooding of the Property, meaning that it may well be vulnerable to flooding in the context of a 1:100 flood.

14.3. The Keurbooms Valley has already been subject to significant flooding. During November 2007, the Bitou area experienced high rainfall, resulting in the Keurbooms River bursting its banks and flooding surrounding areas (including resorts and individual houses). We are instructed that during that time, the water level was measures at 4.23m above sea level[9] at the Angling Club (based on benchmark 36H 59A), Keurbooms Road was impassable and the Dunes resort was 1.5 metres under water. The flood waters accumulated on both sides of Keurbooms Road, including the entire Keurbooms valley to the south of the road. The flood attenuation role of this property has also been evident during significant storm events (such as those experienced as recently as May 2023). The very real flooding risks for the Property (and the surrounding area) are borne out by the photographs (annexed as '**G**') which show high ground water levels on an adjacent property, as well as the flooding of properties in close proximity to the proposed development site.

14.4. While the Aquatic Specialist Report (prepared by Dr Jackie Dabrovsky of Confluent) finds that the Property does not appear to support wetland or estuarine habitat, it nonetheless notes that:

"*One of the development risks within the EFZ relates to flooding which can be exacerbated by climate change and associated sea level rise. … The property is located on the edge of the 1:100 year floodline, which is not mapped to extend beyond the boundary of the property. In reality, the frequency of 100-year flood events is increasing due to climate change, and when coincident with sea-level rise and high tide events, it is not impossible that minor flooding could affect the low-lying area of the property in future*."[10]

14.5. The revised BAR furthermore accepts that "*surface water was expected to accumulate temporarily after heavy rainfall events*".

15. The responses provided (in the Comments and Responses Report) in respect of the above mentioned concerns seek to obfuscate and downplay the concerns raised by our client on the

[9] We are instructed that this was confirmed by Mr N. Frootko in personal communications with S. J. McMillan Surveys, Plettenburg Bay.
[10] 3.2 of the Aquatic Specialist Report.

basis that the site is located outside of the 1:100 year flood line and that stormwater management measures will be implemented to mitigate potential flood risks.

16. The revised BAR has also failed to meaningfully respond to flooding concerns raised by relevant authorities. In particular:

16.1. DEADP's Sub-directorate: Coastal Management (SD:CM) states in its comments on the development proposal (dated 23 April 2025) that:

"Although the applicant seems to have conducted due diligence, the SD: CM is concerned with the volume of structures proposed within the EFZ and seaward of the CML. It is therefore advised that the applicant proposes alternatives that comprises lower density development as well as considers more suitable design for structures proposed within the EFZ, as the DBAR illustrates in Figure 12 on page 46, that the development area forms part of a wetland. Although the freshwater specialists indicated that there are no tidal influence on site, considering the location of the development area within the EFZ, the competent authority must consider a precautionary approach for Farm 91/304." (our emphasis)

In response, the Comments and Responses Report notes that the development has already been reduced from 73 to 60 units (without giving any consideration to a more appropriate lower density development) and dismisses the concerns around development within the EFZ on the basis that the Aquatic specialist's view that the site does not exhibit estuarine habitat characteristics, without addressing the flood risk associated with areas falling within the EFZ. Such response clearly fails to adhere to the precautionary approach advocated by the SD:CM.

16.2. Comments submitted by the Bitou Municipality's Planning and Development Directorate (dated 12 May 2025) note that:

"While the ecological surveys may indicate a lack of current estuarine habitat on the specific development footprint, the property's location within the mapped EFZ below the 5m contour and on the edge of the 1:100 year flood line presents a demonstrable risk of flooding, particularly in the context of climate change and sea-level rise." In the circumstances, the Municipality require that flood resilience must be rigorously demonstrated prior to construction, and that a registered geohydrological or hydrological engineer certify (amongst other things) that "the design levels of the development are based on accurate flood modelling that accounts for both historic flood data and projected climate change impacts, including sea-level rise and increased storm intensity." The Municipality furthermore states that "where portions of the development fall within flood-prone areas, appropriate engineering mitigation or exclusion from development must be demonstrated. This requirement is essential to ensure the safety of future residents and infrastructure and to prevent the displacement of floodwaters onto neighbouring properties or public roads."(our emphasis)

In response the EAP refers to the geohydrological assessment undertaken by DHA Groundwater Consulting Services and the stormwater management measures proposed in that regard. However, as is addressed below, that assessment (together with the Engineering Report) have failed to comprehensively address the flood risks associated with the proposed

development site, particularly in the context of extreme flood events which may arise as a result of climate change and sea level rise.

Prof Hughes' further review

17. Given the flooding risks associated with the proposed development (both for the development itself and surrounding properties), our client appointed Prof Denis Hughes from Rhodes University (an expert in the field of hydrology) to prepare a review of the water use licence application submitted for the proposed development (the "Hughes Review") which is annexed as "**H**". The Hughes Review made a number of significant observations regarding the potential flooding risks associated with the site.

18. Certain of the issues raised by Prof Hughes were addressed by Poise in responses contained in annexure Appendix F2 to the revised BAR. Prof Hughs has however provided further comments which take account of those responses which are annexed as **"I"**.

19. Significantly those comments raise a number of significant concerns regarding the assessment of flooding risks undertaken by Poise, particularly with respect to:

    19.1. shortcomings in the flood risk assessment undertaken by Poise Consulting Engineers and/or the Geohydrological Report prepared by DHS Groundwater consulting services;

    19.2. the paucity of data relevant to the assessment of flood risks provided in the revised BAR as well as the abovementioned specialist studies;

    19.3. the apparent failure of the revised Bar and the relevant specialist studies to takes account of antecedent wetness conditions and related impacts on subsurface storage;

    19.4. the effectiveness of the stormwater management measures proposed by the specialists (given that the site is predominantly flat), particularly in the context of extended wet periods; and

    19.5. failure to comprehensively consider potential impacts of extreme flood events, including the effect of extreme high sea tides linked to climate change which could potentially exacerbate flooding levels in the vicinity of the proposed development, particularly where high runoff in the Keurbooms River occurs at the same time.

20. In conclusion, Prof Hughes states that he remains "*of the view that there is a flooding risk associated with the proposed development site, and that such risks have not been comprehensively assessed with respect to the proposed development (and surrounding properties*)."

21. Prof Hughes' concerns around the effectiveness of proposed stormwater management measures (and particularly the proposed retention ponds) is supported by the further comments provided by the further comments provided by ZS2 Consult (annexed as "**J**"). Those comments address the responses provided by Poise to ZS2's initial comments and summarise the remaining engineering concerns regarding the development and specifically notes that the specialist remains concerned regarding the effectiveness of the proposed retention ponds in light of the relatively high ground water levels (which may be even higher during prolonged rainfall periods).

Failure to properly consider and assess flood risks associated with the proposed development in the draft BAR

22. Despite the concerns raised above (which have also been raised in our comments on the pre application draft BAR and the draft BAR) the revised BAR does not include any specialist surface hydrological insight which specifically considers flooding risks associated with the proposed development.

23. Instead, and contrary to clear policy guidance discouraging development within the EFZ, the revised BAR persists in dismissing potential flooding risks associated with the proposed development on the superficial basis that:

    23.1. the Aquatic Assessment finds that the soil and plants present on the site is not indicative of a wetland or estuarine environment;

    23.2. the Geohydrological Assessment indicates that sandy soils with high permeability and implementation of mitigation measures (including infiltration ponds) should be implemented manage flood risks; and

    23.3. the engineering report indicates that "*the landscape levels will be modified however the gradients will remain extremely flat and the majority of runoff will therefore infiltrate the ground before reaching the ponds. Under heavy rainfall conditions runoff reaching the ponds will be stored in the ponds whilst the infiltration process is in progress*."

24. It is clear that development within the EFZ is strongly discouraged by relevant policy instruments given the associated flood risks. While a comprehensive hydrological assessment (which addresses the considerations highlighted in paragraph 5 of Prof Hughes' further review is clearly warranted in the current circumstances, where such an assessment has not been carried out, it follows that departure from such policy guidance is entirely unjustified and in stark contrast with the precautionary principle (as is addressed in more detail below).

25. The revised BAR consequently remains flawed in that it has failed to take account of the concerns raised in our comments on the draft BAR and does not include substantively relevant information concerning potential flood risks which ought properly to be placed before the competent authority for consideration in its decision regarding the application for environmental authorisation. Any decision made by the competent authority on the basis of the information contained in draft BAR would therefore be fatally flawed as relevant considerations would not have been taken into account by the competent authority.

MISREPRESENTATION OF AVAILABILITY AND ADEQUACY OF WATER AND SANITATION SERVICES FOR THE PROPOSED DEVELOPMENT

26. The revised BAR indicates that:

    26.1. The existing reticulation system and reservoir has sufficient capacity to service the proposed development. However, there is insufficient capacity in the bulk water mains serving the reservoir to maintain the peak seasonal demand. Although the Municipality has confirmed that a masterplan is in place to upgrade the bulk supply system, it is dependent on the

availability of municipal finances. Consequently the timeframes for such upgrades cannot be guaranteed. Alternative water sourcing is therefore proposed in terms of rainwater harvesting for domestic use and to treat greywater for irrigation purposes.

26.2. There is not sufficient capacity in the existing Bitou Bulk Sewage system to accommodate the proposed development until such time as proposed upgrades are completed by the Municipality. A temporary wastewater treatment plant is therefore planned to be installed to treat the development's wastewater pending the planned municipal upgrades.

27. While the Municipality has confirmed (in the letter attached to the BAR as E16) that it has the bulk infrastructure capacity to accommodate the proposed development, such confirmation is subject to the developer making payment for "prescribed augmentation requirements". The connection to the Municipality's sewer network may however only take place once the Ganzevallei Waste Water Treatment Works has been upgraded.

28. GLS Consulting's Infrastructure Planning Report (GLS Report), which concerns the provision of bulk water and sewerage services, identifies at least 8 other developments which are intended to be undertaken which would need to be supplied with potable water by the Goose Valley/Matjiesfontein/Wittedrift bulk supply system.[11] This means that extensive upgrades are required across the entire municipal water supply system in order to accommodate the extensive development in the area, and not just the proposed development. With no clear timeframes in place, it is entirely possible that the required upgrades across the network as a whole may be delayed due to financing constraints (notwithstanding any contributions which may be made by the developer in connection with the proposed development).

29. Given the significant concerns around the availability of municipal services, our client appointed ZS2 Consult to comment on the civil engineering aspects of the proposed development. The ZS2 Report identified concerns around the availability of water and sanitation services for the proposed development. In particular it noted that:

29.1. The existing Keurbooms bulk water line will not have capacity to provide potable water to the proposed development and upgrade of that network is required to accommodate the proposed development. Rainwater harvesting is also unlikely to serve to address the shortfall in this regard.

29.2. There is no sewerage reticulation currently available at the Property and upgrade of the sewer network is required to accommodate the proposed development. The proposed disposal of treated wastewater on site by irrigation however poses significant flooding risks (given the significant volume that will be produced and the limited area which will be irrigated).

30. Notwithstanding further clarification provided by Poise (contained in Annexure F3 to the BAR), as is evident from the ZS2's further responses to Poise (annexed as "**J**"), ZS2 remains concerned that:

[11] 1.6 of the GLS Report.

30.1. the existing municipal water and sewerage infrastructure will not be able to accommodate the proposed development without substantial upgrades (which are likely to be delayed due to financial constraints) and

30.2. the proposed reliance on the existing sewerage infrastructure as a back-up for the temporary waste water treatment plant will also not be appropriate given that it will not be able to accommodate the effluent volumes which will be generated by the proposed development.

31. While there is no clear timeframe for the required upgrades to be undertaken by the municipality, it is clear that if the proposed development proceeds without those upgrades having been undertaken, it will place significant strain on the already stretched water supply network (particularly in peak season) and will mean that the temporary waste water treatment works may be required to be in place for an extended period of time, with associated deterioration concerns.

FLAWED JUSTIFICATION FOR DEVELOPMENT OUTSIDE OF THE URBAN EDGE

32. In this section we provide further comment from our clients' Town Planning expert, Ms Jeanne Muller, of Jeanne Muller Town Planning on the lack of justification for development outside of the urban edge in the revised BAR. The first draft BAR relied heavily on purported alignment with relevant policy to motivate for the need and desirability of the proposed development. Despite relevant policy instruments clearly discouraging development below 5m contour lines and/or outside of the urban edge, the revised BAR seeks to justify its non-compliance with the urban edge delineated in terms of the SDF on the basis that:

32.1. the area contains no estuarine habitats and is below the 1:100-year flood line of the estuary;

32.2. the SDF states that the urban edge is an "indicative measure" rather than "an exact line" and therefore "makes provision for limited urban extension on this property" and that "land abutting an urban edge should be considered consistent with the SDF if the land has at any time in the past been used or designated for any urban development"; and

32.3. the Property is traversed by water and sewerage pipelines (meaning that municipal services are available) and was previously approved for a resort development with 50 units (i.e. it was previously designated for urban development), meaning that development outside of the urban edge would be considered to be consistent with the SDF in this case.

33. In our previous comment on the draft BAR, we annexed and referred to the expert report of Ms Muller. Ms Muller was of the view that the justification provided in respect of the development application's non-compliance with relevant policy considerations was flawed in the following respects:

33.1. while the SDF states that the urban edge should be regarded as an indicative measure rather than an exact line, it is clear that it is intended to serve as a limitation to inappropriate sprawling urban development and very limited exceptions should be made;

33.2. for reasons explained more fully in the previous section of this comment, the availability of services is still in question;

33.3. the previous development rights were granted in 1978 for a different kind of development (for which there is no information in the BAR) and these have lapsed. They were granted so long ago as to be of no relevance to the present application and there is clear policy guidance regarding this. Any development rights associated with the property have been surpassed by the reversion of the zoning back to Agriculture 1, with the specific intention of the site specific circumstances being considered in the context of a new application should development of the site be reconsidered; and

33.4. while development decisions have been made in respect of surrounding properties taking account of the fact that those development rights were never exercised, the site specific considerations relating to the property are very different from those which applied in 1978 when development rights were historically granted for the property especially in light of new and evolving knowledge about climate change risks.

34. Ms Muller's conclusions with respect to the first draft BAR were that it was clear that historical development rights and availability of municipal services do not justify development outside of the urban edge in this case, and adequate site specific motivation has not been provided in the draft BAR or the land use planning application which would justify such a departure given the significant flooding risks associated with development below the 5 meter contour.

35. In Appendix F4 to the revised BAR, the "Town Planning Response to Comments", the applicant's Town Planning experts respond to issues raised by our clients and other I&APs as follows:

35.1. **Urban edge and compatibility with the Bitou SDF**

"Bitou Municipality has provided a ruling that the development is in line with the SDF and that sufficient motivation has been provided to include the section that is not in the urban edge. Considerations include: no estuarine qualities, 4.5 swash has no bearing and the footprint has taken into account protection of the forest and animal corridors."

35.2. **Floodline**

"The 1 in 100-year floodline reaches approximately 30m from the southern boundary of the site and is effectively stopped by the Keurboomstrand Road. The road is at a height of 3.65 meters above mean sea level (mamsl) which effectively creates a barrier between the site and the floodline which is estimated at 3.2 mamsl. Therefore, while the site is undoubtedly lowlying it is not in any mapped floodlines." (Paragraph 1.1)

35.3. **Topography**

"..the road itself acts as a barrier at 3.65m between the south (where any flooding would originate) and the north (the development area). It can be seen from the figure below that any floodwaters from the Keurbooms would theoretically move east, but remain mostly south of the Keurboomstrand Road. During severe flooding in the area in 2007 the highest level reached by floodwaters was The Dunes development at around 2.5m amsl, about 1.1km west of the property..."(Paragraph 1.2)

"The flood risk is however mainly applicable under the scenario of extreme events and future climate change predictions because the present risk is extremely low."(Paragraph1.5)

"No swash can be applicable to the site therefore cannot be said to be unsuitable for development merely because it lies below the 4.5m contour." (Paragraph 1.3)

36. We attach hereto as Annexure '**K**' the response of Ms Muller to the "Town Planning Response to Comments" in the revised BAR. In summary, Ms Muller's response is as set out below

36.1. **Relevance of existing developments**

As stated previously, the fact that Milkwood Glen and/or other developments have previously been approved in the area is mostly irrelevant to the whether the proposed development should be approved, as the conditions subject to which Milkwood Glen was approved are different and indeed the circumstances at the time of its approval were different. Milkwood Glen Estate operates under strict rules designed to protect the environment such as permeable fencing and a restriction on pets, that do not appear to apply to the proposed development. The residents of Milkwood Glen have a right to raise concerns about how the proposed development might impact on their environment.

