GEORGE
TEL: +27 (0) 44 873 4923 **FAX:** +27 (0) 44 874 5953
EMAIL: info@sescc.net **WEBSITE:** www.sescc.net
ADDRESS: Unit 17 Cathedral Square,
Cathedral Street, George, 6530
PO BOX: 9087, George, 6530

CAPE TOWN
TEL: +27 (0) 21 554 5195 **FAX:** +27 (0) 86 575 2869
EMAIL: betsy@sescc.net **WEBSITE:** www.sescc.net
ADDRESS: Tableview, Cape Town, 7441
PO BOX: 443, Milnerton, 7435

POST-APPLICATION
DRAFT

Scoping Report (SR) and Plan of Study for Environmental Impact Assessment (POSEIA)

Proposed Mixed-Use Development on Portions 7 & 8 of the Farm Krans Hoek No. 432, Bitou Local Municipality, Garden Route District Municipality, Western Cape.

Application in terms of the National Environmental Management Act of 1998 (Act No. 107 of 1998), as amended, and the 2014 Environmental Impact Assessment (EIA) Regulations, as amended.

APPLICANT:	Krans Development (Pty) Ltd. Contact: Andre Vlok
ENVIRONMENTAL CONSULTANT:	Sharples Environmental Services cc Madeleine Knoetze (EAPASA Reg: 3230) Betsy Ditcham (EAPASA Reg: 1480)
DEA & DP NOI PROJECT REFERENCE:	16/3/3/6/7/2/D1/13/0181/24
SES REFERENCE NUMBER:	09/CT/KRANS/DSR/09/25
DATE:	16 September 2025

GLOSSARY OF TERMS

Alternatives - In relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to –

i. The property on which or location where it is proposed to undertake the activity;
ii. The type of activity to be undertaken;
iii. The design or layout of the activity;
iv. The technology to be used in the activity, and;
v. The operational aspects of the activity.

Department of Environmental Affairs and Development Planning (DEA&DP) - The Provincial Directorate of the National Department for Environmental Affairs and Tourism. This Department is responsible for evaluating the viability of the development proposal and issuing the appropriate Authorization.

Environment - The surroundings within which humans exist and that are made up of

i. The land, water and atmosphere of the earth;
ii. Micro organisms, plant and animal life;
iii. Any Part or combination of (i) and (ii) and the interrelationships among and between them; and
iv. The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

Environmental Authorization – The authorization by a competent authority of a listed activity.

Environmental Assessment Practitioner (EAP) – The person responsible for planning, management and co-ordination of environmental impact assessment, strategic environmental assessments, environmental management plans or any other appropriate environmental instrument introduced through regulations.

Environmental impact - An environmental change caused by some human act.

Environmental Impact Assessment (EIA) – In relation to an application to which scoping must be applied, means the process of collecting, organizing, analyzing, interpreting and communicating information that is relevant to the consideration of that application. This process necessitates the compilation of an Environmental Impact Report, which describes the process of examining the environmental effects of a proposed development, the anticipated impacts and proposed mitigatory measures.

Environmental Impact Report (EIR) - A report assessing the potential significant impacts as identified during the Scoping phase.

Environmental Management Programme (EMPr) - A management programme designed specifically to introduce the mitigation measures proposed in the Reports and contained in the Conditions of Approval in the Authorization.

Interested and Affected Party (I&AP) – Any individual, group, organization or associations which are interested in or affected by an activity as well as any organ of state that may have jurisdiction over any aspect of the activity.

NEMA EIA Regulations - The EIA Regulations means the regulations made under the National Environmental Management Act (Act 107 of 1998) (Government Notice No. R 324, R 325, R 326 and R 327 in the Government Gazette of 7th April 2017 refer).

No-go alternative – The option of not proceeding with the activity, implying a continuation of the current situation / status quo.

Public Participation Process (PPP) - A process in which potential Interested and Affected Parties are given an opportunity to comment on, or raise issues relevant to, specific matters.

Registered Interested and Affected Party – All persons who, as a consequence of the Public Participation Process conducted in respect of an application, have submitted written comments or attended meeting with the applicant or environmental assessment practitioner (EAP); all persons who have requested the applicant or the EAP in writing, for their names to be placed on the register and all organs of state which have jurisdiction in respect of the activity to which the application relates.

Scoping process - A procedure for determining the extent of and approach to an EIA, used to focus the EIA to ensure that only the significant issues and reasonable alternatives are examined in detail

Scoping Report – The report describing the issues identified during the scoping process.

Significant impact – Means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

ABBREVIATIONS

BOCMA	Breede-Olifants Catchment Management Agency
BLM	Bitou Local Municipality
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)
CBA	Critical Biodiversity Area
DEA&DP	Department of Environmental Affairs & Development Planning
DWA	Department of Water Affairs
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EIS	Ecological Importance and Sensitivity
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
ESA	Ecological Support Area
HOA	Homeowners' Association
HWC	Heritage Western Cape
I&AP	Interested and Affected parties
IDP	Integrated Development Plan
GNR	Government Notice Regulation
GRDM	Garden Route District Municipality
LED	Local Economic Development
LUPO	Land Use Planning Ordinance (Ordinance 15 of 1985)
MAP	Mean Annual Precipitation
MAR	Mean Annual Runoff
NEMA	National Environmental Management Act, 1998
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEM:PAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NFEPA	National Freshwater Ecosystem Priority Area
NDP	National Development Plan
NFA	National Forest Act, 1998 (Act No. 84 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
PES	Present Ecologic Status
PPP	Public Participation Process
OSHA	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
SANBI	South African National Biodiversity Institute
SANS	South African National Standard
SDF	Spatial Development Framework
SES	Sharples Environmental Services cc
SPLUMA	Spatial Planning and Land Use Management Act (Act No. 16 of 2013)
SWSA	Strategic Water Source Areas
WCBSP	Western Cape Biodiversity Spatial Plan
WCPSDF	Western Cape Provincial Spatial Development Framework

COPYRIGHT RESERVED - This report has been produced for Krans Development (Pty) Ltd. Property contained in this report remains vested with Sharples Environmental Services cc (SES) and no part of the report may be reproduced in any manner without written permission from Sharples Environmental Services cc

BACKGROUND AND PURPOSE OF THIS REPORT

It is a requirement according to the National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations of 2014, as amended, that once an application is submitted to obtain an Environmental Authorisation in terms of the NEMA EIA Regulations that potential or registered Interested and / or Affected Parties (interested in the proposed development or affected by the proposed development) are subjected to a consultation period (at least 30 days) on the Draft Scoping Report before their comments are taken into account and responded to in a Final Scoping Report.

An Application form for Environmental Authorisation was completed and submitted to the Department of Environmental Affairs and Development Planning (DEA&DP) (The competent authority of this project) on **5 September 2025.**

Based on the nature and the location of the proposed development (with the approved mixed-use development located on Portion 9 of the Farm Krans Hoek 432), and the familiarity of the stakeholders with the developers (Applicant), the Draft Scoping Report was not circulated to the public for pre-application consultation purposes. Furthermore, the proposed development had already been subjected to public consultation in terms of the Spatial Planning and Land Use Management Act, 2013 (Act no. 16 of 2013). The comments received during the Town Planning Application have been taken into account as part of the compilation of this Report.

The Draft Scoping Report will be made available for public comment from **16 September 2025 – 17 October 2025 (30+ days).** The Draft Scoping Report will be provided to Key Authorities, where applicable, and will be also available for free download and review directly from our website (www.sescc.net) under the public documents tab. The Report will also be made available in hardcopy at the Kranshoek Public Library.

As per the legislated process, the Draft Scoping Report will be made available to identified Potential Interested & Affected Parties and Automatically Registered Key Authorities **for a period of 30+ days** review in order to provide comment**.** Following the public participation, the Scoping Report will be finalised and submitted to DEA&DP for consideration (Acceptance/Rejection).

REQUIRED CONTENT OF A SCOPING REPORT AS PER THE 2014 NEMA EIA REGULATIONS

Appendix 2 of Government Notice 326 (7 April 2017) of the National Environmental Management Act No.107 of 1998 (NEMA) 2014 Environmental Impact Assessment (EIA) Regulations states the requirements for the content of a **Scoping Report** to be as per the table below. For ease of reference we have noted in the table below where this required information can be found.

"A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include the following:"

Table 1: Required content of a Scoping Report according to the 2014 NEMA EIA Regulations and where in this Report the required content can be found

a) details of- (i) the EAP who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;	Section 1.3 and Annexure J
b) the location of the activity, including- (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Section 4.1 and Annexure A
(c) a plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix A
(d) a description of the scope of the proposed activity, including- (i) all listed and specified activities triggered; (ii) a description of the activities to be undertaken, including associated structures and infrastructure;	Section 2.5 and Section 4.2
(e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;	Section 2
(f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	Section 7
(h) a full description of the process followed to reach the proposed preferred activity, site and location within the site, including - (i) details of all the alternatives considered; (ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts- (aa) can be reversed;	Section 5 – Alternatives Section 6 – Environmental Attributes Section 8 – Public Participation Section 9 – Impacts & Risks Section 10 – Concluding Statement

Table 1: Required content of a Scoping Report according to the 2014 NEMA EIA Regulations and where in this Report the required content can be found	
(bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated; (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	
(viii) the possible mitigation measures that could be applied and level of residual risk; (ix) the outcome of the site selection matrix; (x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;	
(i) a plan of study for undertaking the environmental impact assessment process to be undertaken, including- (i)a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; (ii) a description of the aspects to be assessed as part of the environmental impact assessment process; (iii) aspects to be assessed by specialists; (iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists; (v) a description of the proposed method of assessing duration and significance; (vi) an indication of the stages at which the competent authority will be consulted; (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process; (ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.	Annexure I
(j) an undertaking under oath or affirmation by the EAP in relation to- (i) the correctness of the information provided in the report; (ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	Annexure K
(k) an undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;	Annexure K
(l) where applicable, any specific information required by the competent authority; and	N/A
(m) any other matter required in terms of section 24(4)(a) and (b) of the Act.	N/A

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ANNEXURES AND APPENDICES

1. INTRODUCTION AND BACKGROUND

1.1. Background to the Proposed Affordable Housing Project

Krans Development (Pty) Ltd proposes to construct a mixed-use development including associated service infrastructure on Portions 7 and 8 of the Farm Krans Hoek 432 (as per Figure 1 below). **This properties fall within the municipal urban edge as per the Bitou Local Municipality Spatial Development Framework (BSDF, 2022, as approved in 2023)**. Please refer to **Section 4** of this report for the detailed description of the detailing of the proposed development.

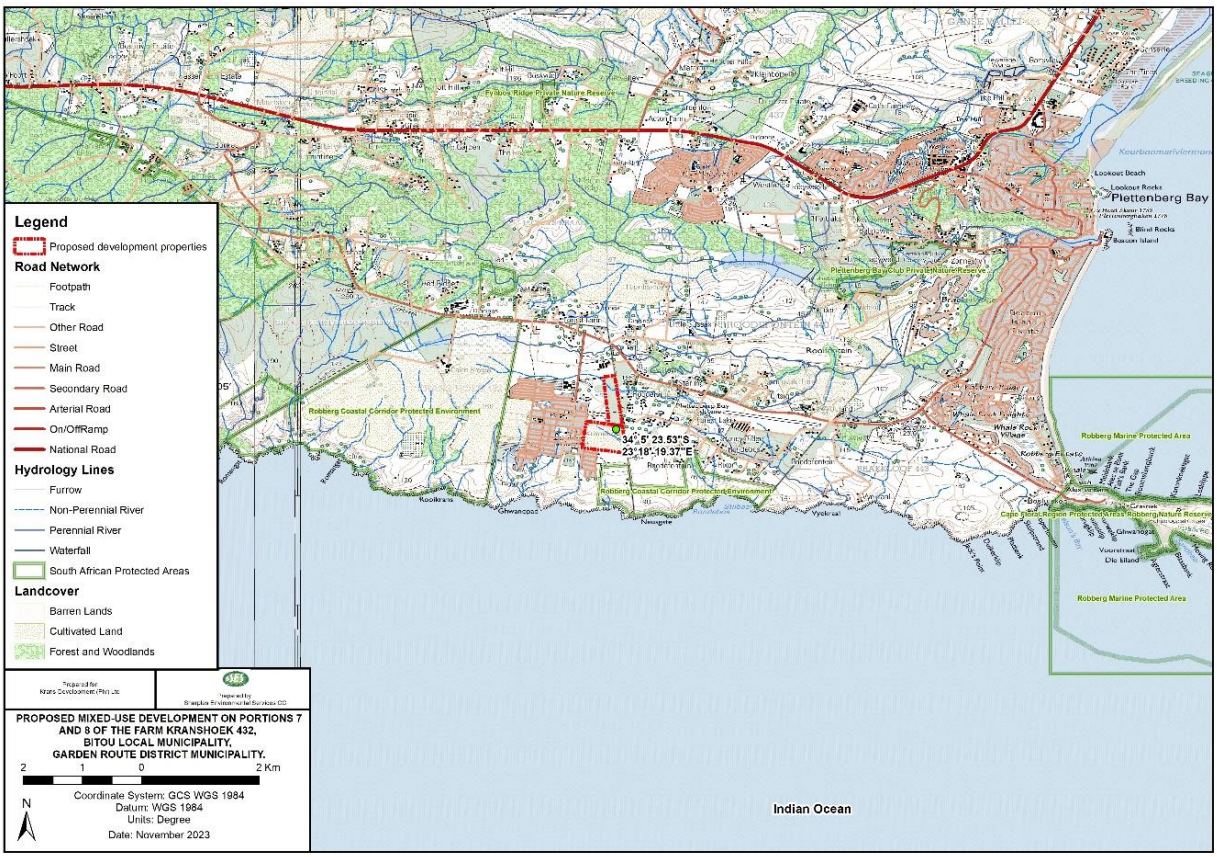


Figure 1: The proposed site for the mixed-use development (red border).

The Bitou Local Municipality Integrated Development Plan (IDP) highlights the Bitou Municipalities population growth over the past two decades. The Municipality is expected to see a 2.7 % population growth rate between 2021 and 2025 with 71.1 % of the individuals left without access to formal housing. The key challenges associated with this rate of population growth are outlined in the IDP to be as follows:

- The need for additional housing opportunities;
- The need for additional infrastructure services and bulk infrastructure;
- Increasing backlogs of infrastructure maintenance;
- Encroachment and illegal dwellings;
- More Illegal electrical connections;
- Increased unemployment;
- Increased health hazards; and
- Increases in crime.

With the following key obstacles identified for the Kranshoek (Ward 7):

- Insufficient road infrastructure;
- Insufficient storm water and sanitation infrastructure; and
- The demand of housing in the Kranshoek area.

As per the Bitou 5th Generation IDP, the proposed development, along with the approved development on Portion 9 of the Farm Krans Hoek 432, the proposed development on Portions 7 and 8 of the Farm Krans Hoek 432, forms part of the Priority Projects: Housing and Social Services of the Municipality. The development of the three properties is referred to as the Kranshoek IRDP Phase 3 (in terms of the IDP).

The BMSDF of 2022 (as approved in 2023) states that the current housing backlog at Kranshoek is 1 207 housing units with more than 8 139 households in need of housing in the whole Bitou area, of which 15 % is in Kranshoek. The total demand for Kranshoek is expected to culminate to a total of 3 880 housing units between 2016 and 2040. Therefore, the proposed development will contribute significantly to the current and future housing demand. This proposed development of 841 housing units will make a major contribution towards meeting the immediate and future demand[1]. This, together with the approved development of Portion 9 of the Farm Krans Hoek 432 (a total of 885 units according to the Town Planning documentation drafted for the development), will alleviate the current housing demand experienced in the town. Section 7 (Need and Desirability) also addresses the 2024-25 SDF (which has been provisionally approved; however, the adoption has been listed as Draft as of the time of the compilation of this Report).