36.2. **Flood risk**

The question remains whether the flood line determination has been updated to reflect current climate change data and knowledge or coastal risk projections. In the absence of certainty regarding this, NEMA requires that a precautionary approach must be taken with regard to the flooding risk. Such an approach would take into account recent upstream development, cumulative development and/or changes in land use, all of which may alter runoff characteristics.

Ms Muller strongly disagrees that the road will block flooding from the South. In the event of severe flooding, a road will not stop floodwater.

The Garden Route District Climate Change Adaptation Response Implementation Plan, 2024, regards development below the 5.5m average mean sea level as highly sensitive and potentially at risk notwithstanding that it is not located outside the 1:100 year flood line. In this regard it is worth noting that the Plan was compiled in 2024, unlike the KBEMP which was compiled in 2018.

Coastal set-back lines for developments are still being developed for the Garden Route district. These lines help define safe development zones that take future climate change into account, not just current flood lines.

In the circumstances the policy guidance is clear that areas within the 5.5m AMSL zone are vulnerable. Even if the Property is outside the 1:100 flood line, it might not remain so under projected sea level rise and increased storm surge conditions.

In that regard, as mentioned above, the applicant's Town Planning experts themselves state that "*The flood risk is however mainly applicable under the scenario of extreme events and future climate change predictions because the present risk is extremely low*."(Appendix 4: Town Planning Response to Comments at paragraph 1.6) It is essential that the decision-maker consider the flood risk in the context of the above guidance, in the context of the several decades into the future that the proposed development is likely to exist and not in the context of the present risk.

In order for a development to fulfil the requirement in section 2 of the NEMA that development must be ecologically sustainable, it must demonstrate that it will be sustainable over its whole lifetime and must serve present and future generations.[12]

Finally, Ms Muller remains of the view that cumulative impact of the development has not been properly considered, and that even if the mitigation measures proposed are sufficient to safeguard the proposed development, no measures have been proposed to safeguard existing development areas such as Milkwood Glen.

36.3. **Fencing**

It is now proposed that Clearvu fencing separate the wildlife corridor from the development area. However, in Ms Muller's view that will not allow movement of small wildlife between these two areas and there is no adequate explanation for this change.

36.4. **Urban edge and spatial development framework**

Ms Muller emphasises that it is not sufficient to say that the proposed development is consistent with the SDF, the relevant authorities are also required to determine compliance with all aspects of the SDF, and particularly the environmental considerations, to ensure that the proposed development is ecologically sustainable for present and future generations.

In conclusion, Ms Muller remains deeply concerned that the revised BAR still does not adequately address the planning, environmental and sustainability issues raised by stakeholders. Whether or not the proposed development is consistent with the SDF, the decision-maker, in taking into account the principle of sustainable development which is a legal requirement in terms of NEMA, must give due consideration to environmental preservation, the cumulative impact of the proposed development and its long-term resilience.

37. The failure to consider such relevant considerations will render the decision to approve the proposed development reviewable.

FLAWED ASSESSMENT OF ALTERNATIVES

38. In terms of the NEMA 2014 EIA Regulations (the "EIA Regulations") all Basic Assessment Reports, must contain a description of any feasible and reasonable alternatives that have been identified, including a description and comparative assessment of the advantages and disadvantages that the proposed activity and alternatives will have on the environment and on the community that may be affected by the activity.[13]

39. "Alternatives" are defined in the EIA Regulations as "different means of meeting the general purpose and requirements of the activity, which may include alternatives to: (a) the property on which or location where it is proposed to undertake the activity; (b) the type of activity to be undertaken; (c) the design or layout of the activity; (d) the technology to be used in the

[12] See the definition of "sustainable development" in section 1 of NEMA.
[13] Appendix 1-3 of the EIA Regulations.

activity or process alternatives; (e) the operational aspects of the activity; and includes the option of not implementing the activity."

40. The National Environmental Management Principles contained in section 2 of NEMA (which must be applied in the context of decision-making affecting the environment) require that "Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option". "Best practicable environmental option" is defined in section 1 of NEMA as "the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term". In other words, the alternatives assessed during an environmental assessment process must provide options for choice to enable the competent authority to select the "best practicable environmental option".

41. The assessment of alternatives in the draft BAR has however failed to enable the selection of the best practicable environmental option.

42. Alternative 1 and the Preferred alternative are essentially similar in that they are both high density developments which extend well beyond the developable envelope recommended in terms of relevant land use planning policies. As such Alternative 1 does not present a real option for choice when considered against the Preferred Alternative. As is addressed in the MEGA Report, the No-Go alternative has also been dismissed on tenuous grounds.

43. While layout alternative 2 (which entails the development of 19 residential units) fits within the parameters of the developable area delineated in terms of the SDF and the KELASP, it has been dismissed on the basis of financial viability constraints which are linked to the target market for the proposed development. In this regard the draft BAR states that:

44. "It has been scientifically proven through specialist studies that the area below the 4,5m contour line is not subject to flooding and plays no role in the functionality of the wetland. There is thus no sound reason why this area should be excluded from the development. This layout has not been further considered as it is not a feasible alternative."

45. As has been addressed above, the draft BAR has failed to provide a comprehensive hydrological assessment to inform a defensible decision regarding the application for environmental authorisation. It follows that the above justification for excluding alternative 2 in favour of the preferred alternative is entirely unfounded, and that a comprehensive assessment of alternative 2 (taking account of input from a specialist hydrologist) must be included in the draft BAR in order to provide meaningful options for choice.

46. Furthermore, given that no property alternative has been considered, it would have been appropriate for the draft BAR to present an assessment of a lower density residential development which meets the feasibility criteria (i.e. residential development that is not aimed at the middle income housing market), as well as a different type of development (such as, for example an eco-tourism development). Instead, the only feasible alternatives presented in the draft BAR (i.e. alternative 1 (73 units) and the preferred alternative (60 units) are both entirely

incongruent with relevant policy, and fail to take account of potential flooding risks and biodiversity sensitivities.

47. In order to provide the competent authority with proper options for choice in order to enable the selection of the best practicable environmental option, the revised BAR must include a proper assessment of available alternatives.

FLAWED ASSESSMENT OF NEED AND DESIRABILITY

Application of environmental management principles

48. The environmental management principles set out in section 2 of NEMA "apply throughout the Republic to the actions of all organs of state that may significantly affect the environment" and include the following:

- that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions (Section 24(4)(a)(vii))
- that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied. (Section 24(4)(a)(viii));
- that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied (Section 24(4)(a)(ii)); and
- that sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure. Section 24(4)(r)).

49. The proposed development (which entails a residential development within the EFZ of the Keurbooms River) is precisely the kind of situation in which the section 2 principles of NEMA must be given careful attention. This is particularly so given the immense development pressure already being experienced in the Plettenberg Bay area, particularly along the coast.

50. Despite this, the revised BAR has sought to disregard substantively relevant policy guidance relating to development outside of the urban edge and below the 5m contour based on tenuous historic development rights and questionable availability of municipal services, and without providing any expert surface hydrological insight.

51. While such approach is in stark contrast with the section 2 NEMA principles highlighted above, it also demonstrates that the motivation provided in the draft BAR for the desirability of the proposed development is questionable and does not provide a sound basis for the competent authority to make a decision.

Misrepresentation of Need and Desirability

52. The motivation behind the development is premised on the purported need for affordable housing in the Plettenberg Bay area. However, as has been addressed above, the draft BAR has misrepresented the target market as being the affordable/ middle income housing market, when unit prices will far exceed the budget of most middle income buyers. The desirability of developing a high density residential development on the Property in order to meet a purported affordable housing need is furthermore questionable for the following reasons:

52.1. While the KELASP and SDF both identify a narrow area on the Property for residential development, it is clear from the maps provided in those documents (annexed to these comments) that the location of the developable area is informed by relevant site considerations (i.e. it is located between the wetland corridor (being the 4.5m contour) and the sloped forest area). Given that limited delineation of the developable area on the Property, there does not appear to be a need for a development of the scale and density proposed in the draft BAR on this particular property.

52.2. The footprint of the proposed development however extends beyond the defined urban edge to well below the 4.5m contour (which presents significant flood risks for the proposed development itself and exacerbates flood risks for surrounding properties). While the draft BAR attempts to justify this by downplaying the potential flood risks, it is clear from the above that such justification is misplaced when environmental considerations relating to climate change and sea level are considered and also considering the nature of the previous development approvals. This is particularly so given the wholesale failure to obtain specialist input regarding surface hydrological impacts associated with the proposed development.

52.3. The high-density nature of the development on a scenic route also make it undesirable given the potential implications for tourism (and related socio-economic implications). These impacts coupled with the potential flooding risks will also have significant repercussions for surrounding property values, which impacts have been entirely overlooked. The potential impacts on property values are addressed in the attached property valuation report prepared by Jerry L Margolius and Associates, which is annexed as "**L**".

53. In the circumstances the revised BAR does not provide an accurate representation of the need for and desirability of a high-density housing development on the Property. The above considerations must therefore be addressed in the revised BAR in order to accurately reflect the need and desirability of the proposed development.

CONCLUSION

54. In summary, the proposed development will be situated in an area that is a highly sensitive coastal and estuarine environment. The revised BAR:

54.1. is inadequate for decision-making in a number of respects including in the quality and integration of the information provided to the decision-maker, material gaps in the baseline information provided, lack of meaningful engagement with I&APs, flawed assessment of

impacts and of the need and desirability of the project and in its emphasis on financial feasibility in the selection of alternatives;

54.2. fails to give due consideration to potential future flooding risks associated with development below the 4.5m/ 5m contour and outside of the urban edge (particularly given concerns identified in current policy guidance around climate change and sea level rise);

54.3. erroneously concludes that the proposed development is consistent with the SDF when the view of our clients' Town Planner is that it is not compliant with relevant aspects thereof;

54.4. underestimates the biodiversity-related impacts on the lower reaches of the site while failing to include specialist and socio-economic assessments or any assessment of cumulative impacts associated with the development;

54.5. fails to provide a comprehensive assessment of alternatives to enable the competent authority to select the best practicable option;

54.6. misrepresents the availability and adequacy of water and sanitation services; and

54.7. overstates and/or misrepresents the purported need for the proposed development while failing to give adequate consideration to the desirability of a high density residential development on the Property (particularly given the issues described above).

55. The above-mentioned issues mean that any decision based on the revised BAR as it currently stands will be fatally flawed as the competent authority will not have been presented with a comprehensive and accurate assessment of the potential impacts associated with the proposed development on which to base its decision.

56. A decision to authorise the development based on the revised BAR will as a result be reviewable in terms of the provisions of the Promotion of Administrative Justice Act, 2000.

57. Our clients request that they be informed of, and invited to comment on, any and all other applications for permissions that may be required for this development.

Yours sincerely

CULLINAN & ASSOCIATES INCORPORATED
Per **Phillipa King & Sarah Kvalsvig**

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Comments on the Revised Basic Assessment Report for the Proposed Development on Portion 91 of Farm Matjiesfontein 304, Keurboomstrand.

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Report Prepared by:

Mary-Jane Morris (Pr. Sci Nat (Environmental Science) Reg No. 400165/06).
Morris Environmental & Groundwater Alliances

1 Introduction

Morris Environmental & Groundwater Alliances (MEGA) was requested by Cullinan & Associates to comment on the Draft Basic Assessment Report (BAR) for the proposed residential development on Ptn 91 of Farm Matjiesfontein 304 located in Keurboomstrand, Plettenberg Bay. These comments were submitted to the EAP (Environmental Assessment Practitioner), Eco Route Environmental Consultancy via Cullinan & Associates. A Revised BAR has been issued by Eco Route Environmental Consultancy and the commenting period runs from 25 June to 25 July 2025. A limited review of the Revised BAR is presented in this report.

2 Public Participation Process (PPP)

There are a number of concerns regarding the PPP.

1. The general approach evident in the PPP is one of DAD (Decide-Announce-Defend). This means that there is limited meaningful and substantive engagement with comments provided by I&APs, including commenting authorities. A clear sign of inadequate engagement with the concerns raised by I&APs is when the same issues or slight variations thereof are raised each time there is an opportunity to comment. It is also a clear indicator that concerns of I&APs are not being addressed in the proposed project. The result is that the commenting process goes around in circles, with I&APs raising the same issues and the EAP persisting in providing the same responses. When this kind of scenario arises in a PPP it shows that more effective engagement is required. The EAP needs to read these signs and make the necessary adjustments to the PPP, which has not occurred.

2. The EAP appears to believe that it is up to I&APs to request meetings / public meetings.[1] This is not correct. The level of engagement with I&APs must be determined by the EAP. This is very clear from PPP guidelines published by the DEA&DP[2], for example. The minimum PPP has been undertaken to meet the requirements specified in the 2014 NEMA Regulations (advertising application, posting site notice and providing opportunity for I&APs to comment on documents). There is no evidence of any evaluation or judgement by the EAP as to the need for additional PPP opportunities such as focus groups, one-on-one meetings, an Open House or general public meetings.

3. There are several instances where responses do not deal with the actual question or issue raised. For example, in relation to the rehabilitation of pastures, the response focuses on secondary vegetation.[3] This is not the point that is being made by the I&AP. Secondary vegetation and pastures are shown as separate habitats, as determined by the specialist, in Figure 17 of the Terrestrial Biodiversity Impact Assessment. Thus, providing a response that deals with an entirely different habitat is non-responsive. In the process, the question of restoration of the pastures to original vegetation is not answered. Another example is flooding risk, where the EAP persists with the same worn-out / repetitive responses that rely on studies that have had no input from an expert in flooding and flood risk assessment.

4. If effective engagement with I&AP concerns had taken place there would be demonstrable changes in the BA process, through for example:

   (a) Undertaking additional or more detailed investigations of environmental conditions. The manner in which concerns about flooding risk has been handled is a case in point where additional investigation is definitely warranted, but has not been entertained by the EAP. Rather, the approach has been to insist that the work done by specialists that are not experts in the field of hydrology and hydraulics is sufficient.

   (b) Adjusting the project parameters such as layout. Concerns about the intensity of the development footprint have been ongoing in the comments submitted throughout the PPP. In this instance 'lip service' has been paid to these concerns through decreasing the number of erven from 73 to 60, but effectively leaving the size of developable footprint the same.

3 Need and desirability

The manner in which need and desirability has been addressed is inadequate for the reasons set out in our comments on the Draft BAR dated 23 April 2025. This situation prevails in the Revised BAR, demonstrating limited engagement with the comments on the Draft BAR on need and desirability.

5. The EAP's understanding of 'need' is misdirected as is shown by the following: "The first question that needs to be asked when any development is considered is whether there is a need for the contemplated land use. This is normally a question that the potential investor would answer before he embarks on a long and expensive application process. Development, like any other business, is about supply and demand." This statement is so far removed from the purpose of addressing 'need and desirability' in an EIA process that Section E in the Revised BAR cannot be accepted. It is wholly impossible to provide the required need and desirability information and assessment using this point of departure.

6. Besides showing a poor understanding of the purpose of considering need and desirability, it demonstrates a biased starting point. Neither financial feasibility nor the question of housing market supply and demand are the business or concern of the EIA process. These matters are for the Applicant to address within the context of his/her investment decision-making and business planning processes.

[1] Page 125 – C&R Report
[2] DEA&DP (2013) EIA Guideline and Information Document Series, Part 4: Guideline on Public Participation
[3] Page 199 – C&R Report

3.1 The notion of affordable and mid-market housing provision

7. The EAP persists with the notion that the proposed project contributes to addressing an affordable housing need. This is shown by persistence the heading: "THE NEED FOR AFFORDABLE HOUSING". Suggesting that the project will meet an affordable housing need is inaccurate:

   (a) Affordable housing has a particular meaning in the South African context. The EAP applies the term 'affordable housing' in the context of middle-income earners. This is misplaced since the mid-market in relation to housing is recognised as a different sector to the affordable sector. Although there is no universally accepted definition of middle-income households in South Africa, various research organisations (e.g. UCT's Liberty Institute) apply an earnings range of between R5 000 – R29 000 per month as the accepted definition of a middle-income household. The Bureau of Economic Research places the middle-income household earnings range at between R5 000 and R20 000 per month.[4] [5]

   (b) In the Revised BAR, additional data on property market prices and price trends is presented to support the notion that 'affordable housing for middle income households is needed.' The monthly earning requirements to obtain a bond in the price range of the properties that would be provided by the proposed project, do not fit into the category of affordability for middle-income households. A bond of R2 million requires a monthly gross income of around R68 000 and for R3 million around R103 000. This clearly falls well outside the middle-income household income range generally accepted in South Africa.

8. The question may well be asked as to why terminology has been unpicked to the extent it has in these comments. Whilst terms such as 'affordable' and middle-income' may be loosely and more broadly interpreted in 'general conversation', marketing materials and non-technical articles, such terminology must be correctly applied and in accordance with professionally accepted understanding in scientific / technical analyses and research.