The following subsidized housing and low-cost housing projects are currently underway within the Bitou Municipality:

- Kwanokuthula Phases 4, 5 and 6: 2003 units;
- Ebenhaezer Phase 1: 1469 units;
- Qolweni Phase 3A, 4A, 4B and 5: 953 units;
- Shell: FLISP: 80 units;
- Green Valley Phase 2: 730 units;
- Kurland Phase 3 and 4: 344 units;
- **Kranshoek Phase 3 (portions 7, 8 and 9 of the Farm Krans Hoek 432): 1 457 units; and**
- Several Land Acquisitions at Wittedrift, Ebenhaezer, and Minnars Land.

The figure below, extracted from the 2022 Bitou Local Municipality SDF, illustrates the planned new strategic development areas in Plettenberg Bay. There are therefore limited suitable land parcels available to be assessed given the numerous housing projects already underway (as listed above) in Bitou. This is therefore the only suitable site available for this development proposal.

[1] Metroplan, 2018. Application for The Proposed Subdivision and Rezoning of Portion 9 of the Farm Kranshoek No. 432, Knysna Road.

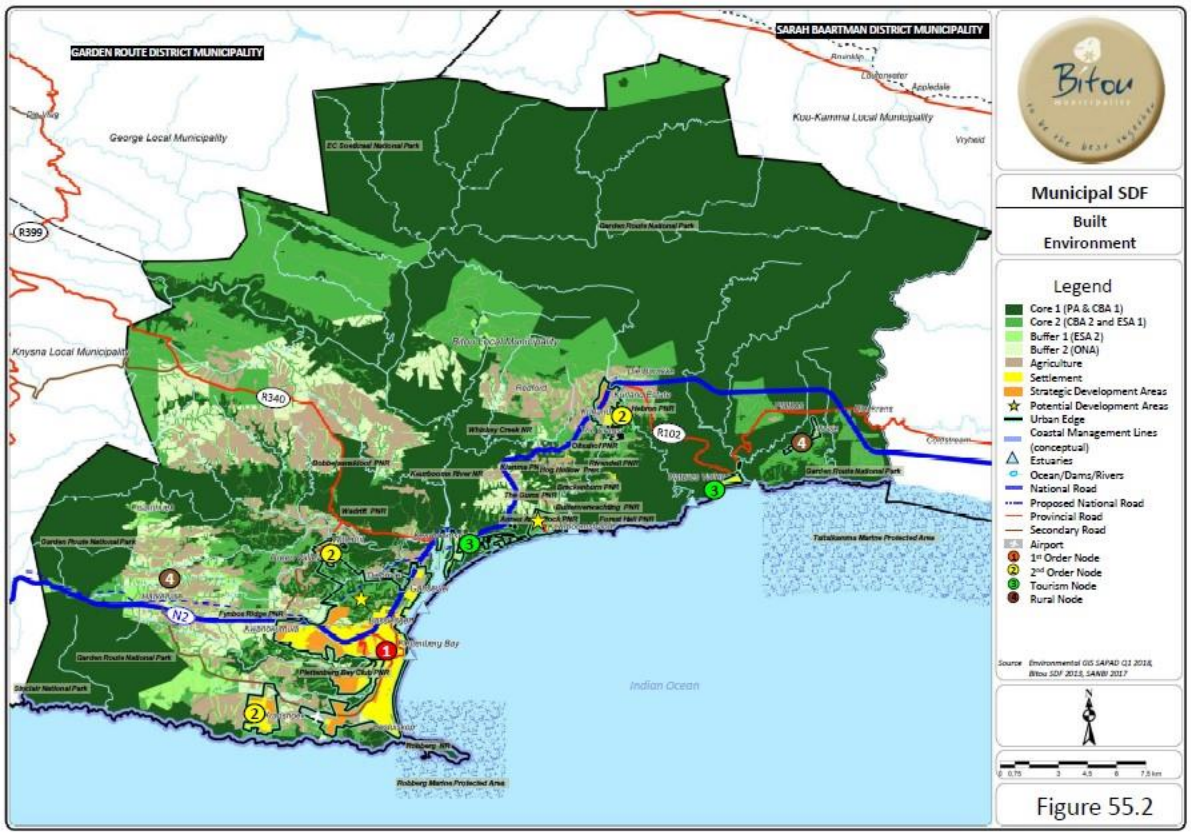


Figure 2: The Strategic Development Areas within the municipality (Source: Bitou MSDF, 2022, as approved 2023).

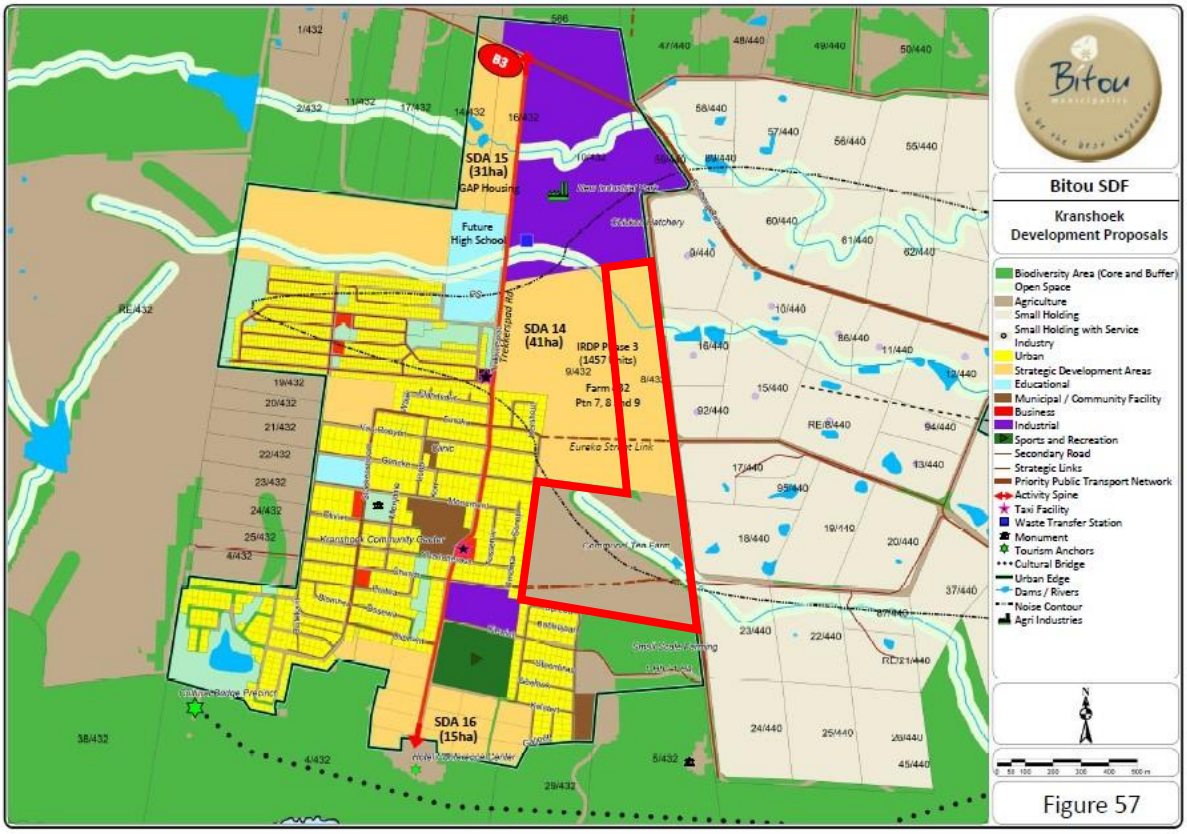


Figure 3: The Strategic Development Areas earmarked to accommodate the bulk of future mixed-use development within in the Kranshoek area (The proposed development has been highlighted in red - Source: Bitou MSDF, 2022).

1.2. Summary of Development Proposal

It is proposed to construct approximately 863 erven including a mix of affordable housing and business properties, schooling facilities (including creche's), places of worship, and Public & Private Open Spaces. The Open Space Zones account for > 18% of the development proposal. The following is proposed to be developed as per the **proposed preferred development layout plan** shown in **Appendix C** and in the **figures** below:

Table 2: Size and number of each typology proposed for the mixed-use development.

Development Proposed	% coverage	Up to Size (ha)
General Residential Zone I: Group/Town Housing	48.2 %	19.42
Community Zone 1: Place of Instruction	8.9 %	3.58
Community Zone 2: Place of Worship	1.1 %	0.44
Business Zone 3: Service Station (with Consent Uses)	1.1 %	0.43
Open Space Zone 1: Public Open Space	4.3 %	1.71
Open Space Zone 2: Private Open space	16.5 %	6.67
Utility Zone: Utility Service	0.1 %	0.04
Transport Zone 2: Public Road	4.8 %	1.94
Transport Zone 3: Private Road	15 %	6.09
TOTAL DEVELOPMENT FOOTPRINT		**±40.32 ha**

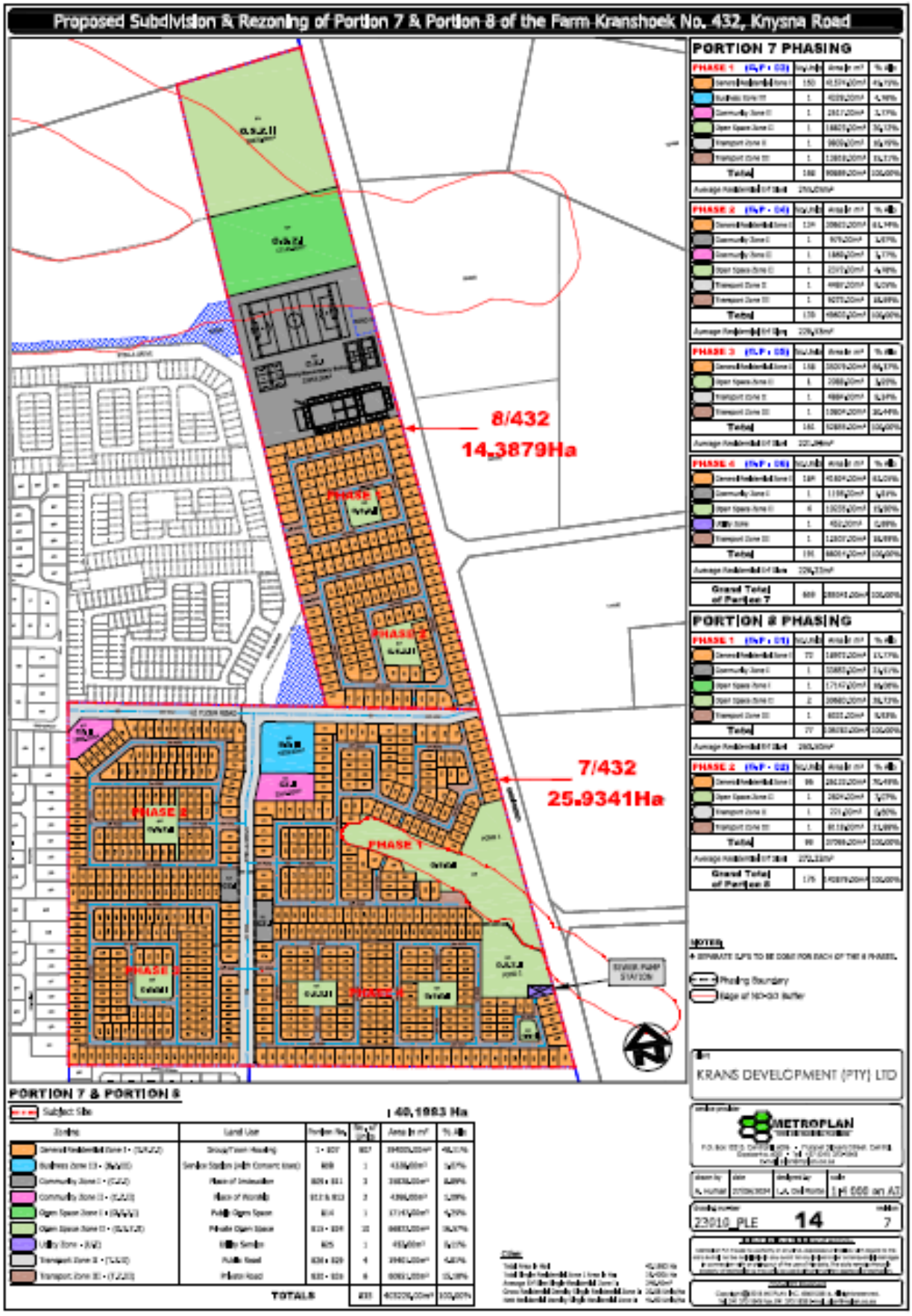


Figure 4: Proposed Preferred Site Layout Plan (as per Appendix C1).

1.3. Details of the Environmental Assessment Practitioner (EAP)

Sharples Environmental Services cc is an independent environmental consultancy and has since 1998 been actively engaged in the fields of environmental planning, assessment and management. We advise private, corporate and public enterprises on a variety of differing land use applications ranging from large-scale PV and CPV renewable energy facilities, residential estates, resorts and golf courses to municipal service infrastructure installations and the planning of major arterials. SES has offices in George and in Cape Town.

The Responsible EAPs for the proposed development is **Madeleine Knoetze and Betsy Ditcham**.

Author of Report: Madeleine Knoetze (Senior Environmental Assessment Practitioner) – Madeleine holds a Bachelor of Science in Environmental Sciences from the Nelson Mandela Metropolitan University obtained in 2014. She has 10+ years' experience in the environmental field, she has proven competency in the compilation of environmental assessments, water use licence applications, legal compliance, on-site monitoring, rehabilitation reporting, aquatic impact assessments and Geographic Information Systems (GIS). To date she has completed numerous environmental assessments, management plans, licencing applications, aquatic assessments and audits within the private and governmental spheres. Madeleine is registered with EAPASA as a certified Environmental Practitioner (EAPASA 2021/3230).

Report Reviewer: BETSY DITCHAM (Director and Principle Environmental Assessment Practitioner) - Betsy has a Bachelor of Science Honours Degree in Wildlife Management from the University of Pretoria and a Bachelor of Science Degree (Zoology and Ecology) obtained from the University of Cape Town in 2005. She has 15+ years' experience in the environmental field, including environmental assessments, legal compliance, on-site compliance monitoring, cleaner production and business greening and sustainability (carbon and environmental footprinting). In her time as a consultant, she has compiled a number of environment assessments and management plans for both private and governmental clients. Betsy is a shareholder of SEScc and registered with EAPASA as a certified Environmental Practitioner (EAPASA 2020/1480).

Please refer to **ANNEXURE J** to view the Curriculum Vitaes for Madeleine Knoetze and Betsy Ditcham.

2. LEGISLATION AND POLICY PERTAINING TO THIS APPLICATION

2.1. The Scoping / EIA Process

Due to the size of the proposed development, the proposal falls within the ambit of a "Listed" activity triggered in terms of Listing Notice 2 of 2014, as amended (Government Notice Regulation (GNR) 325 of 2017; GNR 517 of 2021). Therefore, a Scoping and Environmental Impact Assessment (EIA) Process as described in the EIA Regulations of 2014, as amended (GNR 326 of 2017; GNR 517) promulgated in terms of the National Environmental Management Act, 1998, as amended (NEMA; Act No. 107 of 1998) is required to be undertaken. The Scoping and EIA Process is outlined in the figure below. The Competent Authority (CA) (Authority that will either grant or refuse the application) is the Provincial Department of Environmental Affairs & Development Planning, Western Cape (DEA&DP).