9. Insofar as the proposed project is concerned, it would supply the high-income housing market, as per the defined housing market categories applied in South Africa. It is improbable that provision of a high-income housing market product constitutes socio-economically justifiable development.

10. It is stated that the project density was adjusted due to the concerns of the local community through decreasing the number of erven from 73 to 60, which will: "…..result in higher property prices and not reaching the target market that was initially intended"[6] (emphasis added). It is doubtful that the project could ever be framed as genuinely providing affordable housing – for reasons that have been set out in great detail in these and our previous comments. To now offer the community's response to the proposed development as a 'defense' for not being able to reach the target market originally intended because a minor adjustment to density has been made is disingenuous.

11. From a "needs" perspective, it is stated that the proposed project supports key priorities such as community growth, job creation, and economic empowerment. No Social Impact Assessment has been conducted, which means there is no foundation for these claims. To take one example from these purported benefits. "Economic empowerment" is not mentioned anywhere else in the Revised BAR. Not a single example of what and how the project would contribute to economic empowerment is given. Also, it is hard to fathom how the purported "economic empowerment" benefit can be correlated to a high-income housing project.

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[4] See for example https://businesstech.co.za/news/lifestyle/794239/what-you-need-to-earn-to-be-considered-middle-class-in-south-africa-2/ - accessed on 17 July 2025.

[5] See for example, https://www.businesslive.co.za/bd/companies/property/2025-07-09-residential-property-market-cools-in-second-quarter/ - accessed on 17 July 2025.

[6] Page 44 - Revised BAR – SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY, Item 12

3.2 The notion of biodiversity benefits

12. The discussion on biodiversity benefits shows a similar trend to that related to 'affordable housing' in that it also demonstrates the tendency to claim positive benefits that the project ostensibly offers, which, on closer examination, are independent of that project. For example, it is stated that there will be potential positive contributions in the form of "(conservation zoning, stewardship agreement, prompting connectivity through wildlife corridors, etc.)"[7]. This claim is misplaced.

    (a) *Conservation zoning and a stewardship agreement*: It is important to note that these 'benefits' cannot be attributed to the proposed project. The subject area for conservation zoning and a stewardship agreement is the steep slope and is not suitable for development. Moreover, it is already designated as CBA1 and therefore shown as inappropriate for development in spatial planning tools such as the WCBSP, KELASP and the Bitou SDF. Entry into a stewardship agreement with a conservation body is not a benefit that is attached to or that would flow as a direct result of the proposed project. Accordingly, these biodiversity 'benefits' must be decoupled from the proposed development. The landowner has been and continues to be free to approach CapeNature in this regard at any stage. The same applies to seeking formal conservation zoning for the northern part of the property – this can be pursued at any stage. To frame these as 'benefits' that will flow from the proposed development, thereby enhancing its need and desirability is misleading.

    (b) *Prompting connectivity through wildlife corridors*: It is unclear as to what 'prompting connectivity' means and possibly this should read 'promoting connectivity….'. Again, claiming this as a benefit that enhances the need for the proposed project is wholly inappropriate. The fact is that uninterrupted connectivity exists at present and the proposed project will almost certainly reduce this. A wildlife corridor is proposed as a mitigation measure and will allow only east-west animal movement due to fencing along the northern boundary of the proposed development. A mitigation measure cannot be offered as a factor that contributes to the need and desirability of a proposed project, because in this case its purpose is to address adverse environmental impacts (i.e. reduction in connectivity). It is, therefore scientifically illogical to suggest that connectivity will be prompted / promoted.

13. Compatibility of the proposed development with other developments in the area is offered as a positive attribute.[8] This misses the point. The cumulative impact in this regard has not been adequately addressed. Most importantly, what has not been considered is the <u>question of the compatibility of the proposed development in the context of its</u> <u>natural setting and the natural environment</u>.

14. It is stated that the Bitou Municipality has provided a consistent ruling that the development is in line with the Spatial Development Framework and specifically stated that sufficient motivation has been provided to include the section that is not on the urban edge. See the letter from the Spatial Planning Department attached as Appendix E16"[9]. This statement is factually incorrect. Appendix E16 does not deal with the alignment of the development with the SDF but with confirmation of bulk services. No record could be found among the Appendices to the Revised BAR of any "consistent ruling that the development is in line with the Spatial Development Framework" from the Bitou Municipality.

15. The question of justifiable social and economic development must be judged on the basis of factors such as whether an underserved component of society would benefit and whether the community or area needs the proposed development – is it a priority for the community concerned? Furthermore, it must

[7] Page 38 - Revised BAR – SECTION E - PLANNING CONTEXT AND NEED AND DESIRABILITY: Item 12
[8] Page 45 - Revised BAR – SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY, Item 12
[9] Page 36 - Revised BAR – Section E - PLANNING CONTEXT AND NEED AND DESIRABILITY: Item 4.3

be recognised that whilst a development proposal may align with a national, regional priority or municipal priority, it may nonetheless be inappropriate within a specific local context.

4 Alternatives

16. As noted in our comments on the Draft BAR dated 23 April 2025, the approach to selecting the preferred alternative is flawed. This situation persists in the Revised BAR. For example, the unit density of Alternative 2 is not financially viable for the developer and does not affectively utilise the available transformed areas (very low habitat sensitivity) that would become Private Open Space for beneficial and sustainable development opportunities. The proposed 20m wildlife corridor / buffer area was incorporated into the preferred layout to promote connectivity and a functional ecological corridor through the landscape and across the "Forest Corridor" as per the KELASP."[10].

17. The attempt to dress up the preferred alternative as being an appropriate environmental option under the guise of effective utilisation of transformed areas is nonsensical. Depending on circumstances transformed areas may be required to meet conservation targets, which means restoration is the desired outcome. This may well be the case in this instance, due to the potential sensitivity of the site.

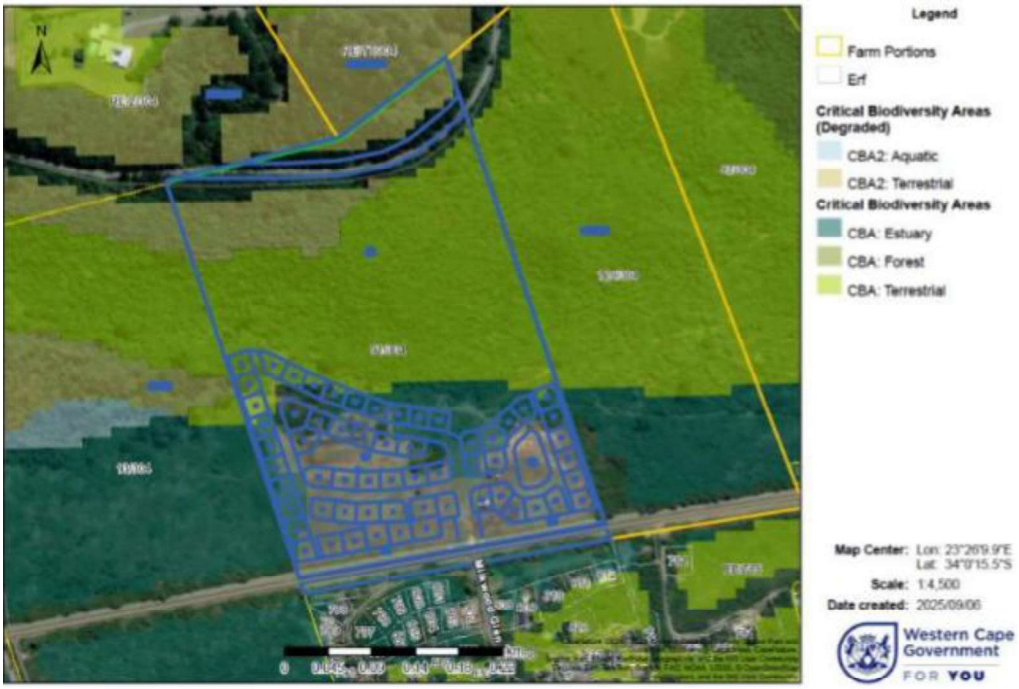
18. Presentation of diagrams of the alternatives is inconsistent and difficult to read as a result. For example, Figures 26, 27 and 28 in the Revised BAR are schematic planning layouts and do not show the alternatives superimposed on a sensitivity map of the site. Different scales have been used and only Layout 2 (19 erven) shows the 4.5m contour. This makes it exceedingly difficult to understand the location of the proposed development alternatives relative to CBAs and the 4.5m contour, for example.

19. Whilst Layout 1 (73 erven) has less open space within the proposed residential area than the preferred alternative, there is little difference in the overall extent of the site that will be developed between these two options. It is therefore improbable that the preferred alternative offers any significant environmental benefits or reduction in adverse environmental impacts relative to the original proposal involving 73 erven (Layout 1).

20. The wildlife corridor is not a buffer and cannot be claimed as such, since it would be located inside CBAs, with the result that the proposed development would be directly adjacent to these CBAs (terrestrial and aquatic), which is highly unfavourable from an environmental perspective (see diagram overpage).[11]

21. The preferred alternative put forward by the EAP is based on financial feasibility from the Applicant's perspective and is therefore fatally flawed. It does not represent the most feasible option from an environmental perspective.

[10] Page 131 C&R Report
[11] Page 134 – C&R Report



5 Baseline information and impact assessment

Baseline information is inadequate, particularly in relation to key concerns that have emerged in the PPP (Public Participation Process) and that should in any event be self-evident given the location of the project. This point is demonstrated through focusing on two issues terrestrial biodiversity and flooding risk.

5.1 Biodiversity

This section of this limited review deals mainly with the Terrestrial Biodiversity report, since this has been revised. Limited comments on the Aquatic Impact Assessment are also provided, although this study was not updated. It must be noted that subsequent to commenting on the Draft BAR in April 2025, the CBA (Critical Biodiversity Area) layers in the WCBSP (Western Cape Biodiversity Spatial Plan) have been updated. This took place in May 2025. As a result, the CBA2 (Degraded) area on the low-lying areas of the site is no longer designated as such or as any other CBA or ESA (Ecological Support Area) category.

22. The Terrestrial Biodiversity Assessment was updated in the absence of any additional fieldwork. There is also no reference to any consultation with conservation / biodiversity authorities or scientific experts that operate in the Garden Route area. This is viewed as a limitation in information gathering and analysis, particularly in terms of understanding the vegetation types that may have been present on the site in the past or that may be recovering or that have the potential to recover.

23. The baseline information specifically insofar as vegetation is concerned shows a high level of uncertainty. There are several sources of information on vegetation types on the site and surroundings, including the in the 2024 National VegMap and the fine-scale vegetation map for the Garden Route prepared by Vlok *et.al* (2008).[12] Both of these maps delineate and describe the historical extent of the vegetation types, prior to the occurrence of significant land conversion due to anthropogenic influences.

[12] Vlok *et.al* (2008), differences in vegetation mapping results can be expected between for example their fine-scale map and the National VegMap are the consequence of different concepts / approaches to defining vegetation units (e.g. such as whether mosaic units are recognised or not), as well as different mapping accuracies.

24. The VegMap shows the vegetation type over the entire site as Garden Route Shale Fynbos, which is listed as Endangered, whereas the fine-scale vegetation map identifies map Keurbooms Thicket Forest (on the slope) and as Sedgefield Coastal Grassland in the low-lying areas of the site, which is classified as Critically Endangered (CE)[13] in the Western Cape Context.

25. The biodiversity specialist has stated that the site is incorrectly classified as Garden Route Shale Fynbos, as the slope on the northern side of the site is clearly forested. The specialist notes that upland areas of the site should rather be designated as Goukamma Dune Thicket[14], This seems to correlate with recent work by Cowling *et.al* (2023) on coastal strandveld, which has identified forested areas that occur within Goukamma Strandveld as Goukamma Strandveld (dune thicket form). Also, the forested area on the site corresponds to the Keurbooms Thicket Forest described by Vlok *et.al* (2008) and the sensitive forest areas identified in KELASP. Thus, there are various sources of information that confirm the dune thicket forest as being the vegetation that is present on the slope. Such forest is of conservation significance and it falls within CBA1 in the 2023 WCBSP. When it comes to the vegetation on the low-lying portion of the site, the situation is unclear.

26. The low-lying area is described as transformed in KELASP. The Terrestrial Biodiversity specialist is of the same view, based on observations from a single site visit in September 2022. This 'transformed status' appears to be the key informant for determining biodiversity impact significance of the proposed development, which is to be located on the low-lying area of the site. <u>There are, however, many unanswered questions, which means this conclusion cannot be accepted – more information and investigation is necessary.</u>

27. There is a small area described as fynbos invaded with aliens (below the forest on the western side of the property) in KELASP. Is there any fynbos left in this area and if so, what vegetation unit does it represent? This is not explained. Also, the interactions, interdependencies and connections between the forest and the low-lying area are not detailed. Furthermore, given that the Sedgefield Coastal Grassland (CE) is considered to have originally provided grazing lawns for hippos and given that in the recent past the site has been subject to grazing by horses, could the grassland recover now that grazing pressure has been removed? The photograph alongside, taken by a local resident shows the proliferation of *Brunsvigia orientalis* on the pasture area in February 2025.

28. Secondary vegetation is mentioned, but its role is unclear. Does the presence of this vegetation mean that the thicket forest vegetation is moving into the low-lying areas, in which case does this not mean that a vegetation type of high conservation is spreading and that this process should be allowed to continue? Alternatively, what would happen if a controlled burn were to take place? Would fynbos become more prevalent or would the Sedgefield Coastal Grassland identified by Vlok *et.al* (2008) reestablish? Or could a mosaic of fynbos and grassland emerge?

29. For instance, Vlok *et.al* (2008) describe the Sedgefield Coastal Grassland as having characteristic grass species, namely *Cynodon dactylon* and *Stenotaphrum secundatum*. Whilst the former is not included in the species noted on the site during field work undertaken by the biodiversity specialist in September 2022, the latter was observed. The aquatic specialist also noted this species as well as *Romulea sp*.

[13] Vromans, D.C., Maree, K.S., Holness, S. and Job, N. and Brown, A.E. 2010. The Garden Route Biodiversity Sector Plan for the George, Knysna and Bitou Municipalities*. Supporting land-use planning and decision-making in Critical Biodiversity Areas and Ecological Support Areas for sustainable development.* Garden Route Initiative. South African National Parks. Knysna

[14] Page 58 – Terrestrial Biodiversity Assessment dated 24 June 2025

Which is noted as being associated with Sedgefield Coastal Grassland. In addition, Vlok *et.al* (2008) note that fire independent geophytes such as *Brunsvigia orientalis* can be locally abundant. This plant is also recorded at the site, based on the aforementioned field work.

30. The obvious question, therefore, is whether the presence of the species noted above is an indicator of the possible presence of remnants of the original Sedgefield Coastal Grassland, and if so, would it not be correct from a scientific analysis perspective to undertake more detailed research on the site vegetation? Would it also not be appropriate to consult the conservation authorities and also the scientists that undertook the fine-scale mapping exercise? Is it not correct to undertake these additional activities in the context of the precautionary principle?

31. Linkages are inadequately addressed. What about north-south linkages, particularly to the coast and the Goukamma Strandveld that is described by Cowling *et.al* (2023)? What is the cumulative impact of this proposed development together with existing developments and other proposed developments in this regard? Cowling *et.al* (2023)[15] note that "….rising sea levels driven by climate change are likely to result in the inland migration of the beach–dune profile. Dune ecosystems may remain intact and functional even after such a displacement, but this is entirely dependent on the existence of sufficient accommodation space on the landward margin. Should this not be the case, a "coastal squeeze" will ensue, leading to the extirpation of dune habitats and their component species. The risk of this is especially high along developed coasts, where hard infrastructure effectively limits the extent to which coastal ecosystems can migrate inland in response to sea-level rise."

32. It is a well-accepted scientific principle that restoration of ecosystems and maintaining them in a good ecological condition enables them to better support natural adaptation and mitigation processes, thereby offering increased protection to human communities and reducing the economic burden of future disasters related to climate change. This is a cornerstone of Ecosystems Based Adaptation (EBA)[16], which is not discussed in the Revised BAR or its previous version.

33. Uncertainties in vegetation baseline information such as those noted herein will obviously affect the scope of the biodiversity specialist studies (i.e. the issues / questions that it should seek to answer). Also, the assessment of impacts will be heavily influenced by the information on which the biodiversity specialist places most reliance and / or emphasis. In this case, there is an over-reliance on the description of the site as 'transformed' and inadequate attention is given to possibilities for restoration of fynbos and / or grassland ecosystems.

34. Based on the foregoing information, the impacts on biodiversity insofar as vegetation is concerned are considered to be understated. It is questionable as to whether using a numerical / mathematical approach to assessing impacts is meaningful when dealing with dynamic, living systems. Furthermore, the calculation method applied tends to blunt the criteria that should be of priority and emphasised in determining sensitivity and hence impact significance.

35. A further concern in relation to biodiversity information which arises from the Aquatic Impact Assessment relates to the downplaying of the EFZ and the limited manner in which this has been intepreted (based on species and soil conditions). According to SANBI the EFZ captures the natural, historical estuarine extent and should not be confused with setback/management lines that often exclude developed areas. The EFZ purpose is to identify the 'space' in which estuarine physical and

[15]https://peerj.com/articles/16427/ Various research is cited in relation to this point in the Cowling *et.al*. this paper

[16] See for example https://www.sanbi.org/wp-content/uploads/2020/05/Guidelines-for-Ecosystem-based-Adaption-in-South-Africa._-002.pdf - accessed 20 July 2025

biological functions take place over long time scales (>decades). Development in the EFZ is captured as an aspect of habitat degradation or decline in overall estuary condition.[17]

36. Taking account of the foregoing information, the following contention by the EAP cannot stand and is challenged, namely "…the proposed development nodes are strictly located within areas that have been identified as being transformed with no natural remnants remaining."[18] For one thing, the development impinges on the EFZ and the flood risk 4.5m contour. There is a high-level of correspondence between the EFZ and the Sedgefield Coastal Grassland (CE), which may already be recovering or has the potential to recover. The interactions between these biodiversity features have not been assessed and their importance in terms of climate change adaptation and resilience has not been considered.

5.2 Flooding and flood risk

37. The question of flooding risk and the impacts associated with flooding have not been adequately assessed. For example, the implications for disaster management response systems, damage to property and the like have not been identified as possible risks or impacts and assessed. Rather, the approach that has been taken is to argue that design proposals such as permeable paving, collection of rainwater and implementation of detention ponds will entirely remove the risk of flooding.

38. The EAP references specialist reports as having addressed the flooding issue even though these do not address flooding risk in a substantive manner. Accordingly, the EAP persists with the notion that "Flooding risks have been considered and addressed in the Engineering Report, Aquatic Impact Assessment, and Groundwater Impact Assessment." None of these reports include detailed analysis of flooding risks. None of these reports contain hydrological modelling and flood risk analysis under extreme rainfall event scenarios. None of these reports reference the CSIR's Green Book or the climate change work undertaken under the auspices of the Garden Route municipality.

    (a) The Engineering Report (Appendix G3), undertaken by Poise, does not constitute an assessment of flood risk. It is not a hydrological specialist study. This is evident from the title of the document, namely: "BULK SERVICES AND CIVIL ENGINEERING INFRASTRUCTURE REPORT" which was "ISSUED FOR REZONING APPROVAL". This is an infrastructure and services report and as such does not constitute a specialist report as envisaged in the 2014 NEMA EIA Regulations. Infrastructure and services form part of the project and are to be subjected to assessment from an environmental impact perspective. The nature and significance of environmental impacts ought to feedback into the design, layout and type of infrastructure proposed. Instead, the EAP offers the engineering report as having addressed the flooding risk (a risk that has not been assessed). It is unclear as to how such an assumption can be made because the design of flood attenuation measures must surely be informed by the results of a flooding assessment.

    (b) The Geotechnical study describes the site as being dominated by estuarine sandy soil, based on observations from test pits dug at various points across the site (10 positions). It is noted that the topsoil horizon is underlain by unconsolidated to semi-consolidated sand with scattered marine shell fragments. Other than fill in some parts of the site, all of the soils are described as being 'transported' (Table 1) which points to their removal from their original location by natural forces (wind, water) and deposited[19]. Neither the geotechnical specialist study nor the aquatic

[17] Van Niekerk, L., Adams, J.B., Lamberth, S.J., MacKay, C.F., Taljaard, S., Turpie, J.K., Weerts S.P. & Raimondo, D.C., 2019 (eds). South African National Biodiversity Assessment 2018: Technical Report. Volume 3: Estuarine Realm. CSIR report number CSIR/SPLA/EM/EXP/2019/0062/A. South African National Biodiversity Institute, Pretoria. Report Number: SANBI/NAT/NBA2018/2019/Vol3/A. http://hdl.handle.net/20.500.12143/6373 - accessed on 19 July 2025 https://metadata.sanbi.org/srv/api/records/c2c2c496-ae56-44ab-ace6-c3e37ad09355 - accessed 19 July 2025

[18] Page 27 of Revised BAR

[19] Page 5 - Geotech

study provide details on the transportation process, but the fact that estuarine sands are dominant does serve to confirm the involvement of water in the soil transport and deposition process. This particular point is relevant to the identification of the EFZ on the site.

(c) The groundwater specialist report seems to suggest that flooding is not a significant risk because of the presence of sandy soils. However, there is no indication of any scientific analysis of infiltration rate and infiltration capacity of the soil. Clearly, this will determine the ability of the soil to absorb water, the lateral movement of water through the soil and the rate at which the water table will rise. Added to this is the rainfall factor - the amount, intensity, the period between rainfall events, the duration and frequency of rainfall. The gradient across the site and from the site to surrounding areas will also influence the potential for flooding. It is therefore not as simple as stating that the sandy soil has high permeability – once the vadose zone is saturated, no further absorption is possible.

(d) In fact, it is evident from one of the specialist studies on which the EAP relies to claim that the flooding risk has been addressed– that a flooding risk exists and that it has not been fully assessed. The aquatic impact assessment states: "The property is located on the edge of the 1:100 year floodline ….." and "In reality, the frequency of 100-year flood events is increasing due to climate change, and when coincident with sea-level rise and high tide events, it is not impossible that minor flooding could affect the low-lying area of the property in future." No additional investigation of this potential risk was undertaken.

39. The fact that climate change could result in 'minor' flooding as mentioned in the Aquatic Impact Assessment, has not been subject to further assessment. Instead, the approach has been to downplay this issue and place sole reliance on dealing with this risk on SuDS (Sustainable Drainage Systems), rainwater capture and the installation of detention ponds. In the absence of a specialist flooding study, it cannot be assumed that these measures are adequate, whether or not the design is in accordance with the CSIR's Red Book standards.

40. Neither the CSIR Green Book nor the associated climate change portal have been consulted. These resources provide detailed projections of future climate change over South Africa, including in relation to average rainfall and extreme rainfall events. Recent readily available research (e.g. Smith-Adao *et.al*, 2022) on flood hazards in the Garden Route has not been taken into account.[20]

41. The 2024 Garden Route District Climate Change Adaptation Needs and Response Assessment, has also not been considered. According to Section 2.4.6 and Figure 29 of this document, the Bitou municipal area has high environmental vulnerability. The score is 6.8, the second highest score shown on the map and "A high score reflects a significantly high conflict between preserving the environment and allowing land-use change to occur. Criteria used to measure environmental vulnerability include air quality, environmental governance, and competition between ecology and urban encroachment."[21]

42. Existing research on flooding and extreme events is not referenced. This provides useful information on previous events. For example, in relation to the floods of 2007: "From 19–24 November 2007, the South Western Cape was buffeted by yet another cut-off low that led to flooding in four districts. This constituted the fifth such event to hit the Eden District since 2003."[22]

43. Local knowledge has not been sought, even though concerns about flooding risk have been raised by local residents throughout the PPP. The photographic evidence (overpage) shows the importance of

[20] https://journals.co.za/doi/pdf/10.10520/ejc-waterb-v21-n4-a9 - downloaded on 4 July 2025

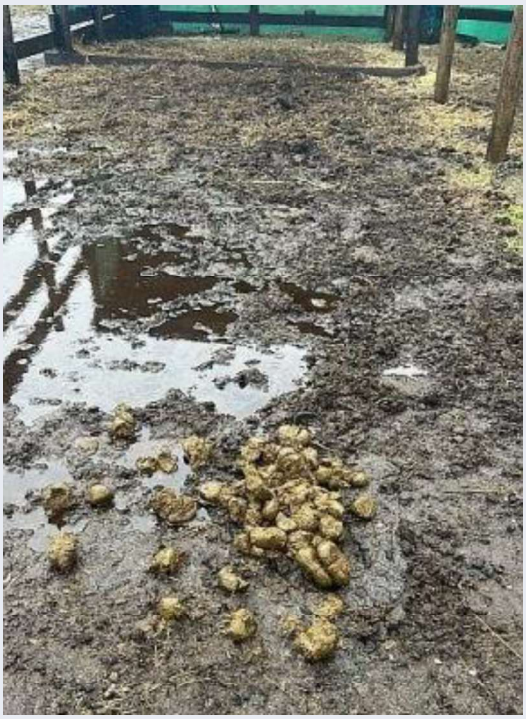
[21] https://www.gardenroute.gov.za/wp-content/uploads/2024/03/Garden-Route-District-Climate-Change-Adaptation-Needs-and-Response-Assessment-2024.pdf - downloaded on 4 July 2025.

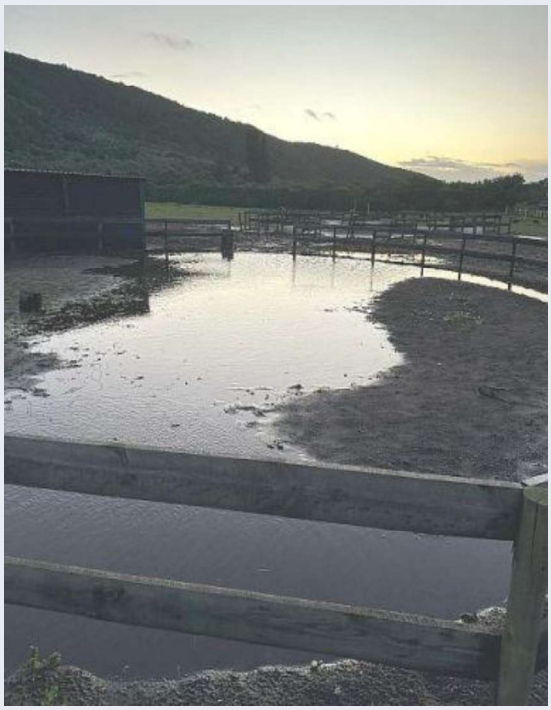
[22] https://d7.westerncape.gov.za/text/2013/July/radar-eng.pdf - accessed 19 July 2025

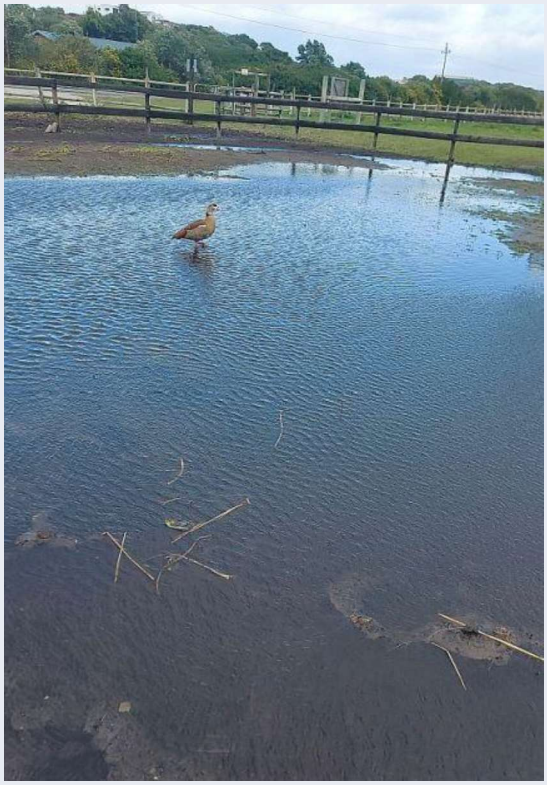
taking cognisance of local knowledge. Based on this evidence, the necessity for further investigation of flooding risk is clearly indicated.

44. <u>In the absence of a hydrological specialist study and the consideration of climate change effects, the conclusions in relation to flood risk cannot be taken as definitive or reliable</u>.

Selection of photographs provided by the horse stabling and riding facility that used to operate on the low-lying portion of the site – that is, the location of the proposed development.







ANNEXURE

Points of clarification

The following points, which arise out of the EAP's response to our comments on the Draft BAR require clarification. MEGA therefore places the following facts on the record. This is by way of 'clearing the air' insofar as the following is concerned:

- ✓ *Firstly, insofar as the registration of the reviewer, Ms Mary-Jane Morris is concerned*. The EAP has seen fit to raise the following point in reference to the review by MEGA in the Comments and Response Report (hereafter referred to as the C&R Report[23]: "It should be noted that the Basic Assessment Report was compiled by a EAPASA Registered EAP, whereas this audit was not undertaken by an EAPASA registered EAP. Nonetheless, the concerns raised in this audit have been responded to accordingly" (emphasis added). It is not necessary for Ms Morris to be registered with EAPASA to undertake EIA reviews because this does not constitute an EAP role as envisaged in the National Environmental Management Act (Act 107 of 1998). She has 40 years of experience in the environmental field, and is registered as is legally required with the South African Council of Natural Scientific Professions as a Natural Scientist in the field of environmental science.

- ✓ *Secondly, MEGA did not audit the Basic Assessment process*. To be clear, we stated that we were conducting a limited review. In this process we considered the principles in the Integrated Environmental Management Information Series 13: Review in EIA. We did not undertake an audit and do not claim to have undertaken an audit, as alluded to by the EAP.[24] Our involvement has been solely concerned with commenting on the Draft BAR and the Revised BAR in the context of a limited review. We did not undertake an EIA audit as described in Section 4.3 of the, namely "to check that an Environmental Impact Assessment complies with the minimum legal requirements and also checks to ensure that due legal process has been followed." What we did do in the limited review process is to adopt an approach that is based on auditing principles. As explained in our comments on the Draft BAR, the methodology we followed "can be seen as similar to that applied in environmental auditing, where a sampling approach is commonly applied to test performance against requirements. Where shortcomings were noted, we provided the rationale and / or examples supporting our conclusions. In addition, we undertook additional research by way of confirmation and verification.

[23] Page 211 – C&R Report
[24] Page 211 – C&R Report

Response to comments on the original Hughes report.

Dr D A Hughes, PrSciNat
Emeritus Professor
Rhodes University
Grahamstown / Makanda

For:

Cullinan and Associates Incorporated (2001/001024/21)
Cape Town

Date of Review: 10 July 2025

This response addresses the comments from both Confluent Environmental (Pty) Ltd contained in the file Appendix F2-WULA Response to comments.pdf, as well as those contained in the file Appendix F3-Engineering Response to comments.pdf. However, most of the responses are repeated in both files and it is therefore appropriate to respond based on the key issues that have been raised.

1. Some of the responses refer to other information. For example, Appendix F3 item 8.6.3 refers to the 'Poise Report Paragraph 8.5'. I have to assume that this refers to item 8.5 in the same appendix because I could not find any other paragraph 8.5. If so, this is confusing because response 8.5 does not address issues of antecedent wetness.
2. Both reports suggest that my calculation of the 24 hour rainfall is incorrect and that the 1:50 year return period rainfall is actually 140 mm. Table 4 in the WULA report and Appendix 10 in the Poise Civil Engineering report provides catchment areas (column 2) and 1:50 yr 24 hr Rainfall volumes (column 7) for the three ponds. Using pond number 1 the area is 2.861 ha (or 28610 m^2) and the rainfall volume is 2213 m^3 and 2213/28610 = 0.077m or 77mm. The same calculation for ponds 2 and 3 result in the same depth. Nowhere in either original technical reports can I find a reference to the use of 140 mm rainfall depth. The only thing that I can conclude is that column 7 in the stormwater management plan data table is incorrectly labelled. Unfortunately, I could not find any text in the reports that explains the table provided in the stormwater management plan and therefore it is difficult to check the assumptions made and therefore the correctness of the conclusions.
3. A related issue is that they state that all pond storage values have been tested for durations up to 72 hours. I could not find the details of these tests in any of the original reports.
4. My original report referred to antecedent wetness as well as the limited storage related to groundwater levels. The responses suggest that antecedent wetness was considered through an adjustment that accounts for higher runoff under higher return intervals. I do not understand this response because it does not relate to my comment about antecedent wetness. I acknowledge that higher return period runoff events might be related to wetter antecedent conditions, but not necessarily so. Effectively, a 1:50 year rainfall event falling on a dry catchment will produce less runoff that the same rainfall falling on an already wet catchment. However, the issue is more about the storage capacity of the subsurface material than about runoff, which will be lower under wet antecedent conditions.