The EIA process is informed by the EIA Regulations promulgated in December 2014, as amended in April 2017 and June 2021 (GNR 326 of 2017; GNR 517 of 2021) and typically follows four main phases, namely**:**

(1) Pre-application Public and Authority consultation Scoping Phase – Please note that this phase does not form part of the legislative requirements in terms of the EIA Regulations of 2014, as amended, and has not been considered as part of the processing procedure for the proposed development;
(2) Application Phase;
(3) Post-application Scoping Phase and associated consultation; and
(4) Environmental Impact Assessment Phase and associated consultation.

Due to the nature of the proposed development (the need for the proposed development as indicated in the IDP and the SDF compiled for the Bitou Local Municipality, and the fact that the proposed development had undergone public consultation in terms of the Town Planning Application requirements), it had been decided that a pre-application public consultation process will not be undertaken for the proposed development. These phases have been illustrated in the Figure below.

Therefore, we are currently in the Post-Application Public & Authority Participation (Scoping Stage) – Stage (3).

The objective of the "Scoping" Process, it to, through a consultative process:

- Identify the **relevant policies and legislation** relevant to the activity;
- Motivate the **need and desirability** of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- identify and confirm the preferred activity and technology alternative through an identification of impacts and risks and ranking process of such impacts and risks;
- identify and confirm the **preferred site,** through a detailed site selection process, which includes an identification of impacts and risks inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- identify the key issues to be addressed in the assessment phase;
- agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
- identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

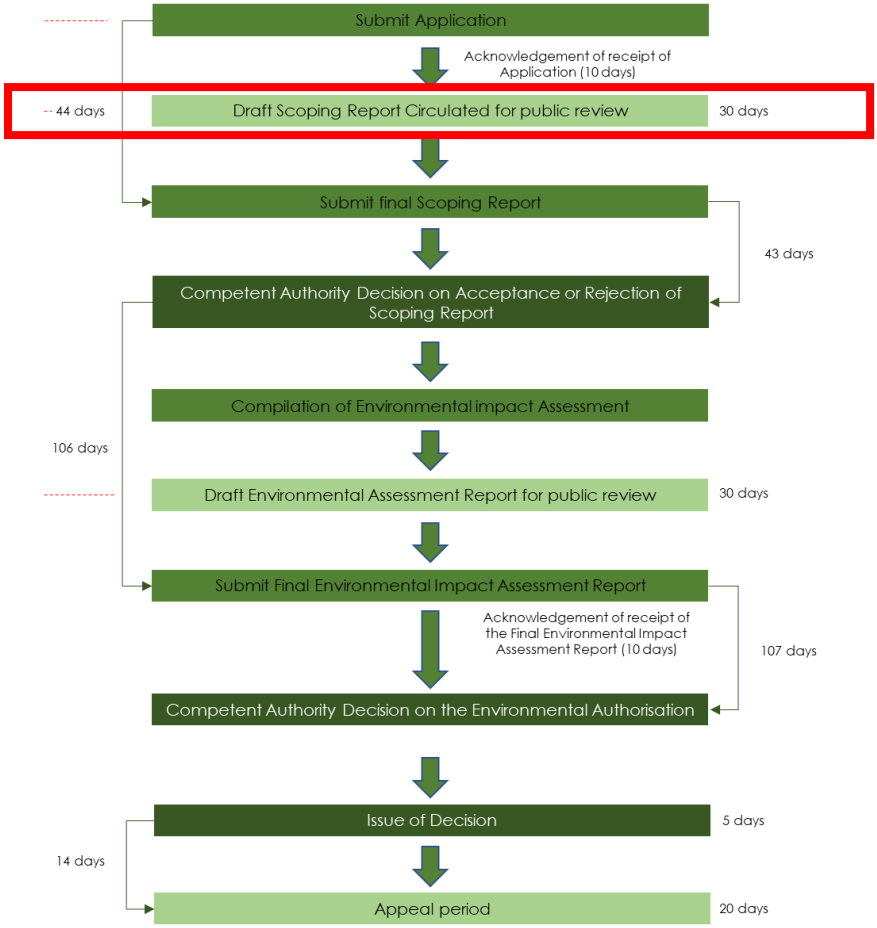


Figure 5: The Scoping / EIA Process (The current phase of the process has been indicated in red).

On Friday, 6 June 2024, the Notice of Intent (NOI) to submit an Application form in terms of the EIA Regulations of 2014, as amended, was submitted to the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) for consideration. A response to the NOI was received on Monday, 8 July 2024. The response to the NOI has been included in **Appendix L1**. On 5 August 2024, a pre-application meeting was held between the Applicant, the EAP and the Competent Authority (CA).

f

The following key authorities and findings were highlighted in the NOI and the subsequent pre-application meeting held:

- Western Cape Department of Agriculture.

  As part of the responses to the NOI, the potential need for an agricultural study was raised dependent on the comments received as part of the Draft Scoping Report. Following the pre-application meeting held between the EAP and the CA, it was concluded that the opinion of an Agricultural Specialist be sought as part of the impact assessment phase of the proposed development. The Agricultural Specialist confirmed that a Compliance Statement would be sufficient. However, should a more in-depth assessment be deemed necessary by the Stakeholder, this would be undertaken as part of the Environmental Impact Assessment Phase.
- CapeNature.
- Civil Aviation Authority (CAA).

The proposed development is located within 8 km of the Plettenberg Bay airport. As highlighted during the pre-application meeting, the proposed development is located partially within the noise contour of the airport (with Portion 8 of the Farm Krans Hoek 432 located completely within the boundaries). Comment will be sought by both CAA and the Plettenberg Bay Airport Management.

- Heritage Western Cape.

  A Notice of Intent to Develop (NID) had to be compiled and submitted to Heritage Western Cape (HWC) for consideration. At the time of the compilation of this Scoping Report, this had been completed and comment has been received accordingly. Please refer to Section 2.3.8. of the Scoping Report.

Specific aspects of concern were highlighted, such as specific care to be undertaken towards the services considerations of the proposed development, the need and desirability of the proposed development must be clearly stipulated and reported on in all phases of the proposed development.

2.2. List of Significant Regulations, Guidelines, Frameworks & Policies

The following Regulations (Acts) pertain to this development proposal and have been considered during the assessment process:

- The Constitution of South Africa (Act 108 of 1996);
- The National Environmental Management Act (NEMA), Act No 107 of 1998, as Amended;
  - The EIA Regulations of 2014, as amended, including its associated Listing Notices, as amended (GNR 324, 325, 326 and 327 of 2017; GNR 517 of 2021).
- National Environmental Management: Biodiversity Act (NEMBA; Act No. 10 of 2004);
- National Environmental Management: Waste Act (NEMWA; Act No. 59 of 2008);
- National Water Act (NWA; Act No. 36 of 1998);
- National Forest Act (NFA; Act No. 84 of 1998);
- National Heritage Resources Act (NHRA; Act No 25 of 1999);
- The National Veld and Forest Fire Act (Act No 101 of 1998)
- The National Health Act (No. 61 of 2003) and Health Act 63 of 1977;
- Conservation of Agricultural Resources Act (CARA; Act 43 of 1983);
- Subdivision of Agricultural Land Act (Act 70 of 1970);
- Occupational Health and Safety Act (OSHA; Act 85 of 1993);
- National Building Regulations and Building Standards Act (Act No 103 of 1977);
- Infrastructure Development Act (Act No.23 of 2014);
- Land Use Planning Ordinance (LUPO) Section 8 Scheme Regulations;
- Land Use Planning Act (LUPA; Act No. 3 of 2014);
- Spatial Planning and Land Use Management Act (SPLUMA; Act No 16 of 2013);
- National Roads Act (No. 93 OF 1996);
- Road Traffic Management Corporation Act (No. 20 OF 1999);
- The Municipal Systems Act (Act 32 of 2000);
- The Physical Planning Act (Act 125 of 1999);
- Development Facilitation Act (Act 67 of 1995); and

- Western Cape Biodiversity Act, 2021 (Act 6 of 2021).

The following guidelines pertain to this development proposal and have been considered during the assessment process:

- Guideline for Determining the Scope of Specialist Involvement in EIA Processes (DEA&DP; 2005);
- Guideline for the Review of Specialist Input into the EIA Process (DEA&DP, 2005);
- Guideline for Involving Biodiversity Specialists in EIA Processes (DEA&DP, 2005);
- Guideline for Involving Heritage Specialists in EIA Processes (DEA&DP; 2005);
- Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (DEA&DP, 2005);
- Guideline for Environmental Management Plans (DEA&DP; 2005);
- Guideline on Public Participation (DEA&DP; 2011);
- Guideline on Alternatives (DEA&DP; 2010);
- Guideline on Need and Desirability (DEA&DP; 2011);
- Guideline on Need and Desirability (DEA; 2017);
- Scoping, Information Series 2 ((Integrated Environmental Management Information Series: Impact Significance) (DEAT, 2002);
- Guideline on Need and Desirability, Integrated Environmental Management Guideline Series 9 (DEA, 2010);
- Public Participation Guideline (DEA; 2017);
- National Biodiversity Offset Guideline (DFFE, 2023);
- Protocols for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts (March 2020) on:
    - Agricultural Resources
    - Aquatic Biodiversity
    - Terrestrial Biodiversity
- Protocols for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts (October 2020) on:
    - Plant Species
    - Animal Species

National, Provincial & Municipal Development Planning Frameworks considered during the assessment process include:

- National Development Plan 2030 (NDP, 2012);
- Western Cape Provincial Spatial Development Framework (PSDF) 2014;
- Bitou Local Municipality Integrated Development Plan (IDP) 2012 -2017;
- Bitou Local Municipality Local Economic Development Framework (LED, 2013);
- Bitou Local Municipality Integrated Human Settlements Plan (2011);
- Bitou Local Municipality Spatial Development Framework (SDF) (2022) (approved 2023);
- Bitou Local Municipality Coming Together Initiative (2010);
- Bitou Land Use Planning By-Laws;
    - By-Law Relating to Water Supply, Sanitation Services and Industrial Effluent;
    - Stormwater Management By-Laws;
    - Sporting Facilities By-Law;
    - Public Amenities By-Law;
    - Solid Waste Disposal By-Law;

- By-Law Relating to Prevention of Public Nuisances and Public Nuisances arising from the keeping of animals;
- Fences and Fencing By-Law;
- Electricity By-Law; and
- By-Law Relating to Roads and Streets.

2.3. Summary Description of Most Significant Policy Documents

2.3.1.The Constitution of South Africa (Act No 108 Of 1996)

The Constitution of South Africa is the supreme **law** of the country of **South Africa**. It provides the legal foundation for the existence of the **republic**, sets out the **rights** and **duties** of its citizens, and defines the structure of the **government**.

Section 24 of The Constitution states the following:

"Everyone has the right —

- *to an environment that is not harmful to their health or well-being; and*
- *to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that —*
  - *prevent pollution and ecological degradation;*
  - *promote conservation; and*
  - *secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."*

Further to this, Section 26 of The Constitution states that "Everyone has the right to have access to adequate housing."

2.3.2.The NEMA, Act No 107 of 1998, as Amended, and the EIA Regulations (2014), as amended

The National Environmental Management Act (NEMA; Act no. 107 of 1998, as amended) gives effect to the Constitution of the Republic of South Africa by providing a framework for co-operative environmental governance and environmental principles that enable and facilitate decision-making on matters affecting the environment. Section 24(5) of the NEMA requires that an environmental authorisation (EA) be issued by a competent authority (CA) before the commencement of an activity identified in terms of Section 24(2) of the NEMA. The following Government Notices Regulations (GNR) have been promulgated in terms of the NEMA detailing the processes and activities that require to be considered in order to obtain environmental authorisation for a proposed development:

- Environmental Impact Assessment Regulations (EIA Regulations) of 2014, as amended (GNR 326 of 2017; GNR 517 of 2017) – These Regulations stipulate the processes, timeframes and procedures to be followed to obtain environmental authorisations and amendments thereof, approval of Environmental Management Programmes and Closure Plans, where applicable.
- Listing Notice 1 of 2014, as amended (GNR 327 of 2017; GNR 517 of 2021) – Listing Notice 1 stipulates the listed activities that requires environmental authorisation through following a Basic Assessment Process in terms of the EIA Regulations of 2014, as amended. These activities are of such nature that the trigger thereof would have

a significant impact on either a local or provincial environment regardless of the geographical sensitivities of the area.

- Listing Notice 2 of 2014 (GNR 325 of 2017; GNR 517 of 2021) – Listing Notice 2 stipulates the listed activities that requires environmental authorisation through following a Scoping and environmental Impact Assessment Process in terms of the EIA Regulations of 2014, as amended. These activities are of the nature that they would cause significant alterations to the environment or could be potentially detrimental to the environment at either a local, provincial or national scale.
- Listing Notice 3 of 2014, as amended (GNR 324 of 2017; GNR 517 of 2021) – Listing Notice 3 stipulates the listed activities that requires environmental authorisation through following a Basic Assessment Process in terms of the EIA Regulations of 2014, as amended. These activities are of such nature that the trigger thereof would have a significant impact on either a local or provincial environment and would be dependent on the provincially specific sensitive receptors.

Due to the fact that this development proposal will trigger an activity listed in terms of Listing Notice 2, as amended, a Full Scoping & EIA Process is required.

Under the provisions of Section 24C of the NEMA, the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) is the competent authority responsible for evaluating the proposed development. Therefore, the respective reports (Scoping and EIAR) must be submitted to the DEA&DP before they issue the Krans Development (Pty) Ltd. with a decision on the Environmental Authorisation (either approval or rejection of the development proposal).

In addition to the abovementioned Regulations, the following guideline has been promulgated in terms of Section 24J of the NEMA (Act No. 107 of 1998):

- The National Biodiversity Offset Guideline (GN. 3569 of 2023): This Government Gazette provides a guideline toward when biodiversity offsets would be required as a mitigation by the Competent Authority, to establish basic principles for biodiversity offsetting and to guide offset practice in the EA process.
- Due to the protection status of the primary ecosystem type (The South Outeniqua Sandstone Fynbos (LC/Unlisted in terms of the Revised List of Ecosystems that are Threatened and in Need of Protection, 2022)) on site and the site conditions observed on site, it is not anticipated that an offset would be required in terms of the Biodiversity Offset Guidelines promulgated in terms of the NEMA. This has been further elaborated upon as part of this Scoping Report. The applicability of an offset will be determined through the **Terrestrial Biodiversity Impact Assessment Specialist in the EIA Phase of the current Application**.

2.3.3. National Environmental Management: Biodiversity Act (Act 10 of 2004)

This Act controls the management and conservation of South African biodiversity within the framework of NEMA. Amongst others, it deals with the protection of species and ecosystems that warrant national protection, as well as the sustainable use of indigenous biological resources. Sections 52 & 53 of this Act specifically make provision for the protection of critically endangered, endangered, vulnerable and protected ecosystems that have undergone, or have a risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention through threatening processes.

In November 2022, "The Revised National List of Ecosystems that are threatened and in need of protection" (GN 2747 of 2022) was published in terms of the NEM:BA, 2004. Through this list, a number of ecosystems were identified to be of National priority. As mentioned above, the proposed development is located in the South Outeniqua Sandstone Fynbos Ecosystem type, which has not been identified as an ecosystem of National Priority.

2.3.4.Western Cape Biodiversity Act 2021 (Act 6 of 2021)

In December 2021, the Western Cape Government promulgated the Western Cape Biodiversity Act, 2021 (Act 6 of 2021) in order to provide a framework and institutions for nature conservation and the protection, management and sustainable use of biodiversity resources and ecosystems in the Western Cape Province.