I would not disagree with the general conclusion that there is adequate storage in the sub-surface material to absorb a high rainfall event, assuming that the groundwater level is at 2m or lower. This would imply at least 600mm of storage based on a saturated porosity of at least 30% (the sandy material could be even more porous). However, this could change during a prolonged wet period during which the groundwater level might be expected to rise from both in situ rainfall as well as from drainage from the steep slope to the north of the site. I cannot state categorically that there would be surface flooding, but these issues (in my opinion) have been neglected in the original reports and also have not been addressed in any of the responses to my original comments. It is not clear from any of the reports when the reported groundwater depths (from the dug pits) were measured and what were the antecedent rainfall conditions (i.e. were they measured under dry, moderate or wet conditions). This is important information for a comprehensive understanding of the drainage dynamics of the site.

There are other factors which are only superficially covered in any of the reports or responses to my comments. The first is the possible impacts of reduced storage and/or drainage due to compaction of the foundations. The response is that the stormwater management plan accounts for reduced infiltration capacity relating to foundations. However, none of the reports refer to reduced storage or reduced lateral drainage consequent upon compaction in parts of the site. The second is that various responses refer to the effects of percolation and lateral capillary action on drainage from the ponds. Unfortunately, these responses are not supported by any detailed assessment and also ignore some of the factors discussed above (e.g. antecedent conditions). The site is more-or-less flat and lateral drainage relies on a hydraulic gradient. So, the key question is if Poise believe that any stormwater inputs to the site will drain away, where exactly is this water going to go? The adjacent areas appear to be also quite flat and the assumption is that under extreme wet conditions they will also be equally saturated. Without a more detailed analysis of the broader area in the vicinity of the site it is difficult to properly understand where the stormwater on the site will move to, if anywhere. I have to therefore conclude that the whole issue of stormwater management has been inadequately assessed in the design of the project.

5. Responses 8.6.4 to 8.6.6 also refer to my previous comments about the effectiveness of the stormwater retention ponds and suggest that my comments represent an 'unsubstantiated, subjective opinion, formulated without design review'. While my comments were not based on any detailed analysis, they are far from being subjective. They were based on an integrated assessment of the potential impacts of the site, while I would argue that the original stormwater management plan did not adopt an integrated approach, but rather analysed various (but not all) of the stormwater issues in isolation. For a complete and integrated understanding I would suggest that all of the following need to be considered in an integrated manner:
    a. In situ rainfall and infiltration taking into account the effects of buildings or other impervious areas and how much of the roof runoff will be contained in rain tanks and how much will become runoff onto the remaining pervious areas.
    b. Contributions of both surface runoff and sub-surface drainage from the steep slope to the north under high rainfall conditions. Runoff will contribute to the amount of water that will need to infiltrate or be stored in ponds, while sub-surface drainage will raise the groundwater level and reduce the soil storage capacity to absorb in situ rainfall.

c. The impacts of antecedent conditions on the dynamics of the sub-surface storage system, particularly with respect to available storage.
d. The sub-surface lateral drainage dynamics of the broader area, including the shoreline to the south. Where is any excess water likely to drain to and what will be the hydraulic gradients that will affect the rate of this drainage. One of the cross-sections that was available in the initial reports suggests that the development is below the 'high water mark', which I assume to refer to the highest high tide level of the sea (if this is the incorrect interpretation then I withdraw the comment). This suggests that groundwater will not be able to drain towards the sea during such high tides and further implies that the level of the tide could impact on the pattern of drainage as there does not appear to be any other place where the sub-surface storage water can drain to (with the proviso that I do not have access to data on the adjacent areas).
e. It would also be useful to estimate likely evapotranspiration losses in different seasons to get an idea of how long any excessive sub-surface drainage would take to return to lower levels. Perhaps planting high water usage trees on parts of the development would help this.
f. It is possible that under some conditions, the ponds would become largely irrelevant if the sub-surface material is saturated relatively close to the surface (noting that their depths are between 500 and 750mm. This would mean that they would have nowhere to drain to.

I would like to emphasise that none of the above suggestions are based on speculation, but are in fact based on sound hydrological principles of understanding the water balance (both surface and sub-surface) of any area or block of land.

6. My comments were based on what I considered to be the limitations of the stormwater runoff information presented in the report and the conclusion I reached was that some issues were not covered. The responses to my comments by Poise suggest that some of the issues were covered by their analyses, even if they were not included in detail in their report. To better appreciate the potential impacts of these issues I did some calculations of my own to see if including them would make any substantial difference to the conclusions reached by Poise. This, inevitably, involved making some assumptions in the absence of accurate measurements of some of the variables involved:

It is assumed that the sum of the catchment areas in the stormwater management table represents the total area of the flat part of the development (48 580 m^2). With a groundwater depth of 2 m and an assumption that the open areas (i.e. not under the house foundations) have a porosity of 0.3, while the areas beneath foundations would have a lower porosity and the areas under the ponds would have a higher porosity (including the pond storage itself with a porosity of 1.0), the total available storage is estimated to be some 30 000 m^3. In situ rainfall (140 mm over 3 days) over this area represents some 6 800 m^3. I have ignored the infiltration rate given that it is assumed to be higher than the rainfall intensity, and because the ground is flat any surface storage has nowhere to go and would therefore eventually infiltrate. I estimated the surface area of the slope to the north to be approximately 90 420 m^2, assumed a surface runoff coefficient of 0.15 (giving a runoff volume of 1 900 m^3) and further assumed that the remainder would contribute to recharging the groundwater below the northern slope area. Given some assumptions about the initial groundwater gradient and the storativity and transmissivity of the underlying rock, I estimated that this recharge could contribute

approximately 9 400 m^3 of groundwater flow to the flat area of the development site. This means that of the initial total available storage of 30 000 m^3 a 140 mm rainfall event could contribute some 18 000 m^3, raising the groundwater table beneath the site to about 0.79 m, and therefore not constituting a surface flooding hazard.

If we change some of the assumptions about the initial conditions prior to the storm (initial groundwater depth, initial groundwater gradient in the northern slope area) it transpires that the antecedent conditions would need to be quite wet before surface saturation occurs. For example, if the initial groundwater depth is reduced to 1.5 m, the final groundwater depth becomes about 0.4 m, while an initial groundwater depth of 1.0 m results in surface saturation and therefore some flooding. See also my comments in point 7 below about the potential impacts of estuary flooding on groundwater levels at the development site.

While there are inevitably a number of uncertainties in the methods that I have applied (it was done very quickly), repeating the analysis with changes to the variables that are most uncertain led to the overall conclusion is that there is a possibility of surface flooding, but it would only be likely to occur during extreme conditions represented by wet antecedent conditions and high rainfall. Figure 1 (extracted from the letter of objection submitted by Dr NJ Frootko) suggests that surface saturation has occurred in the recent past. ***In the interests of transparency, the simplified water balance approach is provided in an annotated Excel spreadsheet accompanying this report, which can be used to change some of the assumed parameter values or starting conditions. In addition, Appendix A to this report details a simplified monthly water balance over a period of 90 years based on available rainfall data that supports the suggestion that surface saturation of the proposed development site is likely to occur quite often. Although this conclusion is based on a very simplified water balance (with the inevitable uncertainties associated with the analysis), the approach is relatively conservative in the way in which the sub-surface storage dynamics are calculated.***

Figure 1: Evidence of surface water on the development site during the winter months of 2023 (source: Dr NJ Frootko).

7. The remaining comments refer to my original comments about the risks of flooding from the Keurbooms River estuary. My key point was that these issues were not adequately addressed in the original report and I relied on some of the comments from other people. I agree that the development would likely not remove potential storage of estuary floodwaters such that neighbouring properties might be affected. The more detailed explanations provided in the two response documents are sufficient for me to conclude that estuarine flooding of the development is quite unlikely under present day conditions, based on the estimated 1 in 100 year flood line provided in some of the reports. However, the flood line diagrams show that the 1 in 100 year flood line extends to the southern side of the PO394 road but not to the north and onto the development site, suggesting that the road is assumed to act as a flood barrier. This is a questionable assumption because the road, the road reserves and most of the flatter part of Portion 91/304 are actually at a similar elevation or lower than the area to the south of the road, which is currently included in the extent of the 1 in 100 year flood. Apart from the possible need to review the existing estimates of extreme flood events, I am also of the opinion that the effect of extreme high sea tides linked to climate change (and there is at least some evidence for the occurrence of these in recent years) could potentially exacerbate flooding levels in the vicinity of the proposed development, particularly where high runoff in the Keurbooms River occurs at the same time. That risk has simply not been assessed by Poise with respect to the proposed development or surrounding properties. Similarly, it would be useful to assess the effect that flooding from the Keurbooms River estuary has on groundwater levels below the proposed development to determine if this could impact on the local water balance at the site (see point 6 above).

8. During this review of comments an additional document was made available. This document provides a hydrogeological risk assessment and was compiled by DHS Groundwater Consulting Services (dated February 2025). While much of the report deals with the potential for aquifer contamination, it also refers to the possible increase in the risk of flooding (section 7.2) and recommends future monitoring of groundwater fluctuations (section 7.3). The report did not include any detailed water balance analyses during extreme rainfalls and therefore does not contain any information that would counter my own water balance calculations in paragraph 6 above (and in the accompanying spreadsheet).

9. The overall conclusion is that some of my original concerns have been answered either by some of the responses or though my own approximate water balance calculations of the water storage conditions under the proposed development site during extreme rainfalls. I however remain of the view that there is a flooding risk associated with the proposed development site, and that such risks have not been comprehensively assessed with respect to the proposed development (and surrounding properties).

Appendix A: Water Balance Time Series Analysis

Data:
Monthly rainfall data for quaternary catchment K70A, October 1920 to September 2010
Mean monthly potential evapotranspiration data for K70A, assuming an annual value of 1 550 mm

Water Balance Approach:
Assumes a maximum groundwater depth under the development of 2.5 m and an average porosity of 0.31 over an area of 0.048 km^2 (4.8 ha). This gives a total potential storage of 37 200 m^3.

Assumes a starting groundwater depth of 2.0m equal to a potential storage of 29 760 m^3.
For each month:

Reduce the potential storage by the insitu rainfall over the development.
Reduce the potential storage by runoff and groundwater inflow from the slope to the north if the rainfall exceeds the potential evapotranspiration based on (Rainfall – Potential Evaporation) * Area, where the contributing slope area is assumed to be 0.09 km^2 (9 ha).

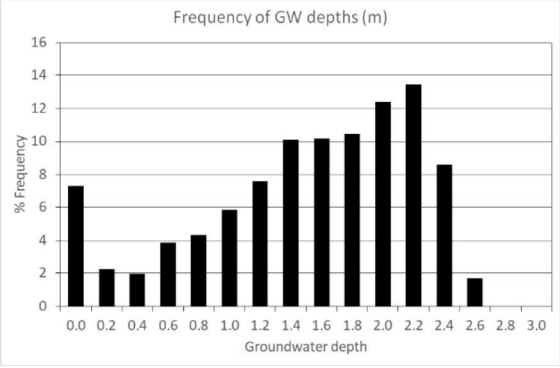
Increase the potential storage by evapotranspiration losses which are assumed to occur at the potential rate when the potential storage is low (i.e. groundwater close to the surface) and at lower rates for deeper groundwater levels.

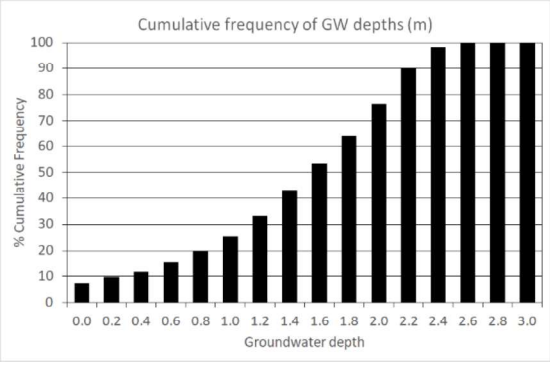
Sub-surface drainage through the dune sands to the south has been ignored on the basis that the gradients are expected to be very low, given that the land surface of the development site is only about 4 m above mean sea level. It is also possible that rainfall on the dunes themselves could create a reverse groundwater gradient towards the development site under wet conditions.

The potential storage at the end of one month is used as the starting potential storage for the next month.

Results:
The figures below show the % frequency and % cumulative frequency of different groundwater levels based on the full time series. The indications are that the groundwater levels under the development could be at, or very close to, the surface for approximately 10% of the time.

While there are many simplifications (and therefore uncertainties) associated with this analysis, in combination they are likely to work in both directions (i.e. both over- and under-estimating the inputs to the sub-surface storage below the development. For example, if we change the maximum groundwater depth to 3.0 m, the frequency of saturated, or near saturated, conditions reduces to about 7% of the time.





REVIEW OF THE WATER USE LICENSING APPLICATION for a RESIDENTIAL DEVELOPMENT IN KEURBOOMSTRAND, PLETTENBERG BAY. Dated September 2024

This Review has been Prepared by:

Dr D A Hughes, PrSciNat
Emeritus Professor
Rhodes University
Grahamstown / Makanda

For:

Cullinan and Associates Incorporated (2001/001024/21)
Cape Town

Date of Review: 5 November 2024

1. INTRODUCTION

The main objective of this review is to comment on the contents of the Water Use Licence Application (WULA: including the supporting information contained within the 10 Appendices) for the proposed housing development on Portion 91 of the farm Matjesfontein 304, in Keurboomstrand, Plettenberg Bay.

Additional information that was provide to the reviewer included documentation of a number of comments on the draft basic assessment report for the proposed development, as well as several maps and diagrams that highlight the topographic characteristics of the area.

The objectives of this review are:

- To review the main contents of the WULA.
- To comment on the key conclusions of the WULA.
- To review any additional evidence provided that pertain to water resources, flooding or other issues that fall within this reviewer's area of expertise (i.e. hydrology).
- To assess the impact of the proposed development on other existing residential properties in the area with respect to flooding or other issues relating to water resources, water supply and wastewater disposal.
- To make any additional comments that might be relevant to the feasibility of the development.

This review will not address any issues pertaining to socio-economic or non-water related infrastructure (e.g. roads and traffic) impacts of the development, nor is the reviewer qualified to address issues related to biodiversity or other ecological impacts.

2. GENERAL OBSERVATIONS ABOUT THE DEVELOPMENT SITE

The proposed development is situated some 5.8km along the shoreline from the main part of the Keurbooms Estuary mouth. It is therefore initially surprising that part of the area is included in the Estuarine Functional Zone (EFZ) of the Keurbooms Estuary. However, a more detailed examination of the topography to the east of the Keurbooms Estuary indicates that there are low-lying areas on the inland side of the coastal dunes (Figure 1). Although quite detailed 2m contour maps were provided, they do not extend all the way to the estuary and it is difficult to definitively conclude that the development site is directly hydraulically connected to the estuary during high floods. However, all the evidence points to the fact that it is connected and will form an inundated backwater area when the estuary is subjected to flooding. This is supported by the cross-section data (approximately north-south through the proposed development property) that indicates that most of the area to be developed is below 5m above mean sea level.

Figure 1 Location map showing the mapped extent of the Keurbooms EFZ.

A further characteristic of the site is the existence of a spring (reportedly perennial) and a pond situated at the base of the steep inland slopes to the north. The protection of this spring appears to be a major component of the WULA.

3. OBSERVATIONS ABOUT THE KEY COMPONENTS OF THE WULA

There is a great deal of discussion in the WULA about the likely impacts of the development on the spring and all the regulations pertaining to developments close to a watercourse. However, these seem to be largely irrelevant because there is no drainage line away from the pond that is supplied by the spring and I am doubtful if this spring would be classified as a significant water resource.

A further key component of the report relates to the proposed waste-water disposal system which consists of an underground anaerobic storage tank, a containerised bioreactor plant and an elevated storage tank located in the northwest of the property. Some of the treated waste-water will be used for irrigation of the property but the area close to the spring will not be irrigated. The proposals for the waste-water treatment system seem to be appropriate. However, this also seems to be a temporary measure as the report suggests that the waste-water will eventually be directed to the municipal sewer system when the existing capacity has been increased.

The WULA report includes a stormwater management plan that includes the construction of three stormwater retention ponds and concludes that the total volume of 2 840 m^2 is sufficient to store the runoff that might occur during a 1:50 year rainfall. The 24 hour rainfall depth used in the calculations is about 77mm, and the report appears to assume that a large proportion of the runoff will infiltrate during the 24 hours such that the available storage will be sufficient. However, my experience suggests that flooding events in this region of the Southern Cape coast are typically a result of rainfalls with a longer duration than 24 hours and therefore only focussing on the rainfall depth in a 24 hour period is unlikely to provide an accurate value for the storage required. The effects of antecedent wetness conditions have been ignored and could be very significant. The report also assumes a quite high rate of natural drainage from the ponds. However, the ground is very flat and sea level is not far below, suggesting that drainage gradients will be very low and that the capacity of the soil material immediately beneath the ponds will also be very low. The stormwater management plan also appears to ignore the possibility of runoff and near surface drainage from the forested slopes to the north of the property. The Geotechnical Report (compiled by Outeniqua Geotechnical Services, Knysna) noted that groundwater was identified in test pits at an average depth of 2 m (see also the photographs in Annexure C of this report), supporting the suggestion that there is limited storage capacity for drainage into the soils underlying the property, although this will clearly vary over time depending on the antecedent rainfall conditions. My conclusion is that the potential benefits of the proposed stormwater retention ponds for reducing the flooding impacts of surface water runoff during high rainfalls have been quite substantially over-estimated.