Accordingly, on 13 December 2024, the 2023 Western Cape Biodiversity Spatial Plan (BSP) was adopted in terms of the WC Biodiversity Act, 2021. Therefore, the guidelines provided by the WCBSP Handbook and the adopted BSP demarcations must be taken into consideration by all proposed developments.

As indicated in Section 6 of this Scoping Report, the proposed development will intersect a number of the sensitive features identified in terms of the 2023 WCBSP. As part of this report, the 2017 BSP and the specialists' findings on site will be detailed.

2.3.5.Conservation of Agricultural Resources Act – CARA (Act 43 Of 1983)

CARA provides for the regulation of control over the utilisation of the natural agricultural resources in order to promote the conservation of soil, water and vegetation and provides for combating weeds and invader plant species. The Conservation of Agricultural Resources Act also defines different categories of alien plants. The purpose of this act is to ensure the long-term sustainable use and conservation of natural agricultural resources. The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (CARA) has the objective to provide for the conservation of the natural agricultural resources of the Republic by the maintenance of the production potential of land, by the combating and prevention of erosion and weakening or destruction of the water sources, and by the protection of the vegetation and the combating of weeds and invader plants. It is the only legislation promoting the sustainable use of natural agricultural resources at farm level.

2.3.6. Preservation and Development of Agricultural Act (Act No. 39 of 2024)

In January 2025, the National Government of South Africa promulgated the Preservation and Development of Agricultural Act (Act No. 39 of 2024), This Act applies to all agricultural land within the Country and provides principles for the management of agricultural land, makes provisions for agricultural land evaluation and classification, the preparation of provincial agricultural sector plans, the declaration of Protected Agricultural Areas, the general objectives of agro-ecosystem management, agro-ecosystem authorisations, the listing and delisting of activities or areas within agro-ecosystems and the identification of competent authorities and further administrative management systems.

Accordingly, the Protected Agricultural Areas (delineated in 2020 by the Department of Agriculture, Rural Development and Land Reform) have been adopted. According to this database, the proposed development is not located within any Protected Agricultural Areas.

In 2020, the Western Cape Department of Agriculture issued their first Strategic Plan (2021/23 – 2024/25) aimed toward promoting the preservation, sustainable use and management of agricultural land. The findings of the appointed specialist (Johann Lanz from SoilZA) have been included in Section 6 below.

2.3.7.*Subdivision of Agricultural Land Act (Act No. 70 of 1970)*

The purpose of this Act is to control the subdivision and use of Agricultural Land. Subdivision is likely to be needed where various portions of various farms need to be excised from the current farms and consolidated into a new property. The requirements from an agricultural perspective will be determined in the EIA phase of the Application.

On 24 July 2025, the Application for the Subdivision of Agricultural Land was submitted to the Western Cape Department of Agriculture following the confirmation that the proposed development will not fall within the exemptions of the Act.

2.3.8.*National Water Act (Act No 36 of 1998)*

The Act provides the framework for the sustainable management of South Africa's water resources. It aims to protect, use, develop, conserve, manage and control water resources as a whole, promoting integrated water resource management that involves participation of all stakeholders. The Act declares the national government to be the public trustee of the nation's water. The Act is administered by the national Department of Water Affairs (DWA) via regional offices. The following section 21 "water uses" **require a Water Use Authorisation in the form of a Water Use Licence (WUL):**

a) taking water from a water resource;
b) storing water;
c) impeding or diverting the flow of water in a watercourse;
d) engaging in a stream flow reduction activity contemplated in section 36;
e) engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);
f) discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
g) disposing of waste in a manner which may detrimentally impact on a water resource;
h) disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process;
i) altering the bed, banks, course or characteristics of a watercourse;
j) removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
k) using water for recreational purposes.

This development proposal is within 500 m from various watercourses, with the civil infrastructure potentially crossing the southern watercourse located within the boundaries of the proposed development. It is therefore required to apply for Water Use Authorisation in terms of Section 21 above. The application for a water use licence was submitted onto the e-Water Use Licence Applications System (e-WULAS) on 8 April 2025 and has the reference number WU39084. Public Participation for the WULA will be undertaken by the appointed consultant (Upstream Consulting).

2.3.9. National Forest Act (Act No 84 of 1998)

The purpose of this Act is to:

- promote the sustainable management and development of forests for the benefit of all;
- create the conditions necessary to restructure forestry in Sate forests;
- provide special measures for the protection of certain forests and trees;
- promote the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes;
- promote community forestry;
- promote greater participation in all aspects of forestry and the forest products industry by persons disadvantaged by unfair discrimination.

This Act is governed by the Department of Agriculture, Forestry and Fisheries (WC DAFF) who is a key commenting Authority in this EIA Process. The applicability of this Act will be confirmed during the EIA phase, once the Terrestrial Biodiversity Impact Assessment has been undertaken.

2.3.10. National Heritage Resources Act (Act No 25 of 1999)

The protection and management of South Africa's heritage resources are controlled by the National Heritage Resources Act (Act No. 25 of 1999). Heritage Western Cape (HWC) is the enforcing authority in the Western Cape, and is registered as a Stakeholder for this environmental process. In terms of Section 38 of the National Heritage Resources Act, HWC will comment on the development proposal. Section 38(8) also makes provision for the assessment of heritage impacts as part of an EIA process.

The National Heritage Resources Act requires relevant heritage authorities to be notified regarding this proposed development, as the following activities are relevant that require **Heritage Approval**:

a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
b) the construction of a bridge or similar structure exceeding 50 m in length;
c) any development or other activity which will change the character of a site—
    i. exceeding 5 000 m^2 in extent; or
    ii. involving three or more existing erven or subdivisions thereof; or
    iii. involving three or more erven or divisions thereof which have been consolidated within the past five years; or
    iv. the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
d) the re-zoning of a site exceeding 10 000 m^2 in extent;

As the proposed development would include the construction of a road longer than 300m, require the change of the characteristic of a site exceeding 5 000 m^2, and the re-zoning of a site exceeding 10 000m^2, on 7 June 2024, a Notice of Intent to Develop was compiled and submitted to Heritage Western Cape (HWC). In a comment dated 25 June 2024, it was confirmed that no further action would be required for the proposed development. Please refer to **Appendix K6** for the NID submitted to HWC as well as the response from HWC confirming the way forward.

2.3.11. The National Development Plan 2030 (2012)

In 2009 the South African government established the National Planning Commission (NPC). This Commission chaired by the Minister in the Presidency for national planning is charged with the responsibility to develop a long-term vision and strategic plan for South Africa. Given its responsibility to ensure greater synergy in terms of national planning imperatives, it is of paramount importance to align local government development and planning objectives with the overall national imperatives.

In November of 2012, the NPC released its National Development Plan entitled "Vision for 2030". The following are the key priority areas of the plan:

- Creating an economy that will create more jobs.
- Improving infrastructure.
- Ensuring the transition to a low carbon economy.
- Enduring an inclusive and integrated rural economy.
- Reversing the spatial effects of apartheid.
- Improving the quality of education, training and innovation.
- Quality healthcare for all.
- Social protection.
- Building safer communities.
- Reforming the public services.
- Fighting corruption.
- Transforming the society and uniting the country.

Through the proposed development the inhabitants of the Kranshoek community will be provided with affordable housing opportunities which will act as estates. The units will be accessible to the local community through the First Home Finance & Subsidy Assistance (FLISP) programme whereby which the community members earning between R 3 501 and R 22 000 per month will be able to come by purchasing a home within their area. The various Phases will be managed as Private Estates and will be managed by a Homeowners Association. Through these measures (as further described in Section 4 of this report), the proposed development hopes to enrich a number of the key priority areas highlighted in the NDP. The proposed development will also further boost the economy through the inclusion of numerous community areas (places of worship and institutional areas (such as a primary school and a number of creches) and a business development zone (which has been earmarked for a service station). Through this, the proposed development will lead to economic upliftment during both the construction and operational phases.

2.3.12. Development Facilitation Act (DFA; Act 67 of 1995)

Key planning principles listed in Section 3 of the DFA are applicable to the proposed development. The principles include:

- Promoting the integration of the social, economic, institutional and physical aspects of land development;
- Promoting integrated land development in rural and urban areas in support of each other;
- Promoting the availability of residential and employment opportunities in close proximity to or integrated with each other;
- Optimising the use of existing resources including such resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation and social facilities;

- Promoting a diverse combination of land uses, also at the level of individual erven or subdivisions of land;
- Discouraging the phenomenon of "urban sprawl" in urban areas and contributing to the development of more compact towns and cities;
- Contributing to the correction of the historically distorted spatial patterns of settlement in the Republic and to the optimum use of existing infrastructure in excess of current needs;
- Encouraging environmentally sustainable land development practices and processes;
- Promoting land development which is within the fiscal, institutional and administrative means of the Republic;
- Promoting the establishment of viable communities; and,
- Promoting sustained protection of the environment.

2.3.13. Provincial Spatial Development Framework (2014)

The overall policy objective of the PSDF is to secure environmentally sustainable development and the use of natural resources while promoting socio-economic development in the Western Cape Province.

Aim

The aim of the Western Cape PSDF is to:

- Give spatial expression to the national (i.e. NDP) and provincial (i.e. OneCape 2040) development agendas;
- Serve as basis for coordinating, integrating and aligning 'on the ground' delivery of national and provincial departmental programmes;
- Support municipalities to fulfil their Municipal Planning mandate in line with the national and provincial agendas; and
- Communicate government's spatial development intentions to the private sector and civil society.

Guiding Principles

The Western Cape's PSDF is based on a number of spatial principles that is relevant to the proposed development, namely:

- Spatial justice – targeting the marginalised and disadvantaged groups in society. Inclusionary settlements focus on the public realm, supporting equitable access and making urban opportunities accessible to all, especially the poor.
- Sustainability and resilience – land development should be spatially compact, resource frugal, compatible with cultural and scenic landscapes and should not involve the conversion of high potential agricultural land or compromising ecosystems.
- Spatial efficiency – compaction as opposed to sprawl is preferred. Mixed use as opposed to mono-functional and prioritisation over public transport rather than private car use. When a settlement is compact higher densities provide thresholds to support viable public transport, reduce overall energy use and lower travel cost.
- Accessibility – Improving access to services, facilities, employment, training and recreation including improving the choice of safe and efficient transport nodes.
- Quality and liveability – a good environment is one that is diverse, varied and unique. Public spaces are the living rooms to settlements where people meet, play and relax. They need to be safe and attractive.

The PSDF emphasizes the need for creating compact and inclusive communities. Infill development is seen as a key strategy. Policies in the PSDF that are of relevance to this development proposal include:

- Policy S3: Promote compact, mixed use and integrated settlements;
- Policy S5: Promote sustainable, integrated and inclusive housing;

It should be noted that losses of scenic and heritage rural character are taking place due to recent patterns of rural residential sprawl on the outskirts of urban centres associated with low-density property developments. A number of scenic landscapes of high significance are under threat and require strategies to ensure their long-term protection. Of relevance to the proposed development priority areas for proposed conservation and protection include:

- Rural landscapes of scenic and cultural significance situated on the major urban edges and under increasing development pressure.

2.3.14. Garden Route District Municipality Integrated Development Plan (2022 – 2027)

The vision of the Garden Route District Municipality (GRDM) is "Garden Route the leading, enabling and inclusive district, characterised by equitable, sustainable development, high quality of life and equal opportunities for all".

The Garden Route District Mission expands on the vision and adopted the following mission statement in order to achieve it:

- Unlocking resources for equitable, prosperous and sustainable development;
- Providing the platform for co-ordination of bulk infrastructure planning across the District;
- Providing strategic leadership towards inclusive /radical / rigorous socioeconomic change;
- Transformation to address social economic and spatial injustice;
- Redressing inequalities and access to ensure inclusive services, information and opportunities for all citizens of the District;
- Initiating funding mobilisation initiatives / programmes to ensure financial sustainability;
- Co-ordinating and facilitating social development initiatives.

2.3.15. Bitou Local Municipality Integrated Development Plan (2022-2027)

The vision of the Bitou LM (Vision 2030) is "*To be the best together*". Its mission statement states: "*We partner with communities and stakeholders to sustainably deliver quality services so that everyone in Bitou can live and prosper together*".

The Bitou LM's Key Priority Areas (KPAs) / Strategic Objectives (SOs) are as follows:

- (a) KPA 1 - Strategic Planning for Transformation - SO 1.1: Spatially integrate areas separated by apartheid, promote access for poor to work, recreational and commercial opportunities
- (b) KPA 2 - Economic Development - SO 2.1: Grow local economy, create jobs, empower previously disadvantaged, transform ownership patterns; SO 2.2: Economic development of local economy
- (c) KPA 3 - Community and Social Development - SO 3.1: Eradicate poverty and uplift previously disadvantaged communities, promote social cohesion
- (d) KPA 4 - Infrastructure Development - SO 4.1: Universal access to decent quality of services;

The proposed development aligns with the housing objectives of the BLM (as highlighted in the IDP). According to the IDP of the Municipality, potions 7, 8 and 9 of the Farm Krans Hoek 432 have been earmarked for low-cost housing. Development of Portion 9 of the Farm has already obtained environmental authorisation and construction thereof has commenced. The current application for environmental authorisation is for the proposed development of Portion 7 and 8 of the Farm Krans Hoek 432. Through the development and integrated planning of the proposed development, the first four KPAs/SOs of the Municipality will be tended to as the proposed development aligns with the strategic planning for the Kranshoek area (SO 1.1). As part of the proposal a business zone and multiple community zones are proposed to be instated (SO. 2.1). The development aims to alleviate the housing backlog currently experienced (and partially supply to future demand) in the Kranshoek area. Through this, uplift the community of Kranshoek (SO. 3.1). As part of the proposed development, the residents of the area will be connected to the Municipal services system (SO 4.1).

2.3.16. Bitou Local Municipality Spatial Development Framework (2021)

The Spatial Development Framework (SDF) for Bitou Local Municipality (BLM) seeks to address spatial, environmental and socio-economic issues confronting the municipality. It also aims to assist the municipality to manage current spatial development processes/ pressures efficiently and strategically prepare for projected future developments/ development trends in the municipal area.

More specifically, the MSDF aims to achieve the following objectives:

- Providing a spatial representation of the land development policies, strategies and objectives of the municipality in the context of local, district, provincial and national directives;
- Coordinating and integrating the spatial expression of the sectoral plans of the local and/ or provincial sector departments;
- **Addressing inefficient, impoverished and scattered land use patterns where the poor is generally located far away from places of socio-economic opportunities;**
- **Indicate the desired and intended pattern of land use development in the urban and rural parts in the municipality, including the delineation of areas in which development in general or development of a particular type would not be appropriate;**
- **Managing the conflicting demand between agriculture/ forestry, urban expansion and biodiversity conservation areas (tourism focus areas);**
- Providing mechanisms for the establishment of a functional relationship between urban and rural areas – both spatially and economically;
- Identifying priority investment areas in urban and rural parts of the municipality;
- Focusing on defining the economic footprint of the municipality and formulating strategies on how this can be enhanced in a sustainable manner;
- Coordination and alignment of the municipal SDF with the district and provincial SDF and any other regional plans applicable;
- Spatial targeting will serve to channel public and private investment into priority areas and align the capital investment programmes of the municipality and different government departments into these areas in pursuit of the five SPLUMA principles;
- Link all of the above to the Municipal Budget via the Bitou Integrated Development Plan (IDP).

An important principle of the Bitou Municipal SDF is to promote the development of sustainable human settlements based on Smart Growth Principles in all the nodal points within the municipality.