The WULA report does not make any mention of the flooding risk from the Keurbooms River estuary and only focuses on the risks of localised flooding from stormwater.

The Geotechnical Report also suggests that 'Stormwater from roofs can generally be handled in gutters, downpipes and open channels or underground pipes, with suitable discharge locations on the southern side of the site'. However, the cross-section and contour data suggests that there is no drainage route to the south due to the existence of the coastal dune.

It is noted that upgrades to the existing bulk water supply system will be required to accommodate the potable water supplies to the new development. It was not clear to me what the time frame of these planned upgrades is and therefore it is difficult to comment on the likely impact of the proposed development on the assurance of water supply to existing users.

4. REVIEW OF PHOTOGRAPHIC EVIDENCE AND CROSS-SECTIONAL DATA PROVIDED

A number of maps, topographic cross-sections and photographs of inundation during the November 2007 floods were also provided to the reviewer and these are added as annexures at the end of this report. Annexures A and B show that the 1:100 year flood line (based on the Keurbooms and Environs Local Area Spatial Plan) reaches almost to the development site but is confined to the south of the road. At Portion 91/304 the 394 road itself does not appear to be elevated above the surrounding ground (see the cross-section in Figure 2) and therefore does not act as a barrier to flooding. It is therefore possible that the actual extent of a 1:100 year flood could continue to the north of the road. The extent to which the property currently plays a role in flood attenuation, would also depend on whether or not the property would be locally saturated from local runoff from the slopes to the north.

Annexure C shows some photographs taken during the November 2007 flood when the Keurbooms Road (394) was reported to be impassable and the Dunes Resort (about 1 400 m to the west of the proposed development) was 1.5 m under water. Fortunately, vacant land on both sides of the road were not saturated before the heavy rainfall and floods of 2007 and acted as important areas for floodwater drainage. I assume that this also means that the existing properties to the south of the road, adjacent to the development site and constructed below the slopes of the coastal dune, were also under water.

The cross-section data suggests that almost all parts of the development will be below 5m above mean sea level (the black dashed line in Figure 2). There seems to be little doubt that the site does play a role in providing some flood storage, as well as the fact that the site is highly likely to be flooded during heavy and prolonged rainfall events.

While there is little real evidence to suggest that the frequency of high, flood producing, rainfalls are increasing in this part of South Africa due to climate change, there remains a great deal of uncertainty surrounding the likely effects of climate change. However, there does seem to be some evidence that sea tidal/storm surges are becoming more frequent (note the flooding of the N2 entering Port Elizabeth due to several storm surges during 2024). To suggest that storm surges are likely to impact on flooding in the Keurbooms Estuary EFZ would be very speculative in the absence of further information, however, the possibility should not be entirely discounted.

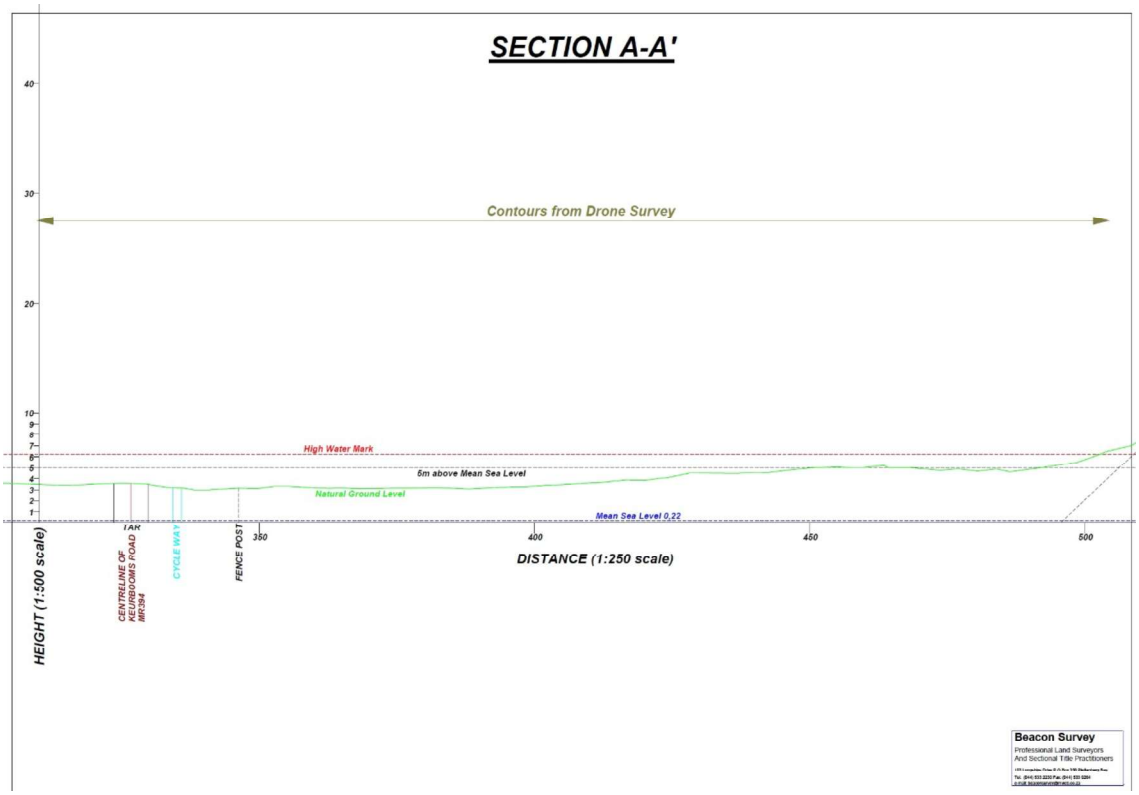


Figure 2 Cross-section through part of the proposed development site (south is on the left, north on the right).

Although the WULA does consider cumulative impacts related to bulk water infrastructure, the resolution of those concerns appears to depend upon upgrades to these services and it seems as if no timeframe can be guaranteed for the implementation of these upgrades. It is noted that the development plans do include an interim solution for waste-water treatment that appears to be appropriate.

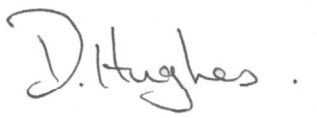
5. OVERALL CONCLUSIONS ABOUT THE IMPACT OF THE PROPOSED DEVELOPMENT

The main conclusion relates to the impacts of flooding on the development itself, as well as on adjacent existing property developments. I reached the conclusion that the development plans and proposals generally fail to give due consideration to potential future flooding risks associated with development. My evaluation of the available information suggests that the risks to flooding on the development site itself have been quite seriously under-estimated. This includes the risks associated with large scale flooding from the Keurbooms Estuary, as well as those associated with more localised flooding. The extent to which these flood risks are likely to be extended to adjacent properties is somewhat more difficult to be sure about, but there seems to be little doubt that the development will remove at least some existing flood retention storage and could therefore impact on existing developments, notably those in the relatively low lying areas to the south of the road.

It is assumed that under existing conditions any flood waters that inundate the property will gradually decrease through either evaporation or drainage through the soils towards the south (underneath the coastal dune and eventually seeping out through the beach sands). This drainage is expected to be relatively slow due to the low gradients involved. Apart from the potential for increased localised flooding due to the increase in impervious areas (roofs, roads, pathways, etc.) there is also the potential for the compacted foundations to restrict the rate of sub-surface drainage after flooding and therefore prolong the period of inundation. This is based on the assumption that the compacted foundations (which will reduce the permeability of the soils underneath each building) will reduce the area of the seepage face along the southern boundary of the property. Whether or not this would constitute a significant impact is difficult to say in the absence of more quantitative data, but if there are doubts about the validity of this assumption, it would be appropriate to set up a groundwater flow model to assess the impacts of the reduced permeability on the duration of inundation. This was beyond the scope of this short review. Many of the issues discussed above are also raised in an untitled report by Nick Frootko that was made available to this reviewer.

The impacts on bulk water and sewerage services will be largely determined by the timeframes of proposed upgrades to these services by the relevant local authorities. It is therefore difficult to make any definitive comments about such impacts without further information about the implementation of the upgrades. It is clear, however, that without the upgrades the impacts (particularly on bulk water supplies) will be significant.

D A Hughes



5 November 2024

ANNEXURE A


Keurbooms & Environs Local Area
Spatial Plan
Notation
1:50 Year Floodline
1:100 Year Floodline
Fynbos Corridor
Forest/Thicket Corridor
Wetland Corridor
Dune Corridor
Slopes steeper than 1 in 4
100m mamsl swash run-up contour line (for exposed sandy coast lines)
Study Area
0
250m
500m
750m
1km
N2
The Dunes
Dolphin Waves
Silver Ranch
Silver Glades
Tesselaarsdal Retirement Village (Old Keurbooms Hotel)
First Floor • La Gratitude Office Building
97 Dorp Street • Stellenbosch 7600
tel (021) 861 3800
fax (021) 882 8025
e-mail: stel@tv3.co.za
web: www.tv3.co.za
tv3
ARCHITECTS AND TOWN PLANNERS

ANNEXURE B


Study Area
1:50 Year Floodline
1:100 Year Floodline
Islands Above1:50 Year Floodline
Islands Above1:100 Year Floodline
100m Urban Coastal Setback Line
100m mamsl swash run-up contour line (for exposed sandy coast lines)
92/304
129/304
91/304
13/304
Main Road No. 394
Dolphin Path
Elmo
Keurbaai

ANNEXURE C

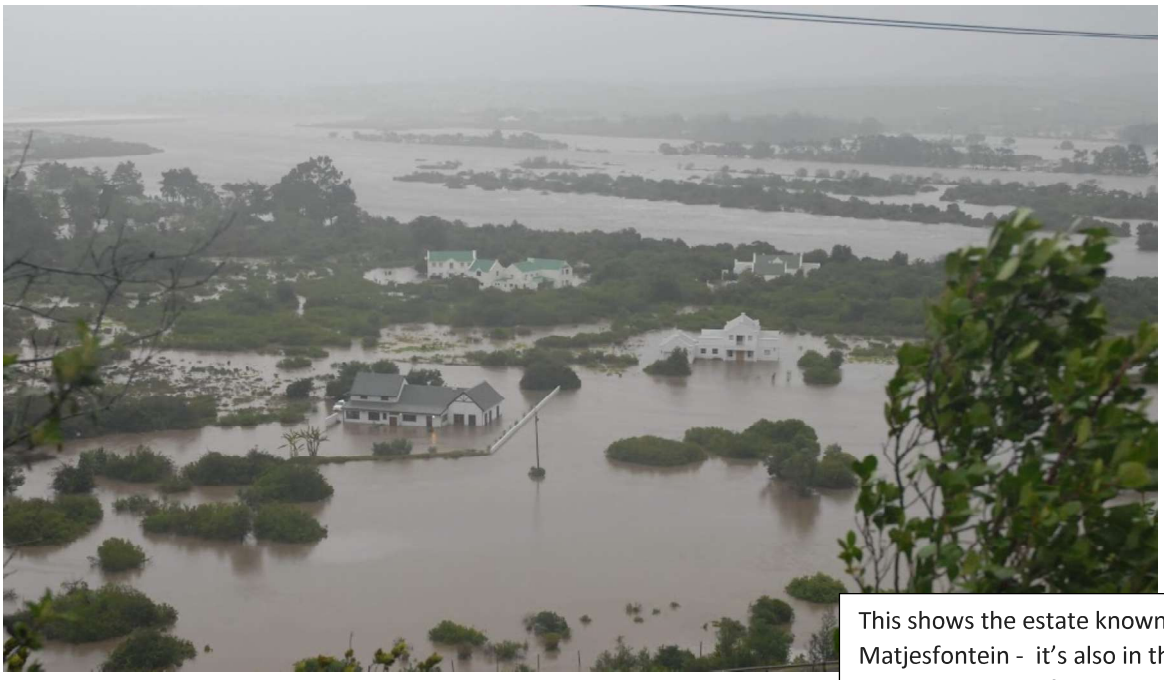
These three pictures above were taken on Portion 9 of Matjesfontein 304, November 2007, known as The Dunes Resort. These photos were taken a day after the flood and show the high-water mark on the buildings above the level of the ground floor windowsills.

The Dunes Resort is on the south side of the PO394 Road, Keurboomstrand, and is 1 km from Erf 91 of 304 and part of the same water-course.

In the flood, the fields opposite The Dunes, on the north side of the PO394, were also flooded (the entire Keurbooms Valley Water Course also became a swamp, including the proposed development site).

Flood damage to a house in the Silver Stream Resort on the Keurboomsrivier Road. Most of the houses in the estates along this road were flooded, November 2007.

November 2007, Twin Rivers Lodge between the Keurbooms and the Bitou Rivers.



This shows the estate known as Matjesfontein - it's also in the old Keurbooms River flood plain and water course

Water measured at between 1.5m and 1.8m below ground level on property opposite site of proposed development.

Item No	Objection	Poise Consulting Response	ZS2 Consult Response
1	**Traffic**		
1.1	Strain on roads capacity	The traffic Impact Study has assessed the peak season peak hour traffic impact of the Development to be insignificant.	ZS2 has evaluated the Traffic Impact Study and have noted the report's findings and recommendations. However, ZS2 has not seen any requirements prescribed by SANRAL to the road furniture of the Keurbooms road MR394 at the entrance to the new proposed development to accommodate the additional traffic generated by 60 units. We await a confirmation letter from SANRAL.
2	**Water Supply**		
2.1	Strain on Water Services capacity - GLS report indicated bulk systems are inadequate to support additional development without significant upgrades.	The GLS report confirms that the Matjiesfontein Reservoir and the reticulation supply line from the Matjiesfontein Reservoir to the site of the proposed development have sufficient capacity to support the development. The supply line feeding the Matjiesfontein Reservoir however requires upgrading and this is being addressed by Bitou, however the timeline can not be determined. Notwithstanding the above, Bitou have confirmed that they are able to supply water for the Development. See letter of confirmation attachment to the report.	The fact that the Matjiesfontein Reservoir and the reticulation supply line from the Matjiesfontein Reservoir to the site of the proposed development have sufficient capacity to support the development, is irrelevant IF THE SUPPLY LINE TO the source (Matjiesfontein Reservoir) is currently inadequate. We acknowledge that there is a letter from Bitou that confirm that they (Bitou) will upgrade the supply line to the Matjiesfontein Reservoir. However, without a time frame this commitment is a concern. This especially is of concern if one is a concerned neighbouring resident that are aware of the current financial chaos of numerous municipalities in South Africa where basic service delivery infrastructure is not maintained. One can just look at the current financial and service delivery woes of Bitou's neighbouring Knysna Municipality. We are of the opinion that this development must not be allowed to proceed unless the upgrade of

			the supply line to the Matjiesfontein Reservoir is either done by Bitou before the proposed development is commissioned or otherwise included as part the new development cost and thus paid for by the developer.
2.2	Inaccurate Estimates of Water Usage The average daily water consumption per person in South Africa is 237 litres	This objection is baseless and ill informed. The average consumption figure of 237 kilolitres per person per day, which has been quoted in a number of the objections, is based on ill informed interpretation of an AI pop up response to a googled query. The average of 237 litres per day is based on bulk volumes supplied by water authorities and includes extensive municipal leakages, irrigation of parks and sporting facilities and various other usages. The water consumption adopted in the Report is 600 litres per unit per day. This is the figure recommended in the GLS bulk services report. It is also the lower figure of the consumption figures recommended in the CSIR Red Book and the Neighbourhood Planning and Design Guidelines, the latter being the default reference of Bitou Water and Sanitation Department. The lower figure is motivated with consideration to the low expected average occupancy and the water harvesting and effluent recycling measures to be adopted.	We acknowledge that 600 litres per unit per day (18kl/month) is the norm for an average middle class dwelling. We however classified the development aimed at the effluent upper-class market (Keurbooms/ Plettenberg) and therefore worked on 250 litres per unit per day (30kl/month) as a maximum. We are not aware who googled the 237 litres per day (28.4kl/month) but know of similar quantum usage measured at households in the Western Cape. In fact, the water usage of the writer's private residence in Port Elizabeth often records over 208 litres per day (25kl/month). This is actual usage without incorporating municipal leakages, irrigation of parks and sporting facilities and various other usages. We also refer to the Plett_Rate_Payers_Bitou_Water_Report_2023_1_. This report indicates based on the water tariff policy of the Bitou Municipality that the water users are actually encouraged to use water up to 25kl per month. This equates to whether 1kl/month is used at R403.20 or 25kl/month at 25 x R16.12= R403.00. The cost to the user remains the same. Refer to extract below as published in the report.