The Smart Growth Principles include:

- Provide for a mix of different kinds of land uses, e.g. residential, retail, business, and recreational opportunities;
- Create well-designed compact neighbourhoods where the different activities are in close proximity to each other;
- Provide a variety of transportation choices, including private, public and non-motorised transport opportunities that are safe;
- Create a variety of housing opportunities, i.e. in terms of function, form and affordability;
- Encourage growth in existing communities this can be done through infrastructure upgrade, urban renewal new amenities and densification;
- Preserve open spaces, natural beauty, and environmentally sensitive areas;
- Protect and enhance agricultural lands and secure these as a productive a land base for food security, employment, etc.;
- Utilize smarter, and cheaper infrastructure and green buildings and promote renewable and sustainable technologies;
- Foster a unique neighbourhood identity building on the unique and diverse characteristics of each community;
- Nurture engaged citizens through providing for residential work, and play areas; and
- Engaged citizens to participate in community life and decision-making.

The SDF describes the greater Kranshoek area, including current residential households, community facilities and businesses. Community facilities include a new primary school at the northern entrance to the village, a clinic on the corner of Van Rooyen and Loop Street with a frail care centre to the south thereof, and a Community Hall, Library and Office of the Department of Housing clustered in the Kranshoek Community Centre in the central part of the town. A new Sports and Recreation facility has been developed to the south of the Kranshoek Community Centre. Adjacent, to the west of the Community Centre, is a Griqua monument while the village cemetery is located at the far-south-eastern end. A waste transfer facility is located at the northern entrance of the village next to the school while an informal taxi holding area exists to the south thereof. Several small businesses (shops) exist within Kranshoek while the large business area to the southeast comprise a number of low-key service industries/ commercial activities. There are also a number of small farms located adjacent to the west of the town which are actively farmed by members of the community. Some limited agricultural activity also occurs to the east of the village. The Griqua Cultural Bridge initiative comprising hotel and conferencing facilities is planned at the south-western end of the village and it should be noted that all the land between the village and the coastline belongs to the Bitou Local Municipality.

The proposed site is specifically mentioned as being earmarked for future housing south of the existing poultry farm and within proximity to the future Industrial Park to the north of the site.

According to the SDF, the current housing demand/backlog of the Kranshoek Settlement area is 1 207 units and is anticipated to be 3 880 units by 2040. The development of Portion 9 (approved), 7 and 8 of the Farm Kranshoek 432 would alleviate the current housing backlog of the Kranshoek area. With the anticipated supply of housing (by the proposed development of the three properties) exceeding the backlog currently recorded in the SDF, further aiming to alleviate future demand. The SDF anticipated the execution of the planned development

of the three properties to take place between the 3rd and the 5th years of the validity of the SDF (2022). Thereby, the current application for environmental authorisation for the development of Portions 7 and 8 of the Farm Krans Hoek 432 and the continued development of Portion 9 of the Farm Krans Hoek 432 aligns with the Municipal planning.

According to the SDF (2022, as approved in 2023), the properties upon which the development is proposed are located within the noise contour of the Plettenberg Bay Airport (managed by Garden Route Aero). The proposed development forms part of the SDA 14. This Spatial Development Area has been earmarked for mixed subsided and Gap housing. The SDF does not highlight any restrictions in terms of residential activities, however specific light commercial and industrial activities allowable in these areas have been highlighted.

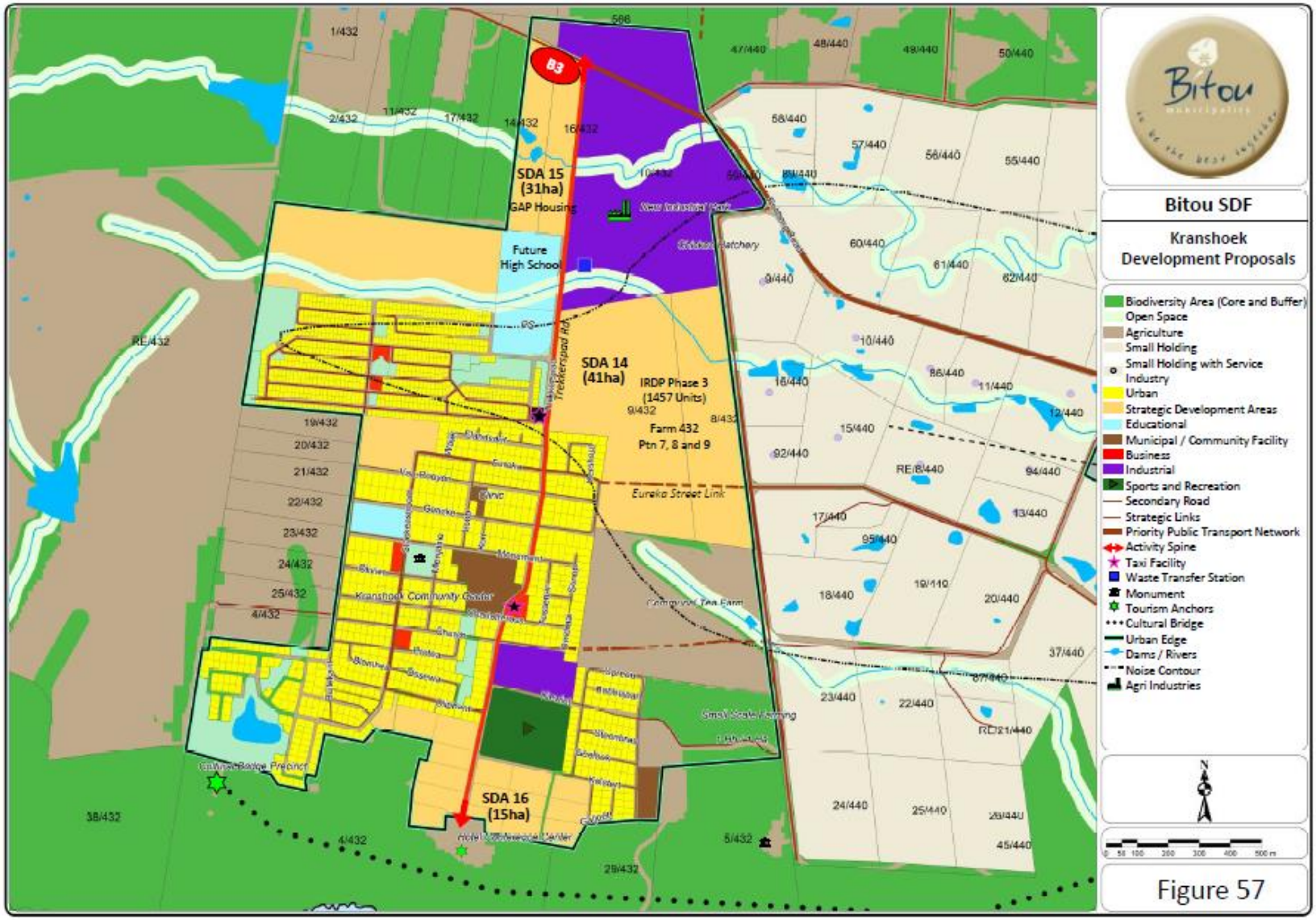


Figure 6: Kranshoek Spatial Structure Map (*Source: BMSDF 2022*).

2.3.17. *Bitou Local Municipality Housing Integrated Human Settlements Plan (2011)*

The Bitou Local Municipality (BLM) adopted an Integrated Human Settlement Plan in September 2011, which was later updated and revised in 2012. The plan makes provision for the following:

- A multi-year housing plan, high, medium and long terms;
- A municipal housing needs assessment;
- The identification, surveying and prioritization of informal settlements;
- The identification of well-located land for housing;
- The identification of areas for densification;
- Sustainability criteria on identified land, and
- A project pipeline and detailed implementation plans.
- Deriving linkages between housing and urban renewal and the integration of housing,
- Planning and transportation frameworks (Bitou IDP, 2016).

2.3.18. *Bitou Local Municipality Coming Together Initiative (2010)*

The Bitou Coming Together Initiative (2010) aims to integrate segregated urban areas, associated with economic disparities, as a result of Apartheid planning, within the Plettenberg Bay area. The project area includes this proposed New Horizons housing development area.

The key objective of the project is to bring economic development, government services and social services and facilities closer to the majority of the region's people. The initiative aims to shift the centre of economic investment, job creation and development in the coming decades towards the townships. Municipal and governmental services will be relocated closer to where the majority of the people are.

2.4. Approvals Required Pre-Construction and Planning Phase

The table below summarises the various environmental and planning approvals required from the various Authorities, before the construction of the development may take place.

Table 3: Summary Pre-Construction Environmental & Planning Approvals Required

Competent Authority	In terms of Legislation	Type of Approval / Licence / Required
The Western Cape Department of Environmental Affairs and Development Planning (DEA & DP)	National Environmental Management Act (NEMA) and the 2014 EIA Regulations (April 2017)	**Environmental Authorisation** required in terms of the NEMA EIA Regulations (2014), as amended, for the activities listed in section 2.5 below.
Department of Water Affairs & Sanitation (DWS)	The National Water Act (NWA)	A **Water Use Authorisation** is required for approval of the following water uses: 21c) – impeding or diverting the flow of water in a watercourse; 21i) - altering the bed, banks, course or characteristics of a watercourse;
Heritage Western Cape (HWC)	National Heritage Resources Act (NHRA) – Section 38	A Notice of Intent to Develop Application (NID) is required to be submitted. **A "Final Comment"** is required for approval of the following Section 38 activities: a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; 1. any development or other activity which will change the character of a site—

Competent Authority	In terms of Legislation	Type of Approval / Licence / Required
		i. exceeding 5 000 m² in extent; or 2. the re-zoning of a site exceeding 10 000 m² in extent; This comment has been received and concluded that no further actions would be required for processing in terms of Section 38 of the NHRA. A **Demolition permit** will be required for the existing building located on site.
Bitou Local Municipality	Section 15 (2) (h) of the Municipal Planning Bylaw as compiled in accordance with the SPLUMA.	The **rezoning and subdivision** of the consolidated portion into portions as shown on the layout plan. A **consent use** application will be required should the Business Development Zone III (Service Station) be approved.
Civil Aviation Authority	Civil Aviation Act, Obstacles regulations	According to the SDF of the local municipality, the proposed development is located within the Noise Contour of the Plettenberg Bay. Therefore, an **operational permit** in terms of the CAA will be required.

The above environmental approvals are informed by the Environmental Impact Assessment (EIA) process, an integrated process through which information regarding the proposed development will be collected, organized, analysed and communicated to the relevant authorities for consideration.

2.5. *Listed Activities in Terms of the EIA Regulations (2017)*

Table 4: Listed Activities in terms of the NEMA Environmental Impact Assessment Regulations (2014), as amended in 2017, that are proposed to be triggered and therefore require an application for Environmental Authorisation to be submitted to the DEA & DP.

Activity #	Description of Activity as per Listing Notice	Reason for Listing
LISTING NOTICE 1 (GN No. R327 of 7th April 2017): Basic Assessment		
9	*The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water –* *(i) With an internal diameter of 0.36 metres or* (i) *With a peak throughput of 120 litres per second or more.*	** The proposed development is not located in the built environment of the Bitou Local Municipality. This activity would potentially be relevant to the proposed development. Although the engineering specifications for the proposed development have not been provided as yet, due to the size of the proposed development, it is likely that the proposed associated infrastructure will exceed the triggering capacities. **Therefore, this activity <u>will be</u> applicable to the proposed development.**
10	*The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes –* *(i) With an internal diameter of 0.36 metres or* *(ii) With a peak throughput of 120 litres per second or more.*	** The proposed development is not located in the built environment of the Bitou Local Municipality. This activity would potentially be relevant to the proposed development. Although the engineering specifications for the proposed development have not been provided as yet, due to the size of the proposed development, it is likely that the proposed associated infrastructure will exceed the triggering capacities. Additionally, the preferred layout makes allowance for an onsite sewer pump station. **Therefore, this activity <u>will be</u> applicable to the proposed development.**
12	The development of (ii) infrastructure or structures with a physical footprint of 100 square metres or more where such development occurs – (a) Within a watercourse; (b) In front of a development setback; or If no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse.	** The proposed development will see to the establishment of infrastructure within the 30 m buffer of a watercourse with an overlapping extent of approximately 537 m^2. **Therefore, this activity <u>will be</u> applicable to the proposed development.**

Activity #	Description of Activity as per Listing Notice	Reason for Listing
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.	As the proposed development will see to the construction of a sewer pipeline through the watercourse located on portion 7 of the Farm Krans Hoek 432. The total length of the interception with the watercourse and its associated buffer will be 39 m (the width of the watercourse itself at that point is 14.2 m). In order to install the pipeline, material will be moved in the watercourse, such movement will exceed the threshold of this activity. **Therefore, this activity <u>will be</u> applicable to the proposed development.**
27	*The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for –* *(i) The undertaking of a linear activity; or* *(ii) maintenance purposes undertaken in accordance with a maintenance management plan.*	It is anticipated that the development footprint will result in clearance of approximately 36 ha of indigenous vegetation (the remainder of the proposed development extent will be allocated to public and private open space). The remaining extent of the development area will be allocated to public and private open space. **Therefore, this activity <u>will be</u> applicable to the proposed development.**
28	*Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.* i.	The proposed development entails the establishment of a mixed-use development on agricultural land with an area of approximately 40.3 ha. The proposed development is located within the urban edge of the Local Municipality, however, the site does not lie within the built environment. **Therefore, this activity <u>will be</u> applicable to the proposed development.**

Activity #	Description of Activity as per Listing Notice	Reason for Listing
LISTING NOTICE 3 (GN No. R324): Basic Assessment		
Activity #	**Description of Activity as per GN No. R 324**	**Comment**
4	The development of a road wider than 4 metres with a reserve less than 13.5 metres (i) within areas outside urban areas (aa) Areas containing indigenous vegetation.	The two main access roads leading through the proposed development will have a width of 20 m. The combined length of the proposed main access roads will be 955 m. The internal road network will have a width of 10 m. Clearance of the areas required for the roads will require the removal of indigenous vegetation. **Therefore, this activity <u>will be</u> applicable to the proposed development.**
12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. i. Western Cape outside urban areas (i) in Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity. i.	The proposed development will see to the clearance of approximately 36 ha (the remaining extent of the proposed development area will be allocated to public and private open space) of indigenous vegetation that forms part of the South Outeniqua Sandstone Fynbos. This ecosystem has not been listed as a threatened ecosystem in terms of the Revised List of Ecosystem that are Threatened and in Need of Protection. The project is, however, located within a Critical Biodiversity Area as promulgated in terms of the Western Cape Biodiversity Act, 2021 (Act No. 6 of 2021). **Therefore, this activity <u>will be</u> applicable to the proposed development.**
14	The development of (ii) infrastructure or structures with a physical footprint of 10 square metres or more where such development occurs – (a) If no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse. ii. Western Cape outside urban areas (ff) in Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity.	The proposed development will see to the establishment of infrastructure within the 32 m buffer of a watercourse with an overlapping extent of approximately 537 m^2. The watercourses identified by the appointed specialist correlates with the Ecological Support Areas delineated by the Western Cape Biodiversity Spatial Plan (WCBSP, 2017). **Therefore, this activity <u>will be</u> applicable to the proposed development.**

Activity #	Description of Activity as per Listing Notice	Reason for Listing
LISTING NOTICE 2 (GN No. R325): Scoping & Environmental Impact Reporting		
15	The **clearance of an area of 20 hectares or more of indigenous vegetation**, excluding where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The proposed development will see to the clearance of approximately 36 ha of indigenous vegetation (the remainder of the proposed development footprint will be allocated to public and private open space). **Therefore, this activity <u>will be</u> applicable to the proposed development.**

Therefore, in Summary the following activities are being applied for:

- Listing Notice 1: Activity 9, 10, 12, 24, 27 and 28;
- Listing Notice 2: Activity 15; and
- Listing Notice 3: Activity 4, 12 and 14.

3. ASSUMPTIONS AND LIMITATIONS

The impact tables in Section 9 below include the identified potential environmental impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of impact, the degree to which the impact can be reversed, may cause irreplaceable loss of resources and can be avoided, managed or mitigated.

These impact tables have however only at this "scoping" stage been informed by the Site Sensitivity Reporting done by the Terrestrial Biodiversity and Plant Species, the Aquatic Biodiversity, and Faunal Species Specialists. The findings of the impact tables are therefore based on specialist input on the preferred conceptual layout in **Appendix C1**.

3.1. Aquatic Biodiversity Assessment

- Aquatic ecosystems vary both temporally and spatially. Once-off surveys such as this can miss certain ecological information due to seasonality, thus limiting accuracy and confidence.
- The civil services infrastructure layouts and designs were not provided during the site sensitivity verification phase. It will therefore be assumed that there may be infrastructure such as sewage pipeline crossings, pump stations, stormwater outlets, etc. in or near the watercourses.
- While disturbance and transformation of habitats can lead to shifts in the type and extent of aquatic ecosystems, it is important to note that the current extent and classification is reported on in the impact assessment.
- All soil/vegetation/terrain sampling points were recorded using a Garmin Montana Global Positioning System (GPS) and captured using Geographical Information Systems (GIS) for further processing.
- Infield soil and vegetation sampling was only undertaken within a specific focal area around the proposed activities, while the remaining watercourses were delineated at a desktop level with limited accuracy.
- No detailed assessment of aquatic fauna/biota (e.g. fish, invertebrates, microphytes, etc.) will be undertaken by this specialist, as it is not deemed necessary.
- The vegetation information provided is based on observation not formal vegetation plots. As such species to be documented assessment report should be considered as a list of dominant and/or indicator wetland/riparian species. Refer to the terrestrial specialist reports for further details on site vegetation.
- The scope of work did not include water quality sampling and the water quality characteristics were inferred from the biophysical characteristics of the area and catchment land uses.
- The assessment of impacts and recommendation of mitigation measures will be informed by the site-specific ecological concerns arising from the field survey and based on the assessor's working knowledge and experience with similar projects, the degree of confidence is considered high.

3.2. Terrestrial Biodiversity and Plant Species Scoping Report

The findings and recommendations of this report may be susceptible to the following uncertainties and limitation:

- Any botanical surveys based upon a limited sampling time-period, may not reflect the actual species composition of the site due to seasonal variations in flowering times. Additionally, the composition of fire adapted vegetation may vary depending on level of maturity or time since last burn. As far as possible, site collected data has been supplemented with desktop and database-centred distribution data.
- No assessment has been made of aquatic processes relating to any wetlands, pans and rivers/seeps and/or estuaries outside of the scope of those having an influence on terrestrial biodiversity.

3.3. Animal and Avifaunal Species Assessment

Weather conditions during the surveying period were relatively optimal for detecting a representative sample of the terrestrial faunal and avifaunal species diversity across the study area. Even so, not all species could be observed (especially cryptic species), and it is further possible that the surveying period did not correspond to the activity period or activity season of some species (especially butterflies and grasshoppers). Coupled to this, the thick and impenetrable nature of the alien and invasive vegetation of the Non-indigenous forest and Degraded Fynbos habitats in the study area (see Section 7 of the Assessment) hampered sampling efforts to some degree, as not all areas could be accessed.

Furthermore, although the observed faunal composition of the study area only partly reflects the species richness of, and faunal abundances within the study area (Appendix E of the Assessment), the inclusion and consideration of Species of Conservation Concern (SCC) was further based on a thorough desktop assessment for the included faunal groups (mammals, amphibians, avifauna and butterflies; Appendices A to D of the Assessment), meaning that all possibly occurring SCC were considered in the current assessment (Section 9 of the Assessment).

4. DETAILED DESCRIPTION OF THE PROPOSED PROJECT

4.1. Site Location and Description of Property

4.1.1. Summary Table Site and Farm Details

Please refer to the table below which is a summary of the site and farm details associated with this proposed affordable housing development and associated services (water and sewage) infrastructure.

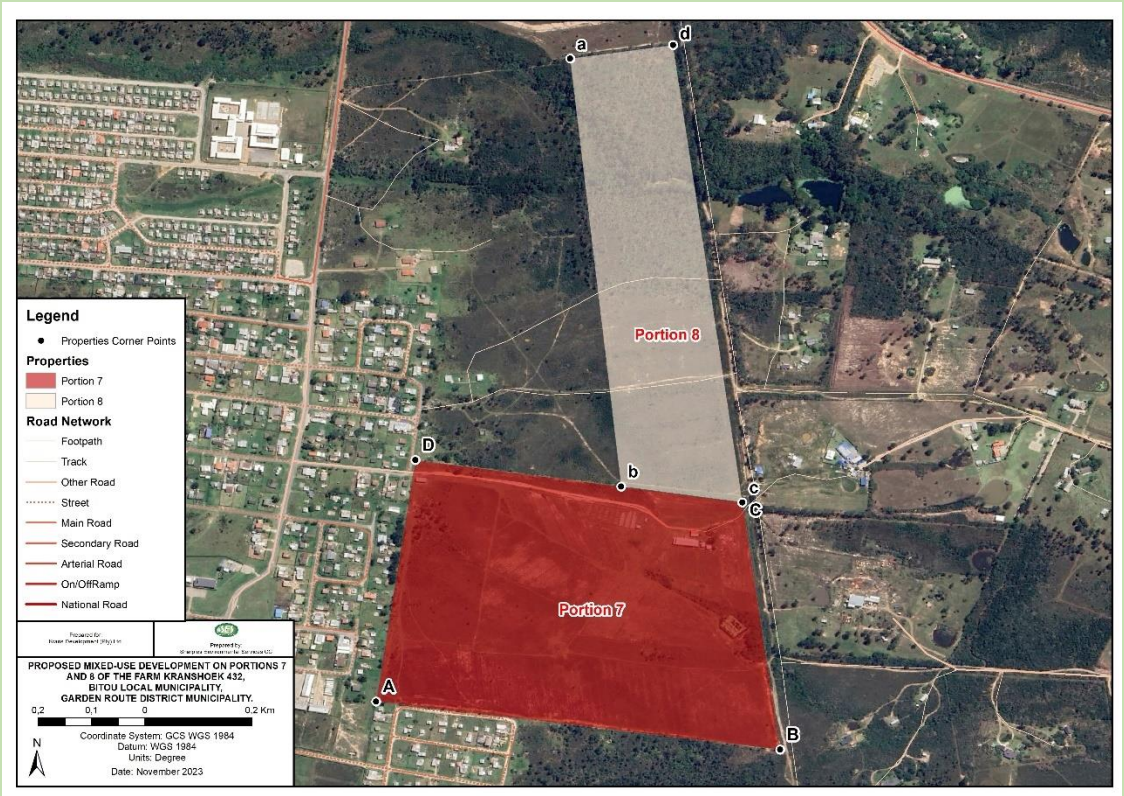
Table 5: Summary Table: Site and Farm Details

Province	Western Cape
District Municipality	Garden Route District Municipality
Local Municipality	Bitou Local Municipality
Ward number(s)	Ward No 7
Nearest town(s)	Kranshoek – directly adjacent
Farm name(s) and number(s) and Portion name(s) and numbers	Portion 7 of the Farm Krans Hoek 432 Portion 8 of the Farm Krans Hoek 432

List of Properties, Ownership & Extent of each Property Associated with Proposed Affordable Housing Development (Please refer to **Appendix E2** of this Scoping Report for the Windeed extracts and landowner consent of the respective properties).

PROPERTY	OWNERSHIP	EXTENT
Portion 7 of the Farm Krans Hoek 432	Krans Development 7 (Pty) Ltd	25.9 ha
Portion 8 of the Farm Krans Hoek 432	Krans Development 8 (Pty) Ltd	14.4 ha

Extent of Site (Development Footprint / Disturbed Area)	The total size of all properties 40.3 ha. The proposed development footprint will be approximately 40.3 ha. As per the latest site development plan included in **Appendix C1** of this Scoping Report.
SG Code	C03900000000043200007
	C03900000000043200008
Physical Address	Trekkerspad, Kranshoek, Plettenberg Bay, Western Cape



Property corner point coordinates	Reference	Latitude	Longitude
Portion 7 of the farm Krans Hoek 432	A	34° 5'33.70"S	23°18'0.21"E
	B	34° 5'36.61"S	23°18'24.74"E
	C	34° 5'21.64"S	23°18'22.45"E
	D	34° 5'19.08"S	23°18'2.60"E
Portion 8 of the farm Krans Hoek 432	a	34° 4'54.80"S	23°18'11.98"E
	b	34° 5'20.69"S	23°18'15.08"E
	c	34° 5'21.64"S	23°18'22.45"E
	d	34° 4'53.97"S	23°18'18.23"E

Proposed footprint coordinates	Latitude	Longitude
1	34° 4'54.80"S	23°18'11.98"E
2	34° 4'53.97"S	23°18'18.23"E
3	34° 5'36.61"S	23°18'24.74"E
4	34° 5'33.70"S	23°18'0.21"E
5	34° 5'19.08"S	23°18'2.60"E
6	34° 5'20.69"S	23°18'15.08"E
Centre Point coordinates	34° 5'21.06"S	23°18'18.40"E

4.2. Detailed Description of the Proposed Development

The affordable housing development is proposed on portions 7 and 8 of the Farm Krans Hoek 432. The properties to be developed are located within the BLM Urban Edge as per the Municipal SDF (2021, as approved in 2023).

The proposed development is positioned to the east of the town of Kranshoek and abuts Trekkerspad. Kranshoek is a residential township located west of the town of Plettenberg Bay. It is to the south of Robberg Road which connects the western parts of Plettenberg Bay to the N2 further west of Kranshoek, and north of the Indian Ocean coast.

Kranshoek is comprised of township extensions linked by a network of gravel and tar roads. Urban development to the west of the proposed site are affordable housing and a school with mostly vacant land to the north and informal agricultural farm portions (Portions 7 and 8) to the east and south. The site is bordered (to the East) by multiple small holdings.

Portion 7 of the Farm Krans Hoek No. 432 has a residential building situated on it and this portion was historically used for honeybush tea farming practices (Ericaville, also mentioned in the SDF, 2022). This building has been identified as being 60+ years old and will require a demolition permit for the removal thereof. As part of the Heritage Screening undertaken by Dr. Jayson Orton for the proposed development (Notice of Intent to Develop, NID), confirmation from the Griqua Community was sought to confirm the cultural significance of the building. It was confirmed that the building has no significance to the Griqua Community. Please see Section 6.7 below for further detailing regarding the Archaeology and Heritage findings.

4.2.1. Proposed Mixed Use Development

It is proposed to construct approximately 835 topologic units (excluding roads) on Portions 7 & 8 of the Farm Krans Hoek 432 comprising of a mix of single residential dwellings, apartments, retail and commercial properties, schooling facilities, places of worship, Private and Public Open Spaces (As described in Table 6). The following is proposed to be developed as per the **Site Layout Plan** shown in **Appendix C1** and in the table below:

Table 6: List of proposed development aspects

Development Proposed	Size (ha)	% coverage
General Residential Zone I: Group/Town Housing	19.40	48.2 %
Community Zone 1: Place of Instruction	3.58	8.9 %
Community Zone 2: Place of Worship	0.44	1.1 %
Business Zone 3: Service Station (with Consent Uses)	0.43	1.1 %
Open Space Zone 1: Public Open Space	1.72	4.3 %
Open Space Zone 2: Private Open space	6.68	16.5 %
Utility Zone: Utility Service	0.04	0.1 %
Transport Zone 2: Public Road	1.94	4.8 %
Transport Zone 3: Private Road	6.09	15 %
TOTAL DEVELOPMENT FOOTPRINT	**±40.32 ha**	

Please refer to the Site Layout Plan in **Appendix C1**.

4.2.2. Management of private and public open spaces

As noted above, the proposed development will have (one) 1 public open space and ten (10) private open spaces associated with it. The public open space will be located on Portion 8 of the Farm Krans Hoek 432. This open space will be accompanied by a private open space located towards the north. These areas serve as a continuation of the open spaces located on Portion 9 of the Farm Krans Hoek 432.

The remaining private open spaces will be strategically placed within the various phases of the proposed development. At current, the management method of the private open space

located toward the north of the public open space has not been defined. One of three management methods are considered:

- Complete preservation – where no access would be permitted to this area by the public or the members of the development (unlikely method of implementation);
- Conservation based recreation – where pathways will be utilised to connect the private open space to the rest of the proposed development. Based on the comments received during the public engagement process of the Townplanning application, strong objection was raised towards access to the open space areas from the East of the properties under consideration.
- Minimal transformation of the area – based on the parameters provided by the specialists, whereby which the area will be used for a community sports field or similar activity.

Access to this area will either be obtained through a pathway leading through the public open space, or will be accessed from the northern access road (leading from Robberg Road past Dagbreek Eiers). The entirety of this open space area lies within the 300 m exclusion zone of the Dagbreek Eiers operations and is therefore not suitable for habitable dwellings or institutions.

The management of and access to this portion of the proposed development will be further explored during the environmental impact assessment phase of the proposed development.

All private open spaces will be managed and maintained by the Homeowners' Association once established. The public open space will be managed by the Bitou Local Municipality.

4.2.3.Proposed Civil Engineering Services

At the time of the compilation of this Draft Scoping Report, the specifics regarding the conceptual Civil Engineering Services required for the proposed development have not been detailed. These specifications will be included once available. The impacts of these structures will also be taken into consideration during the impact assessment phase of the proposed development.

The proposed development will see to the construction of the following services infrastructure:

- ***Stormwater Infrastructure:***

  At the time of the compilation of this Draft Scoping Report, no stormwater designs have been compiled for the proposed development. However, two areas allocated towards the stormwater attenuation areas are proposed on Portion 7 of the Farm Krans Hoek 432.

  The following principles will be adopted from the Stormwater Management Plan compiled for the purpose of implementation on Portion 9 (currently under construction):

  - The stormwater management plan (SMP) will be compiled and will be provided to the appointed freshwater specialist for further comments and inputs.
  - The SMP will be based on detailed flood modelling and Sustainable Urban Drainage System (SUDS) management principles.
  - The SMP will address the potential impact of contaminated runoff from the construction phase footprint into the natural watercourse systems.

  The preferred development layout does not currently reserve space for the inclusion of surface drainage systems. The stormwater designs will align with the BLM's design requirements and criteria as well as the following guidelines:

- The "New Red Book" – Guidelines for Human Settlement Planning and Design;
- The Urban Transport Guidelines
- South African Road Traffic Signs Manual
- The South African Bureau of Standards / South African National Standards for civil engineering construction management.
- Geometric design of rural roads

The appointed civil engineers will confirm primary stormwater system and confirm the outlet locations, whilst ensuring that no outlets encroach into the delineated watercourses or their associated buffer areas.

- **Sewer infrastructure**:
  The proposed new internal sewer system will connect to the existing sewer system and will consist of a uPVC sewer reticulation system of various sizes.

  Currently, there is an existing sewer main line leading along the northern boundary of Portion 8. Capacity requirements and the subsequent proposed sewer infrastructure will be detailed in the EIA Phase of the proposed development. The proposed development does make allowance (through the inclusion of the Utility Zone on Portion 7 of the Farm Krans Hoek 432), for the provision of a sewer pump station (with an extent of 0.04 ha). The proposed utility zone infrastructure is located approximately 18 m away from the nearest point of the watercourse.