			<table><tr><th>Use</th><th>Effective Unit Cost*</th></tr><tr><td>1 Kl/m</td><td>R403,20</td></tr><tr><td>12 Kl/m</td><td>R33,60</td></tr><tr><td>25 Kl/m</td><td>R16,12</td></tr><tr><td>26-30 Kl/m</td><td>R9,48</td></tr><tr><td>31-40 Kl/m</td><td>R13,28</td></tr><tr><td>41-50 Kl/m</td><td>R16,09</td></tr><tr><td>51-60 Kl/m</td><td>R20,82</td></tr><tr><td>61-70 Kl/m</td><td>R26,51</td></tr><tr><td>>71 Kl/m</td><td>R52,08</td></tr></table> *VAT exclusive Furthermore, is the effective cost per unit for water use between 26-30 kl/month the lowest cost per unit. It does appear that Bitou Municipality has now amended the latest tariff rates but the habit will most likely remains in most cases as the users are now used to the volume of use and have grown accustomed to it.
2.3	ZS2 Consult states that the Keurbooms bulk water supply line is currently at full capacity, the increase due to the development will be 14 % and the supply line will not be able to supply the development with water.	This conclusion by ZS2 is considered flawed. By their own calculation the peak flow demand in the supply pipe will be 7,17 litres per second. This is substantially lower than the flow capacity of the 200mm diameter supply line. The available capacity in this pipe is borne out by the confirmation in the GLS report.	The reference by ZS2 to the capacity was based on non-civil engineering information (design drawings) available at the time of the assessment. Be as it may, it serves no purpose that the capacity of the alleged 200mm diameter supply line is adequate but the water supply volume to the line is insufficient from its source (Matjiesfontein Reservoir). The bottom line is, ignoring all fancy engineering calculations and CSIR Red Book and the Neighbourhood Planning and Design Guidelines, the fact of the matter is that the proposed development will add an additional 60 units to the estimated existing 430 units in the Keurbooms area. This calculates to a water demand of 430 households / 490 households equals to a 14% increase on an already under strained potable water supply system. This is obviously a concern to existing residents in the Keurbooms area especially those

			with properties located on high lying areas.
	Rainwater Harvesting		
3.1	ZS2 Consult states their calculation of maximum rainwater harvesting capacity of 292 kilolires per day per unit, insufficient to accommodate the potable water demand of the development. **Cullinan Report** Item 35 states that the Civil Engineering report does not quantify the amount of water that could be made available through rainwater harvesting and recycled irrigation, and it is not possible to establish whether such measures will be sufficient to supplement the water requirements for the development.	Refer to the Poise Report Paragraph 4.4. A minimum figure of 170 litres per day per unit is estimated, less than the ZS2 figure quoted. The statement that it is insufficient to accommodate the potable water demand is irrelevant. The Development will not be independent of Bitou water supply and there is no such motivation in the Poise Report	Noted but at the time of our assessment we were not in possession of the Poise Report and had no design drawings and we were led to believe that this is an option. If rainwater harvesting is not an option to contribute to the potable water supply demand of the proposed development, then it is so much more relevant that the supply line to the Matjiesfontein Reservoir must be upgraded before the development is commissioned.
4	**Risk of Pollution**		
4.1	Risk of pollution and disturbance to the spring during both the construction phase and after the development is operational. The site's permeable soil conditions may not sufficiently prevent surface runoff from carrying construction debris and pollutants into the nearby spring and pond. While detention ponds are planned to contain runoff, they may fail	It is standard required procedure in all responsible construction processes to protect the natural surrounding environment, and in particular in this case, because of the existence of the spring, stringent measures will be required. It is also a requirement that an environmental officer will be appointed to ensure adherence to the necessary protection requirements. It is further noted that, with the exception of the area of the proposed armourflex swale, all construction areas will drain southwards and away from the locality of the spring.	Noted.

	during extreme weather events, increasing the risk of flooding and water contamination.	All the detention ponds will also be downslope from the area of the spring. It is therefore a physical impossibility that any flooding of detention ponds will result in contamination of the spring.	
4.2	No proposed groundwater monitoring system during operational phase	Groundwater monitoring will be undertaken. Refer the Poise Report Paragraph 5.4.2	Noted.
5	**Disruption of Groundwater Recharge:** The introduction of impermeable surfaces and changes in the landscape's gradient are likely to disrupt natural groundwater recharge processes.	Refer the Poise Report paragraph 8.4 All roads and driveway will remain permeable. The impermeable roof areas will amount to approximately 25% of the development area. By nature of the stand layout roof areas will not be in a concentrated location but will be distributed around the development area. Roofs will discharge to Rainwater Harvesting tanks from which excess water will discharge on surface between and around the units. The landscape levels will be modified however the gradients will remain extremely flat and the majority of runoff will therefore infiltrate the ground before reaching the ponds. Under heavy rainfall conditions runoff reaching the ponds will be stored in the ponds whilst the infiltration process is in progress. Water infiltration around the houses and from within the ponds will spread laterally by capillary action The impermeable areas will therefore have no negative impact on the groundwater recharge process.	Noted. This civil engineering information (design drawings) were not available to ZS2 at the time of the assessment.
6.	**The Sewerage Treatment Plant**		

6.1	Sewerage Plant Capacity Underestimation of Sewage Generation and Capacity Limitations. Inaccurate Estimates of Water Usage: The proposed sewage system is designed to handle 30 kL per day, allocating only 125 liters per person for a development of 60 houses with four occupants each. However, the average water usage in South Africa is 237 liters per person per day. ZS2 Consult presents a calculation indicating a sewerage discharge of 600 litres unit per day.	The water figure usage of 237 kilolitres per day is irrelevant to both water and sewerage. See item 2.2 above. The ZS2 Consult figures are subjective and ignore the expected occupancy profile. See the Poise Report Paragraph 5.2. The figure adopted of 500 litres per unit per day is based on the CSIR Red Book and Neighbourhood Planning and Design Guidelines figures of 150 litres per person per day and provides for an average of 3,3 persons per household. The figure is above the GLS recommended figure of 420 litres per unit per day.	Refer to our response as per item 2.2 above.
6.2	Such systems require ongoing expert management, which may not be feasible given local skill shortages	See the Poise Report Paragraph 5.4.3. A trained maintenance manager will be appointed.	Noted. The proper and effective running of the proposed plant is critical, and this function remains a concern.
6.3	Inadequate Emergency Response and Contingency Planning Absence of Emergency Infrastructure: There is no comprehensive emergency plan for sewage overflows. The lack of a designated pump station to remove sewage from the site in case of a spill worsens the situation.. Limited Emergency Storage Capacity: The system's emergency storage can hold sewage for only 48 hours.	See the Poise Report Paragraphs 5.4.3, 5.4.4 and 5.4.6. All required regular maintenance can be done within the 48 hour emergency storage period. Spares will be kept on site for all critical mechanical and electrical components. The plant will be powered by a Solar/Eskom charged battery system with a backup generator for emergency supply in the event of extended Eskom down time. See added provision in the Poise Report Paragraph 5.4.6 : A gravity overflow pipe will be installed to link the anaerobic tank to the Bitou municipal sewerage system located on the opposite side of Keurboomstrand Road MR394. This overflow will become operational in the unlikely event of the overflow of the emergency storage.	All the precautions as describe by Poise appears to be in order however it all depends on the proper and effective running of the proposed plant.

		There is therefore no possibility that breakdown could lead to overflow and pollution	
6.4	The sewerage treatment plant has not undergone sufficient research or testing. Not prove n to work properly	Bio Sewage Systems have been established for over 20 years and have over 800 plants, of size ranging from 5 to 200m3 per day, operating successfully in Southern Africa. Dr Hughes himself notes that the development does include an interim solution for wastewater treatment which seems to be appropriate.	Noted.
6.5	Odours The sewerage treatment plant will smell like the one at the Angling Club	Efficiently designed and operated high quality treatment plants do not give off odours. The comment on the Angling Club odours is based on ignorance. The angling club does not have a sewerage treatment plant and the odours eminate from the adjacent Bitou pump station.	Noted.
6.6	ZS2 Consult includes a comprehensive list of specification requirements to be met by a Package Sewerage Plant.	This presentation by ZS2 Consult is redundant to the objection. The proposed plant will comply with all necessary specifications to deliver treated effluent to DWAS special limits quality	Noted.
7	**Disposal of Treated Effluent by Irrigation**		
7.1	ZS2 Consult presents a calculation based an assumed available area for irrigation and their assumed daily effluent quantity and concludes that the volume is more than double the average rainfall, calculated over the irrigatable area, and that the	See the Poise Report Paragraph 5.4.2 The stated ZS2 calculation result is incorrect. The annual projected effluent irrigation quantity is 45% of the annual rainfall calculated over the irrigatable area and 22% over the development area. What is however significant is that to dispose of the daily effluent quantity, Irrigation once per week for a period of 15 minutes, of only	We acknowledge that our initial calculation of the volume of the treated effluent irrigation was too conservative but at the time of our assessment we were not in possession of the Poise Report and had no design drawings to understand the proposal.

	volume is too excessive to be disposed of by irrigation.	52% of the 3.0 hectare irrigatable area will be required. See Poise Report Paragraph 5.4.2.	
7.2	**Cullinan Report** Paragraph 6.2 states: The Wula report has sought to sidestep bulk services constraints through the implementation of a temporary wastewater system without appreciating the implication of those measures in the context of high rainfall conditions. Item 34: No consideration has been given to how effluent will be disposed of during wet periods and suggests irrigation may contribute to flood risks	The wastewater treatment plant will have no implications under high rainfall conditions. The volume of daily effluent is 22.5kl which translates to less than 0.5mm over the site development area and less than 1% of the storage volumes of the attenuation ponds.	Noted.
8	**Stormwater Management and Flooding**		
8.1	The site serves as crucial natural floodplain and soakaway	The site levels will be reshaped to drain toward the new ponds, and the surrounding pond catchment crest levels will be designed such that the overall site flood storage volume is not reduced from that of its current natural state. The site will continue to serve as a soakaway.	Noted.
8.2	ZS2 Consult state that the proposed stormwater management system utilising 3 attenuation ponds is flawed their reasons being that the ponds will obviously be at the low points on the site, and the bottom levels of the ponds will be very close to the high water table, perhaps even below the	ZS2 Consult make this assumption without examining the engineering drawings or applying the content of the geotechnical report. According to the Geotechnical report 10 testpits were dug. Groundwater was found in Testpits 1 and 5, positioned on the southern lowest side of the site, at depths 1,95m and 2,3m respectively. The other 8 pits were dug to depth varying between 2,3m and 3m without encountering groundwater. The preliminary designs indicate that the bottom level of the ponds	At the time of our assessment, we were not in possession of the Poise Report and had no design drawings to understand the proposal. However, we remain concern by the effective drainage of the 3 attenuation ponds considering the high water table especially during possible higher water table levels after prolonged rainy spells in the area.

	existing water table level and the high water table will prevent the ponds from draining. ZS2 Consult also present images indicating that the water table on Portion 14/91, across the road from the site, varies between 1,5m and 1,8m below natural ground level and state that the water table level at the low points of the site may be similar.	will all be in excess of 1,5m above the groundwater level. The ZS2 Consult comments on their images presented do not define the ground and water table level at the positions of their depth measurements. Without that information they are incomparable with the conditions on the Development site and the comments are meaningless. The lowest areas of Portion 14/91 are up to 500mm lower than the ground level at Testpit 1.	
8.3	ZS2 Consult state that the homeowners will have a problem with homeowners insurance as insurance companies will identify the site as a high risk prone to flooding.	The site levels will be designed to ensure that homes are not flooded, the floor levels of which will all be set higher than the level of the Road 394, the existing southern flood containment level.	Noted. However, it is not only with reference to floor levels above flood level (relevant to contents insurance) but also rather to founding level where ingress of excessive stormwater will compromise the bearing capacity of the founding material and cause settlement of the foundations with subsequent damage to the top structure (relevant to building insurance).
8.4	ZS2 Consult also present a typical section through the site illustrating the landlocked feature created by Keurboomstrand Road and also indicating a 5m above sea level high watermark.	The section is not relevant in the context of the proposed stormwater management plan. The section does not correctly reflect the lower natural ground levels on the southern side of Road 394. The indication of the 5m MSL line on the section, and the labelling of it as a high water mark is subjective and of no relevance to the current or future stormwater management characteristics.	Noted.
8.5	**The Cullinan Report**		
8.5.1	Paragraph 7 states: The significant impacts of flooding on the proposed development and the surrounding properties have not	This is not correct. The Development stormwater management plan mitigates the impact of flood conditions for the Development and ensures that the Development will not negatively	

	been taken into account.	impact on surrounding properties under flooding conditions.	
8.5.2	The Keurbooms Environs local area spacial plan identifies areas that are most vulnerable to coastal estuarine and fluvial erosion and inundation based on 3 swash runup contours including the 4.5m mamsl swash contour which is relevant to the property.	This is considered misinterpretation. The 3 swash lines are 2.5m for sheltered or rocky coastlines, 4,5m for exposed or sandy coastlines and 6,5m for headland and pocket bay beaches. The development is 2,8km from 100m high water mark, and outside of the 1in 100 year backwater floodline. The floodplain of the estuary downstream from the Development is extensively barriered by building structures and dense vegetation. It is clear that in reality no swash whatsoever can be applicable.	
8.5.3	Paragraph 16 states: The 1 in 100 year floodline generally tracks the Keurboomstrand Road meaning that it will be unlikely to act as a barrier to the flooding of the property.	This statement is considered flawed. The exact floodline level is not indicated on the floodline plan, however the position at which the floodline is plotted and comparison to surveyed levels on the southern side of Keurboonstrand Road indicate the floodline to be approximately 500mm lower than the crest of the road.	
8.5.4	Paragraph 17 states Keurbooms Road was impassable and the Dunes Resort was 1.5m underwater. From here water spilled over both sides of Keurbooms Road.	This statement is considered to be misrepresentative. It refers to “Keurbooms Road”, not Keurboomstrand Road, and implies that water spilled over the road at the Dunes Resort. The level of the floodwater at the Dunes Resort was at least a meter lower than Keurboomstrand Road level. We have consulted Keurboomstrand residents who witnessed the 2007 floods, who have asserted that Keurboomstrand Road 394 was not affected by flooding at the Dunes Resort, nor in the vicinity of the Development and was not impassable. Keurboomsriver Road, more than 2 kilometers to the west, was flooded and impassable.	

8.5.5	Paragraph 18 states: The very real risks for the property and the surrounding areas are borne out by the photographs (annexed as F) which show high groundwater levels on an adjacent property as well as flooding of properties in close proximity to the proposed development site.	The photographs presented indicating flooding are not in close proximity to the site. The Dunes Resort is 1,1 kilometers west of the site, Silverstream and Matjiesfontein Estates are 2,9 kilometers west, on the banks of the Keurbooms River and Twin Rivers is further west between the Bitou and Keurbooms River. Reports received from local residents indicate that at the time of the 2007 floods, the estuary flooding did not back up to the area of the Development.	
8.5.6	Paragraph 21: Addresses the Stormwater Management Report which provides for the 3 attenuation ponds and states that in the event of overflow the runoff will be to the Keurboomstrand road reserve. No provision has been made for management along Keurboomstrand Road.	The 3 attenuation ponds will be designed to ensure no overtopping under 100 year RI storm conditions. In the highly likely event of such conditions being exceeded the overflow will reach the Keurboomstrand Road Reserve. There will however not be any impact more severe that under the current natural state. There is no warrant for Keurboomstrand Road Reserve management provisions.	
8.5.7	22 to 24 refer to the Hughes report.	See Items 8.6.1 to 8.6.13 for Hughes report	
Comments below			
8.6	**Hughes Report**		
8.6.1	The stormwater management report concludes that the proposed stormwater attenuation ponds might be sufficient to contain the 24 hr runoff based on a 24 hr rainfall of 77mm. Flooding events in the region are typically the result of rainfall of a longer duration than 24 hours and a 24 hour period is unlikely to provide an accurate value for storage required.	Dr Hughes' calculation of the 24 hour rainfall is incorrect. He incorrectly derived it from the figure from the Poise Report after application of the Coefficient of Discharge. The 50 year 24 hour rainfall depth is actually 140 mm. The pond storage values have been tested for storms of all durations up to 72 hours, and are sufficient.	