  The following design considerations will be required for the proposed development:

DOMESTIC SEWER DEMAND RESULTS			
LAND USE	**NO. OF UNITS**	**DISCHARGE AADD**	**SEWER AADD (ℓ/d)**
Dwelling Houses	841	500	420 500
Business Premises	4 172.00 m²	2.8	11 681.6
Place of Instruction	3.76 ha	4000	15 040
Place of Worship	2	1400	2 800
TOTAL			**450 021.6**

  The domestic sewer demands will be designed for as per the "Guidelines for Provision of Engineering Services and Amenities in Residential Development" as published by the CSIR using 70% of the domestic water demands.

  The current proposal will see to the provision of a main infrastructure (bulk sewer connection point) connection point to which the respective development phases will be connected to. Up until the connection point, the responsibility for maintenance and management relies on the municipality. All internal sewer service infrastructure will rely on the management of the Homeowner's Association (HOA).

  GLS Consulting engineers have been appointed to ascertain the current capacity of the services infrastructure in the area. Based on the outcome of their assessment, the necessary upgrades will be highlighted, or the sufficiency of the existing infrastructure will be confirmed.

- ***Water infrastructure:***
  The new internal water system will consist of a uPVC water reticulation system of various sizes. Installation of water meters will be done as per the regulations of the Bitou Municipality.

The domestic water demands will be designed for as per the "Guidelines for Provision of Engineering Services and Amenities in Residential Developments" as published by the CSIR.

The current proposal will see to the provision of a main infrastructure (bulk water connection point) connection point to which the respective development phases will be connected to. Up until the connection point, the responsibility for maintenance and management relies on the municipality. All internal water provision infrastructure will rely on the management of the HOA.

GLS Consulting engineers have been appointed to ascertain the current capacity of the services infrastructure in the area. Based on the outcome of their assessment, the necessary upgrades will be highlighted, or the sufficiency of the existing infrastructure will be confirmed.

- ***Road infrastructure***:
  As indicated in the proposed development layout, the road network associated with the layout is comprised of two different topologies (zoning allocations):
  - *Public Roads:*
    - These roads make up the main roads/connection infrastructure between the proposed development and the existing/future settlement areas. These roads provide the main connection points into the various blocks/phases.
    - Two public roads will form part of the proposed development, and both will have a servitude width of 20 m wide.
    - The public road leading from East to West, will link up with the existing Gericke Street, in Kranshoek and will extend along the northern boundary of portion 7 and will be approximately 515 m in length.
    - The public road leading from north to south will start towards the southern boundary of Portion 7 (as an extension of Spreeu Street), through to the northern boundary. The newly proposed road infrastructure is approximately 451 m in length. Here, the road will be a continuation of Stella Road (a future road, approved as part of the proposed works on Portion 9 of the Farm Krans Hoek 432). The approved Stella Road will provide access to the proposed infrastructure on Portion 8.
    - The public roads will be handed over to the Bitou Local Municipality upon completion of the roads and once the operational aspects associated with the proposed development commences.
  - *Private Roads:*
    - These roads make up the internal roads servicing the various phases of the proposed development.
    - The private roads will be comprised of two servitude widths. The general servitude width (the internal roads between the residential areas) will be 10 m, whereas the main access roads leading into the respective phases/blocks will have a servitude width of 15 m.
    - The private roads (including the management and maintenance thereof) will be the responsibility of the HOA.

- ***Electrical infrastructure:***
  The electrical supply authority for the area is Eskom therefore the distribution network will comply with their requirements and standards.

  It has been assumed that the existing Eskom 22kV overhead line across the site will be relocated to follow the road reserves and that the network will be extended and augmented to accommodate the planned development.

  Eskom has been identified as a Stakeholder of the proposed development, and comment on the proposed development will therefore be sought at all phases of the process followed.

5. ALTERNATIVES

"Alternatives", in relation to a proposed activity, denotes different means of meeting the general purposes and requirements of the activity, which may include alternatives to –

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

5.1. Description of Process to Reach the Preferred Alternative

5.1.1. Mixed Use Development Site Location and Layout Alternative

5.1.1.1. Process to Reach Preferred Alternative Location & Layout

The site layout plan shown in Figure 7 below (and in **Appendix C2**) is the first layout option that was designed and presented to the EAP as an alternative. This site layout plan was specifically designed to take into consideration of the anticipated watercourse areas (mapped in terms of the Bioregional Plan areas and in alignment with the contours). The social amenities and facilities provided for on the layout plan were specifically provided according to the guidelines of the "Development Parameters for the provision of facilities within settlements in the Western Cape" (published by the WCDEADP, 2014) and more specifically as required from a town planning perspective. This location was chosen as an ideal location as it is located within the Plettenberg Bay Urban Edge, directly adjacent to the existing Kranshoek Settlement as well as the approved mixed-use development on Portion 9 of the Farm Krans Hoek 432, and has been specifically set aside and planned for to be a future extension of the existing Kranshoek residential area in various Municipal Planning Frameworks, including the SDF and IDP.

*As explained in the first section of this Scoping Report, **Section 1.1**, the current housing situation in Bitou is that there are almost no alternative vacant sites within the urban edge that can be compared to investigate which site is the preferred site. Almost all sites adjacent to Plettenberg Bay and the existing rural settlements, infrastructure, transport services etc are proposed to be infilled by housing given the phenomenal rate of population increase in Bitou and dire need to meet the housing demand.*

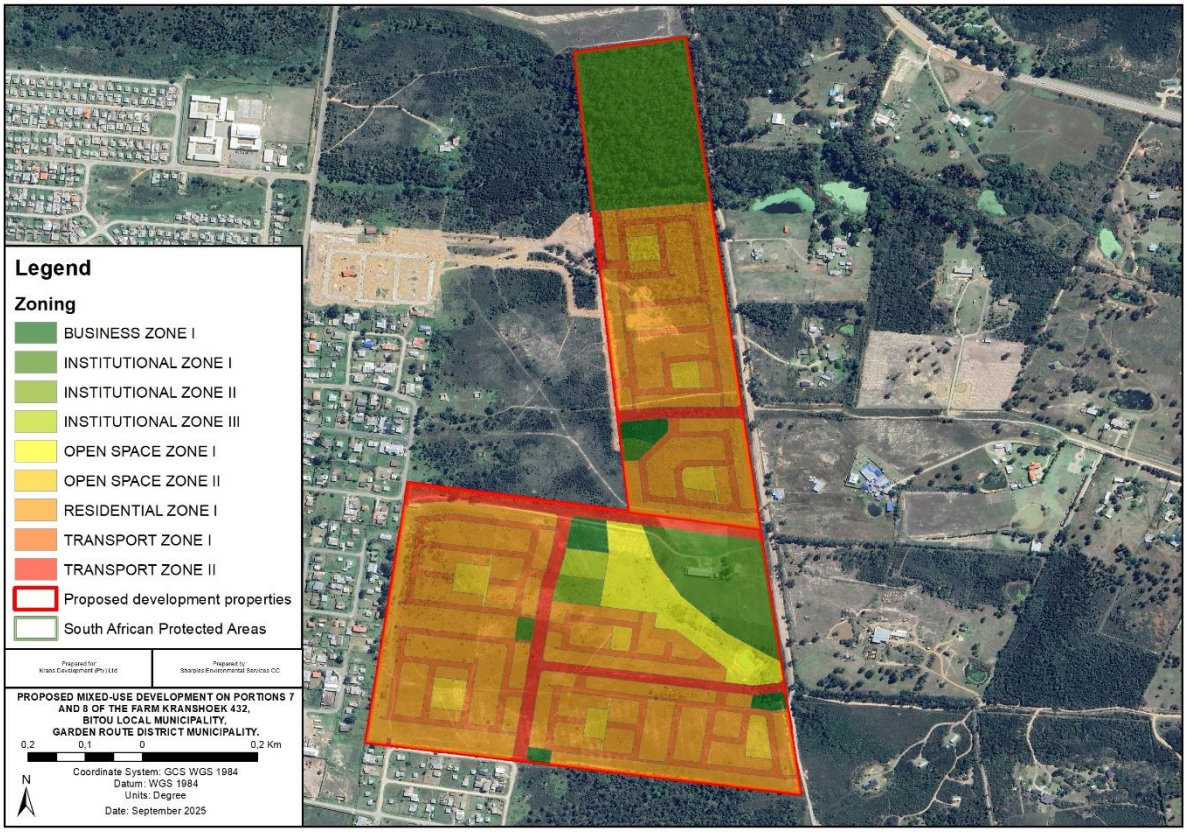


Figure 7: Original Conceptual Site Layout Plan (Alternative A) as per Appendix C2.

Following the conceptual design of the first version of the site layout plan shown above, a Freshwater Biodiversity Scoping, Terrestrial Biodiversity and Plant Species Scoping, Animal Species Scoping, and Heritage investigations were undertaken on this original site layout plan. Following discussions with the appointed specialists, revised Site Layout Plan (**Appendix C1**) was then designed taking into account the following recommendations made by the freshwater and the respective ecological specialists. Furthermore, the areas of concern highlighted by the

The following sensitive features were identified by the various specialists:

- Aquatic Biodiversity Sensitivities:
    - Three Hydrogeomorphic (HGM) units were identified within the study area. The northern most HGM unit (HGM 1) corresponds to the Aquatic Ecologic Support Area (ESA) 1 identified on site, whereas the southern HGM unit corresponds with the ESA 2 (HGM 3).
    - A 42 m buffer area must be maintained along the main edge of the northern system (HGM 1 and 2) and a 15 m buffer area must be maintained along the main edge of the southern system (HGM 3).
    - Limited activities are to be permitted within the buffer areas. Specifically, within the 42m buffer area of the northern system, the specialist indicated that a sports field would be permissible, however, the areas are to be considered No-go for all other infrastructure (including stormwater outlet infrastructure).
- Terrestrial Biodiversity and Plant Species sensitive areas:
    - During the site visit, the terrestrial biodiversity specialist identified only one vegetation type of high sensitivity. This vegetation type is the aquatic areas on site.

- In the northern most reaches of the development site (Portion 8), a stand of invasive tree species was identified. For the most part, the specialist indicated that the site is covered by degraded fynbos vegetation (in various stages of degradation) and fallow lands (as a result of recent agricultural practices).
- No buffer areas were applied to the areas of high sensitivity and the specialist did not highlight any plant species of conservation concern.
- The watercourse delineation (of the Aquatic Biodiversity Specialist) was adopted for the proposed development, and the Terrestrial Biodiversity specialist was afforded the opportunity to comment on the revised layout. No further comments or changes were made regarding the layout.

- Animal Species Sensitive areas:
  - The animal species specialist identified various habitat types within the proposed development site. The most notable habitat areas were the aquatic habitat in the northern reaches of Portion 8 and the stand of alien invasive species located north thereof.
  - The sensitivity of these two units were informed by the presence of subpopulation of the Vulnerable species, *Chlorotalpa duthieae* (Duthie's golden mole).
  - Subsequently, the specialist indicated that a buffer would be required around these habitats. After discussions with the specialist, it was indicated that a 30 m buffer would be sufficient. It was indicated that no buildings would be allowed to occur within the 30 m buffer. However, low impact activities would be permissible.
  - The revised layout was submitted to the specialist, and no further changes or comments were made regarding the layout.

- Heritage Sensitive areas:
  - During the site visit a building older than 60 years was identified on site. Therefore, requiring a permit in terms of the NHRA.
  - Confirmation has been received from the local community regarding the historical significance of the building and it was subsequently confirmed that the building holds no historical significance for the area.
  - A demolition permit will be applied for, and the area has been incorporated into the proposed layout.
  - The revised layout was submitted to the specialist, and no further changes or comments were made regarding the layout.
- Other Sensitive areas:
  - Due to the presence of the poultry farm, Dagbreek Eiers, located North of Portion 8, a 300 m buffer area has been adopted around the active operational are of the establishment. All buildings have been buffered by 500 m from the establishment.
  - The Western Cape Department of Health (DoH) has been identified as an Interested and Affected Party (I&AP) of the proposed development.

Based on the findings and recommendation made by the specialists, the site layout plan was amended (Alternative B: Option 1) to firstly avoid the various areas identified and the associated impacts, and where unavoidable, they were reduced (mitigated). This included the avoidance of any hard structures within the buffered areas, and the removal of a road previously intersecting the southern watercourse.

Following the establishment of the No-Go areas and obtaining the allowable activities within the buffered areas, further adjustments were made to the internal structure of the layouts (Alternative B: Option 2). No changes were made to the area of impact. The internal densities were slightly adjusted to increase the feasibility of the mixed-use development.

The images below provide an overarching layout of the proposed development, please refer to Appendix C for the detailed layout plan alternatives.

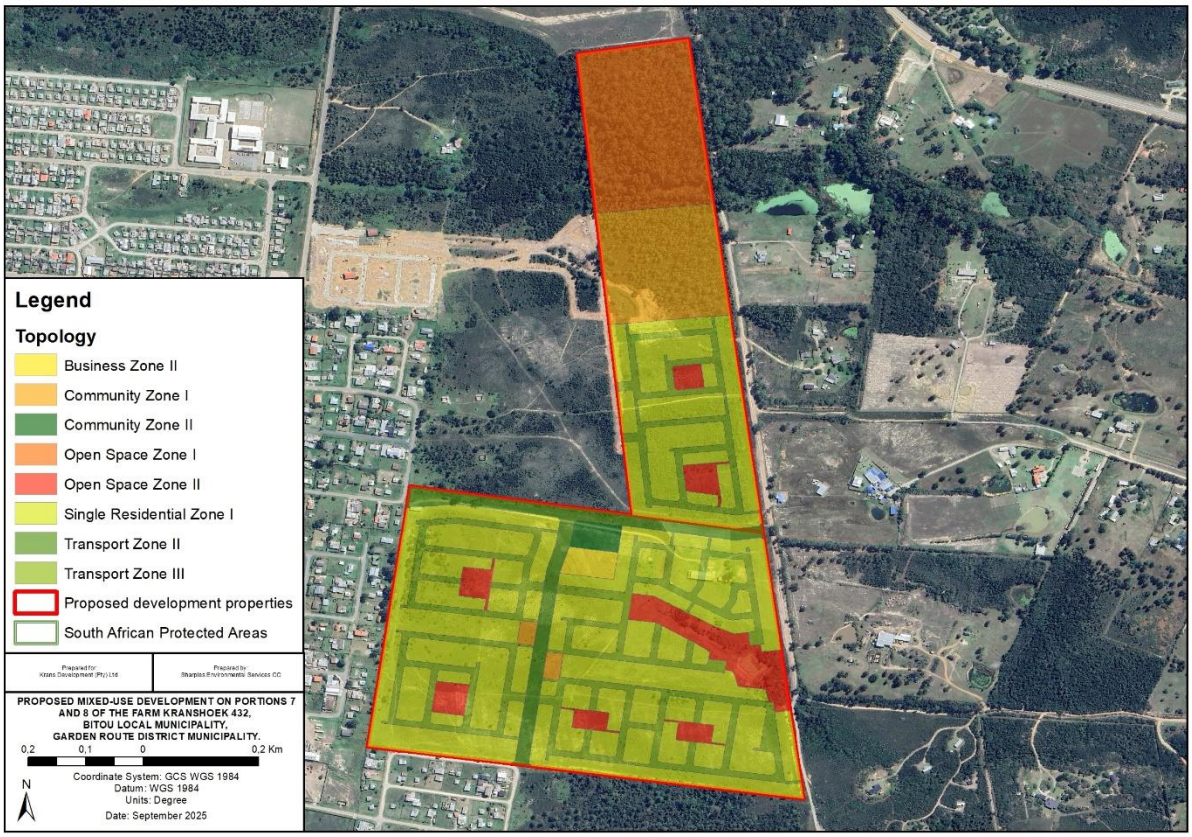


Figure 8: Revised Conceptual Site Layout Plan (Alternative B: Option 1) as per Appendix C2.