8.6.2	The effects of antecedent wetness conditions have been ignored	This is not correct. The stormwater runoff coefficient used in the calculations includes an adjustment factor which varies for storm return intervals and accounts for higher runoff under higher RI conditions.	
8.6.3	The report assumes a high rate of drainage from the ponds and the capacity of the soil below the ponds is likely to be low due to the high water table.	The pond design infiltration rate has been reduced. See the Poise Report Paragraph 8.5. Percolation occurs through gravity and lateral capillary action which increases on approach to the water table.	
8.6.4	The report appears to ignore the runoff from the forested slope to the north.	The runoff from the forested slope has been accounted for. See the Poise Report Paragraphs 8.2 and 8.3.	
8.6.5	The geotechnical report noted that the groundwater was found in testpits at an average depth of 2 meters	See Item 8.2 above	
8.6.6	The potential benefits of the proposed stormwater retention ponds for reducing the flooding impacts of surface water runoff have been quite substantially overestimated.	This is considered an unsubstantiated, subjective opinion, formulated without design review. The pond designs compensate for the lesser infiltration area due to impermeable surfaces for the 1 in 100 year storm interval The pond catchment basins will ensure that overall storage volume is not less than the current natural state.	
8.6.7	No mention is made on the risk of flooding from the Keurboom River estuary.	At the time of the 2007 event, which arguably exceeded a 1 in 100 year flood, the estuary backwater did not reach the Development site. The Keurbooms River Estuary is not considered a flood risk.	
8.6.8	With regard to the 1 in 100 year floodline Dr Hughes presents Figure 2 which indicates that at Portion 91 the road does not appear to be above the surrounding ground levels and it is therefore possible that the extent of the floodline could	See items 8.4 and 8.5.3 above	

	continue to the north of the road.		
8.6.9	Dr Hughes cites the occasion of the 2007 floods, stating that the Road 394 was reported to be impassable and assumes that the existing properties to the south of the road were also flooded.	See item 8.5.4 above	
8.6.10	Dr Hughes also comments that there seems little doubt that the site does play a role in providing some flood storage and is highly likely to be flooded during heavy and prolonged rainfall events.	The design of the stormwater management system for the Development will take cognisance of and ensure that the current flood storage role of the site is not compromised.	
8.6.11	Dr Hughes reached the conclusion that the development plans and proposals generally fail to give due consideration to potential future flooding risks associated with the development. His evaluation of the available information is that the risks of flooding on the development site itself have been quite seriously underestimated. These include risks of flooding from the Keurbooms River estuary and risks of localised flooding.	These conclusions have been reached, clearly based on issues addressed in items 8.6.1 to 8.6.10, 8.6.12 and 8.6.13. Refer to our responses to these items	
8.6.12	The extent to which these flood risks are likely to extend to adjacent properties is more difficult to be sure about but there seems little doubt that the development will remove some flood	The Development will not remove any flood retention storage. See Item 8.6.6 above	

	retention storage and could therefore impact on existing developments to the south of the road.		
8.6.13	Dr Hughes states his assumption that under existing conditions any floodwaters that inundate the property will gradually decrease through either evaporation or drainage through the soils and states that there is potential for compacted foundations to reduce the potential for subsurface drainage and prolong the period of inundation.	The stormwater management proposals mitigate reduced infiltration capacity relating to foundations.	

EXECUTIVE SUMMARY by ZS2 CONSULT (18/07/2025)

1. POTABLE WATER SUPPLY

The supply of potable water is our priority one concern regarding the proposed development. The current water supply to the users in the Matjiesfontein reservoir zone is stretched to the limit and during peak demand periods numerous users in the zone have low pressure or no water at all. The water supply is currently already severely stressed with a shortfall in capacity from the source (Matjiesfontein reservoir) and without the upgrade of the 150 mm diameter bulk supply line to the Matjiesfontein reservoir the users will be further disadvantage with even lower supply if the new proposed development is commissioned without the upgrade as required to adequately supply the peak demand. The strain on the water services capacity is confirmed by the GLS report where the current capacity, demand and flows are evaluated in detail. The status quo of the water capacity in the Plettenberg area is also analysed by professional civil engineer P D Pyke in the The Plett Ratepayers - Bitou Water Report 2023. From this overview it is evident that the Bitou Municipality need to budget substantial amounts to increase the overall water supply system in the near future to accommodate the increased growth of the Plettenberg region. With this in mind, we are not convinced that the will funds available soon to upgrade the 150 mm diameter bulk supply line to the Matjiesfontein reservoir.

We emphasise that it will be a total unacceptable scenario if the water users of the proposed sixty units are added to the Matjiesfontein reservoir zone without the upgraded 150 mm diameter bulk supply line resulting in even lower available water supply to the existing rate paying residents in the zone. We are therefore adamant that the proposed development may not be issued with occupation certificates until such time that the said upgrade has been done and commissioned.

2. SEWAGE

There is an existing 160 mm outfall sewer to the south of the proposed development. This line and the Keurboom Main Pump Station are of sufficient capacity to accommodate the anticipated sewer load generated by the proposed development. However, from here the problem starts. Both the 5 400 m x existing 200 mm Ø (must be upgraded to 355 mm Ø) Aventura Pump Station rising main and the 1 800 m x existing 200 mm Ø (must be upgraded to 315 mm Ø) Matjiesfontein Pump Station rising main must be upgraded to accommodate the sewer load from the proposed development. For this reason, the current sewer network is not able to accommodate the sewer load from the proposed development.

The developer proposed a sewerage treatment plant on the site that will be managed by the development (we assume the body corporate). The developer also commits that a full-time plant manager will be on

site and that alarm systems will be introduced to warn in the event of a plant failure. The developer also states that if a plant failure occurs the plant will overflow through a pipe that is connected to the existing 160 mm outfall sewer. This is the proposed backup plan in the case of a plant failure. However, as said before, the 160 mm outfall sewer can accommodate the additional the sewer load but thereafter the sewer reticulation system is not able to accommodate the additional the sewer load. We are therefore concerned that possible spillage of raw sewage could occur somewhere along the reticulation system after the Keurboom Main Pump Station in the event of a plant failure.

3. STORMWATER

The stormwater management plan is based on a three retention ponds system that will be introduced on the site of the proposed development to contain and manage the generated stormwater. However, we remain concern whether these three retention ponds will function as intended to, because of the close proximality to the underlying high ground water table on the site. The level of the ground water table is mentioned in various reports. These ground water table levels were measured on a certain date. However, no mention is made anywhere what the ground water table is after and during a prolonged rainy period. Logically, the largest volume of stormwater will be generated during this prolonged rainy period, and this will occur at the same time as the ground water table level will be at the highest level. Thus, the question remains whether these ponds will function effectively during prolonged rainy periods.

4. TOP STRUCTURES

The high ground water table and soft permeable potentially compressible fine sandy founding material on site classifies the site as a high-risk site regarding structural engineering founding conditions. The Dynamic Cone Penetrometer (DCP) tests as per the Outeniqua Geotechnical Report confirms this statement. The allowable bearing capacity according to our interpretation of these tests results reveal that at an assumed founding level between -500 mm to -1000 mm below ground level the available bearing capacity various between about 140 kPa to a low of 48 kPa. The results of the test pit T12 are especially low and range between 58 kPa to a low of 34 kPa. This is an extremely low available bearing capacity and translates to extremely poor founding conditions. Now if this poor founding conditions are also combined with a high ground water table and the ingress of excessive surface stormwater into the founding material the overall scenario becomes very problematic for the structural integrity of the top structures (dwelling units). Extreme careful consideration will have to be given to the structural design of the foundation system of the proposed top structures to prevent / limit possible settlement and subsidence of the top structures.

Attention: Joclyn Marshall

ECO-ROUTE Environmental Consultancy

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Date: 16 July 2025

COMMENT ON THE REVISED BASIC ASSESSMENT REPORT FOR THE PROPOSED RESIDENTIAL DEVELOPMENT: MATJESFONTEIN 304, PORTION 91(PORTION OF PORTION 14), DIVISION PLETTENBERG BAY

1. Introduction

We, Jeanne Muller Town Planning, represent a number of concerned residents of Milkwood Glen and surrounding properties, specifically Dr. N. Frootko and Sam Duncan, hereby lodge formal comments against the Revised Basic Assessment Report (Revised BAR) for the Rezoning and Subdivision of Portion 91(Portion of Portion 14) of the Farm Matjesfontein No. 304 as submitted by Eco Route Environmental Consultancy (Eco-Route), dated 24 June 2025. Our previous comments submitted during the public participation in the Draft BAR remain applicable and the following comments should be seen as additional comments.

2. Comment on Appendix F4 (Town Planning response to comments) of the Revised BAR

Even though, Planning Space Town and Regional Planning typify the residents of Milkwood Glen as objecting on a “Not in My Back Yard” (NIMBY) basis, we strongly oppose this statement as the comments provided outlined legitimate and substantive planning and environmental concerns which should be seriously considered in the evaluation of the Revised BAR.

Milkwood Glen is governed by a strict set of estate rules that prioritise environmental conservation. These include prohibitions on boundary walls, impermeable fencing, and the keeping of domestic pets, all of which are intended to preserve ecological corridors, support biodiversity, and reduce human-wildlife conflict. In contrast, the proposed development

does not impose similar restrictions, and its approval would introduce elements that directly conflict with the established environmental framework of the surrounding area.

The site is also located in close proximity to a sensitive estuarine system, which is vulnerable to ecological degradation and hydrological change. The question remains whether the flood line determination has been updated to reflect current climate change data or coastal risk projections. With the increasing frequency of extreme weather events, rising sea levels, and changing rainfall patterns, there is significant concern that the development falls within an area at potential risk of pluvial and/or fluvial flooding. Planning Space Town and Regional Planning states that the road will block any flooding from the south. We strongly disagree. In the event of a severe flooding event, a road will not stop floodwater. Although there is no law requiring re-determination of a 1:100-year flood line, best practice could be reassessment every 10 years, with specific reference to upstream development, cumulative development and/or change in land use which may alter runoff characteristics.

Based on the Garden Route District Climate Change Adaptation Response Implementation Plan (2024), development below the 5.5m average mean sea level (AMSL) — even if it is located outside the current 1:100 year flood line — is still regarded as highly sensitive and potentially at risk. Specific reference is made to the following:

- All land under 5.5m AMSL is considered part of the "coastal zone" due to the maximum estimated height of land potentially affected by predicted sea level rise, storm surges, and tidal fluctuations by 2100.
- There is a strong emphasis on establishing coastal management lines, erosion setback lines, and coastal risk overlays, which are still being developed for the Garden Route District. These lines help define safe development zones that take future climate change impacts into account, not just current flood lines.
- The policy guidance is clear that areas within this 5.5m AMSL zone are vulnerable and that even if a site is outside the current 1:100 flood line, it might not remain so under projected sea level rise and increased storm surge conditions.

The critical points above are crucial development guidelines that must be followed to ensure sustainable development. Even if mitigation measures are put in place to safeguard the proposed development, no mitigation measures are mentioned in the revised BAR to safeguard the existing development areas, such as Milkwood Glen.

Furthermore, cumulative impacts must be considered. The introduction of additional dwelling units in a constrained area will contribute to increased traffic, pressure on local infrastructure, disruption to the ecological balance, and additional stormwater runoff. These statements and comments could not sufficiently be evaluated as none of the annexures to Planning Space Town and Regional Planners, undated report, known as Appendix F4 to the Revised BAR were attached. We reserve the right to provide further comment should additional information become available.

3. Aquatic Biodiversity Impact Assessment

During the commenting period for the Draft BAR the aquatic biodiversity impact assessment by Confluent Aquatic Consulting & Research recommended that:

> "**fencing** does not intersect the corridor between properties. Security is unlikely to be a concern along the base of the slope and it is therefore not necessary to fence off the area. If considered absolutely necessary however, it is feasible to fence the development off from the 20m corridor, while keeping the corridor as a continuous habitat between adjacent properties. Preferable fencing would be palisade because it allows the movement of small mammals between bars whereas clearvu type fencing prohibits (own emphasis) all movement barring very small animals like frogs."

However, the aquatic biodiversity impact assessment by Confluent Aquatic Consulting & Research changed their comment in their report dated February 2025, for the revised BAR as follows:

> *"It is recommended that fencing does not intersect the corridor between properties. Security is unlikely to be a concern along the base of the slope and it is therefore not necessary to fence off the area between properties. If considered absolutely necessary however, it is feasible to fence the development off from the 20m corridor, while keeping the corridor as a continuous habitat between adjacent properties. Preferable fencing would be clear vu-type fencing because it restricts the movement of pets out of the developed area and wildlife into the developed area.(own emphasis)"*

Furthermore, the Revised BAR's recommendations for the wildlife corridor added the following statements (underlined):

> *"A perimeter fence is recommended along the northern section of the property to preserve the wildlife corridor and natural area beyond. The fence line should not extend into the 20m corridor and should aim to separate the development area from the conservation / wildlife area."*
>
> *"Use clearVu fencing to separate the corridor from the development area. The spring must be incorporated into the corridor. The fence is to keep domestic animals (cats and dogs, etc) out of the wildlife corridor."*
>
> *"Clear vu type fencing would have the important benefit of excluding pets (cats and dogs) from the wildlife corridor area where they could deter or kill wildlife large and small."*

It is our assumption that the specialist changed their recommendations from the Draft BAR to the Revised BAR from palisade to Clearvu fencing, based on the above paragraphs as referenced from the Draft and Revised BAR. The question remains, what happened to the movement of the very small wildlife animals, like frogs, as stated in the earlier version of the report for the Draft BAR. It is clear that the Clearvu fence will not allow movement of wildlife through and that the purpose of the wildlife corridor will be lost as the restriction of small fauna will be restricted. The proposed development on Portion 91 of the Farm Matjesfontein No. 304 does not have due consideration for the protection of the environment and does not support co-habitation between wildlife and humans, which is in stark contrast to particular Milkwood Glen.

The changes with regard to the type of fence from a specialist without explanations are cumbersome and questionable.

4. Urban Edge and Spatial Development Framework

With reference to our previous comment with regards to the Urban Edge and the Bitou Spatial Development Framework and the additional information provided in Appendix E16 of the revised BAR, the Spatial Planner at Bitou Municipality confirmed via email dated 20 December 2024 the following:

> *"1. The applicant's motivation for the proposed development, as per section 4.2.3 of the motivating memorandum (with respect to forward-planning policy) is thorough, and is agreed with in all respects. Thus, it will serve little purpose to repeat the relevant considerations here.*
>
> *2. After consideration of the abovementioned, the proposal is considered to be consistent with the relevant forward-planning policy for the area, and is therefore supported from a Spatial Planning perspective (subject to the outcome of any amended/ supplementary aquatic biodiversity and/ or flood line studies that may be carried out as a result of objections received remaining positive/ conducive towards development)."*

The comment from the Spatial Planner is based on Section 19 the Land Use Planning Act (Act No. 3 of 2014) that reads as follows:

> *"19. (1) If a spatial development framework or structure plan specifically provides for the utilisation or development of land as proposed in a land use application or land development application, the proposed utilisation or development is regarded as complying with that spatial development framework or structure plan.*
>
> *19. (2) If a spatial development framework or structure plan does not specifically provide for the utilisation or development of land as proposed in a land use application or a land development application, but the proposed utilisation or development is not in conflict with the purpose of the relevant designation in the spatial development framework or structure plan, the utilisation or development is regarded as being consistent with that spatial development framework or structure plan."*

Although the spatial planner at Bitou Municipality provided the comment that the proposed development on Portion 91 of the Farm Matjesfontein No. 304 is considered consistent with the Bitou Spatial Development Framework, the Town Planners of Bitou Municipality should still determine **compliance** with all aspects of the Spatial Development Framework and environmental considerations to ensure sustainable development for current and future generations.

5. Conclusion

In conclusion, while we acknowledge the updates made in the Revised Basic Assessment Report and its associated appendices, we remain deeply concerned that the proposed development does not adequately address the legitimate planning, environmental, and sustainability issues raised by stakeholders, particularly those from Milkwood Glen and surrounding properties. These include the absence of updated flood line assessments in the context of climate change, insufficient detail and clarity regarding stormwater mitigation impacts on adjacent properties such as Milkwood Glen, and conflicting specialist inputs that undermine the integrity of the proposed 20m wildlife corridor and environmental best interest.

Furthermore, although the proposal may be considered generally consistent with the Bitou Spatial Development Framework, this alignment must be interpreted in conjunction with applicable zoning, environmental, and land use management regulations to ensure holistic and sustainable decision-making. The principle of sustainable development requires that due consideration be given to environmental preservation, the cumulative impact of development, and long-term resilience.

We therefore request that the competent authority take these matters into consideration prior to decision making. We reserve our rights to provide further comment should any additional or updated information be made available during the ongoing assessment process.

Yours faithfully

Jeanne Muller Pr. Pln. A/1429/2011