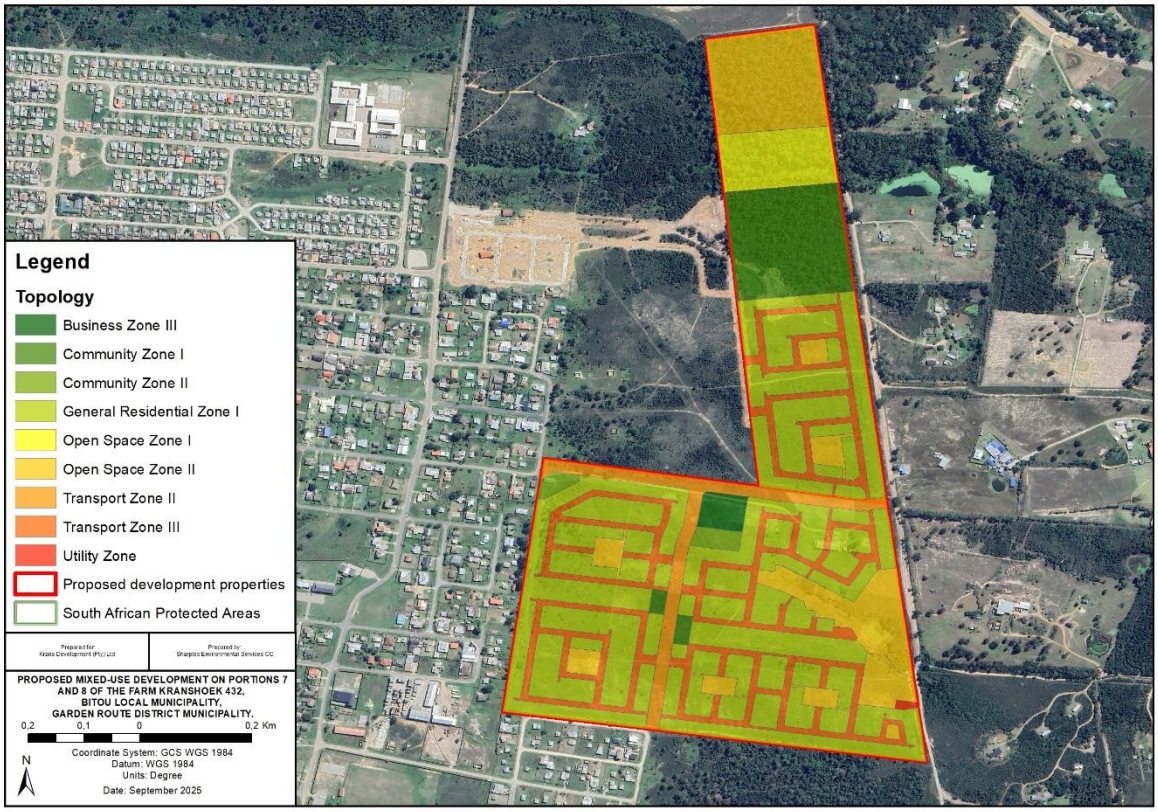


Figure 9: Revised Conceptual Site Layout Plan (Alternative B: Option 2; Preferred alternative) as per Appendix C1.

5.2. Alternatives Assessed

5.2.1. Layout Alternatives

The three layout alternatives discussed in **Section 5.1** will be assessed as part of Section 9 of this report and in the EIA phase of the proposed development.

Table 7 below identifies the site layout differences between the three Alternatives.

Table 7: Summary of Alternatives Assessed

	OPTION 1 (Layout Alternative 1)		OPTION 2 (Layout Alternative 2)		OPTION 3 (Preferred Layout)	
Development Proposed	**Units (up to)**	**Size (ha)**	**Units (up to)**	**Size (ha)**	**Units (up to)**	**Size (ha)**
Single Residential Zone 1: Dwelling Houses	772	18.66	867	20.17	807	19.40
Business Zone 1: Business Premises	4	0.78	1	0.35	-	-
Business Zone 3: Service Station	-	-	-	-	1	0.43
Community Zone 1: Place of Instruction	4	7.39	4	3.67	3	3.58
Community Zone 2: Place of Worship	1	0.32	1	0.34	2	0.44
Institutional Zone 3: Community Hall, Health Clinic	1	0.31	-	-	-	-
Public Open Space 1; Public Open Space	-	-	-	-	1	1.17
Open Space Zone 2: Private Open Space	8	1.67	7	2.69	10	6.68
Transport Zone 1: Public Road	-	3.01	5	1.97	4	1.94
Transport Zone 2: Private Roads	-	5.61	6	6.34	6	6.09

Utility Zone	-	-	-	-	1	0.04
TOTAL DEVELOPMENT FOOTPRINT (EXCLUDING PUBLIC OPEN SPACE ZONE 1)	806	±37.75 Ha	891	±35.5Ha	864	±40.3Ha

* Please note that the zoning scheme for the BLM was amended following the compilation of the original layout, therefore, the typologies are different across the various layouts. The preferred layout alternative is exclusively aligned with the 2023 BLM Land Use Management Scheme.

5.2.2.No-Go Alternative

The "No Go" alternative is the option of not developing the proposed affordable housing development and associated infrastructure. The no-development option would result in a lost opportunity in terms of the employment opportunities associated with the construction and operation phase as well as the benefits associated with the provision of more than 800 houses and much needed social facilities.

As indicated by the appointed specialists, the current condition of the natural resources on site have already been degraded to various degrees. With intervention required to improve the quality of the identified resources.

The "no-go" alternative will result in the visual environment staying the same with the natural character of the area contributing to the "sense of place".

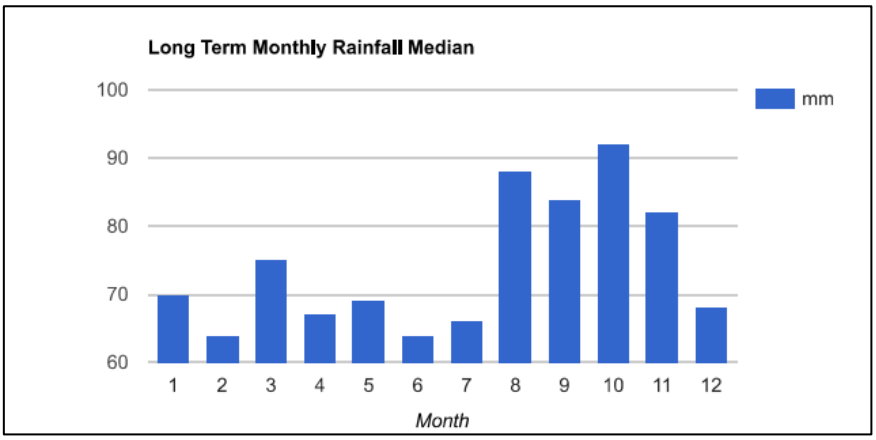
The socio-economic benefits of this project however outweigh the impacts in an area which is mostly degraded and already transformed and planned for development purposes in the Municipal SDF (within the urban edge and identified as a Strategic Development Area). The No-Go Alternative, and future use of the site, will be investigated further in the Environmental Impact Assessment Phase.

6. THE ENVIRONMENTAL ATTRIBUTES

6.1. Climate

Plettenberg Bay is typified by an extremely mild maritime temperate climate with very few rainfall or temperature extremes. It is located within the Knysna Afromontane Forest biome, containing temperate gallery forest, supported by the mild temperatures and high, even distributed rainfall.

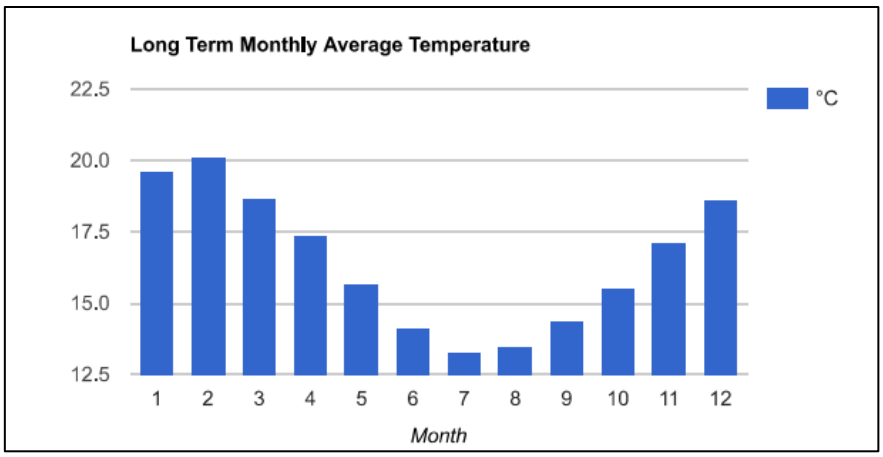
According to Esri South Africa 2009 SA Atlas of Climatology and Agrohydrology (R.E. Schulze) the proposed site receives approximately 1030mm of rain per year with the most rain over the Winter and Spring period of August, September, October and November (approximately 85mm per month over this wet period).



Graph 1: Mean Annual Rainfall

The proposed development is located within the South Outeniqua Sandstone Fynbos vegetation type, which according to Mucina & Rutherford (2006), flourishes in areas where the Mean Annual Precipitation (MAP) is between 360 – 1 170 mm (mean: 785 mm), with a slight bimodal winter and low rainfall in December. Mean daily maximum and minimum temperatures 27.8°C and 4.8°C for January and July, respectively.

The proposed site has an average temperature of 16.5 Degrees Celsius. The warmest months are in the summer period between December and February with mean monthly temperatures between 18 Degrees and 20 Degrees Celsius.



Graph 2: Mean Annual Temperature

6.2. Topography

The site slopes gently to the east and south-east, with two watercourse systems traversing the site. Most drainage from the site is therefore in an easterly direction towards the discharge point located South-East of the site (into the Indian Ocean). Figure 10 and Figure 11 below provides a topographic map of the proposed development site. According to Mucina & Rutherford (2006), the South Outeniqua Sandstone Fynbos vegetation type (as mapped), occurs on gentle to steep south-facing slopes with some moderately sloping intramontane valleys in the west of the vegetation community. As seen in Figure 10, the topography of the proposed development site aligns with this description.

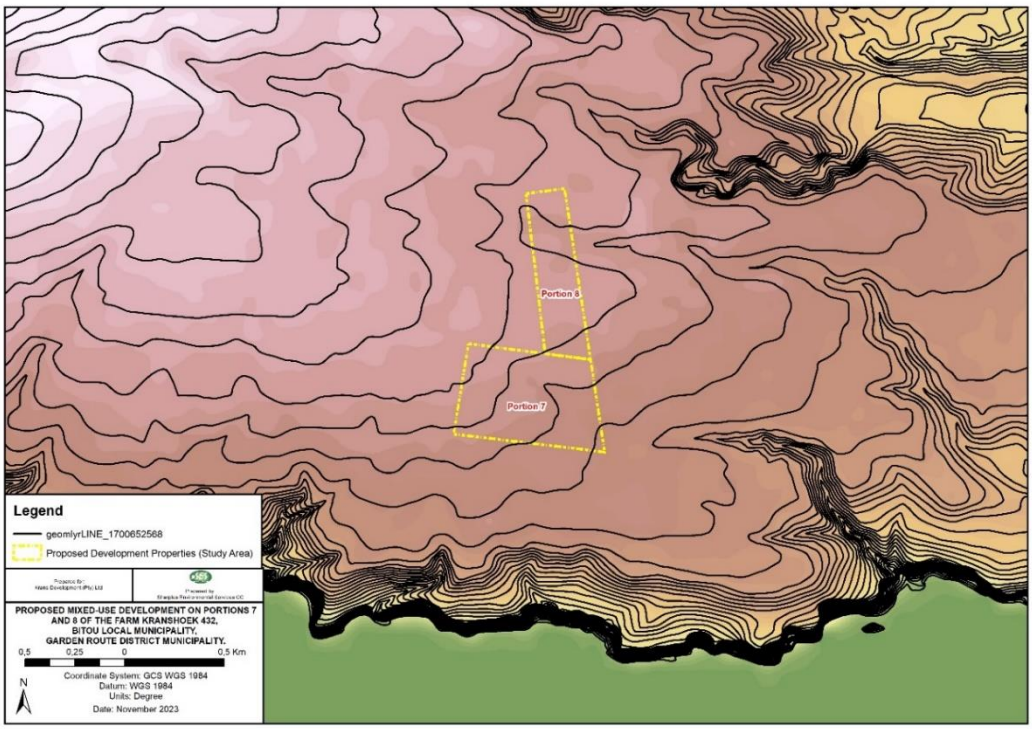


Figure 10: Topographic map (including the 5 m contour lines [Source: CapeFarmMapper, 2023]) of the proposed development site.

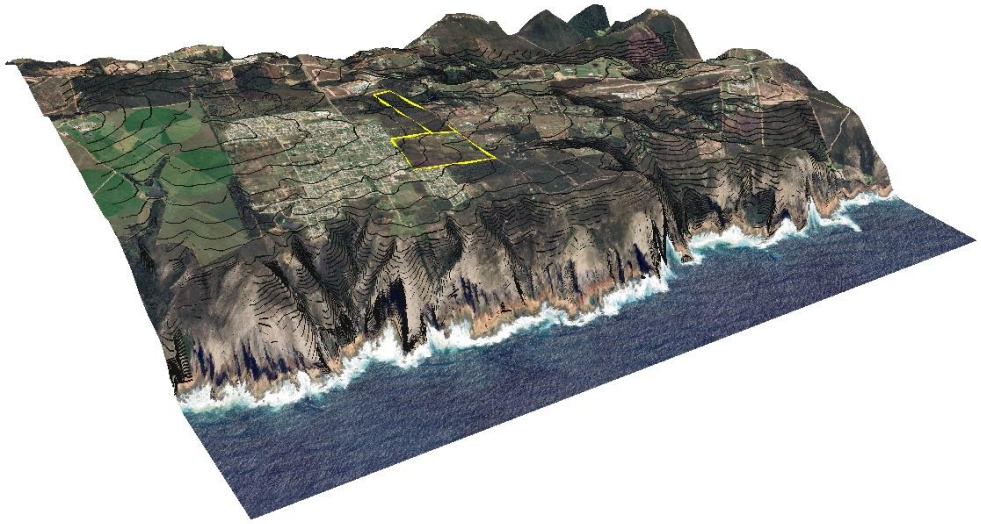


Figure 11: 3-Dimensional Model of the area surrounding the proposed development site. (generated through the use of DEMs obtained from EarthExplorer and Google Earth).

6.3. Freshwater Resources

6.3.1. Desktop investigations

6.3.1.1. Conservation Context – Western Cape Biodiversity Framework (WCBSP)

The Western Cape Biodiversity Spatial Plan (WCBSP, 2017) is a spatial biodiversity plan recognized by both the Department of Forestry, Fisheries and Environment (DFFE) and South African National Biodiversity Institute (SANBI). It identifies areas crucial for conserving a representative sample of biodiversity and maintaining ecosystem functioning. According to the WCBF (2017), "*ecosystem threat status tells us about the degree to which ecosystems are*

still intact or alternatively losing vital aspects of their structure, function and composition, on which their ability to provide ecosystem services ultimately depends".

Critical Biodiversity Areas are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan. Ecological Support Areas are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services. The primary purpose of a map of Critical Biodiversity Areas and Ecological Support Areas is to guide decision-making about where best to locate development.

The site is not located near any CBA classified habitat, however, there is ESA 1 classified area within the northern reaches of the site (in Portion 8), as well as an ESA 2 classified area in the southern portion of the site (in Portion 7). The identified biodiversity areas are aligned with the drainage network of the area. Please refer to **Section 6.4** for further detail.

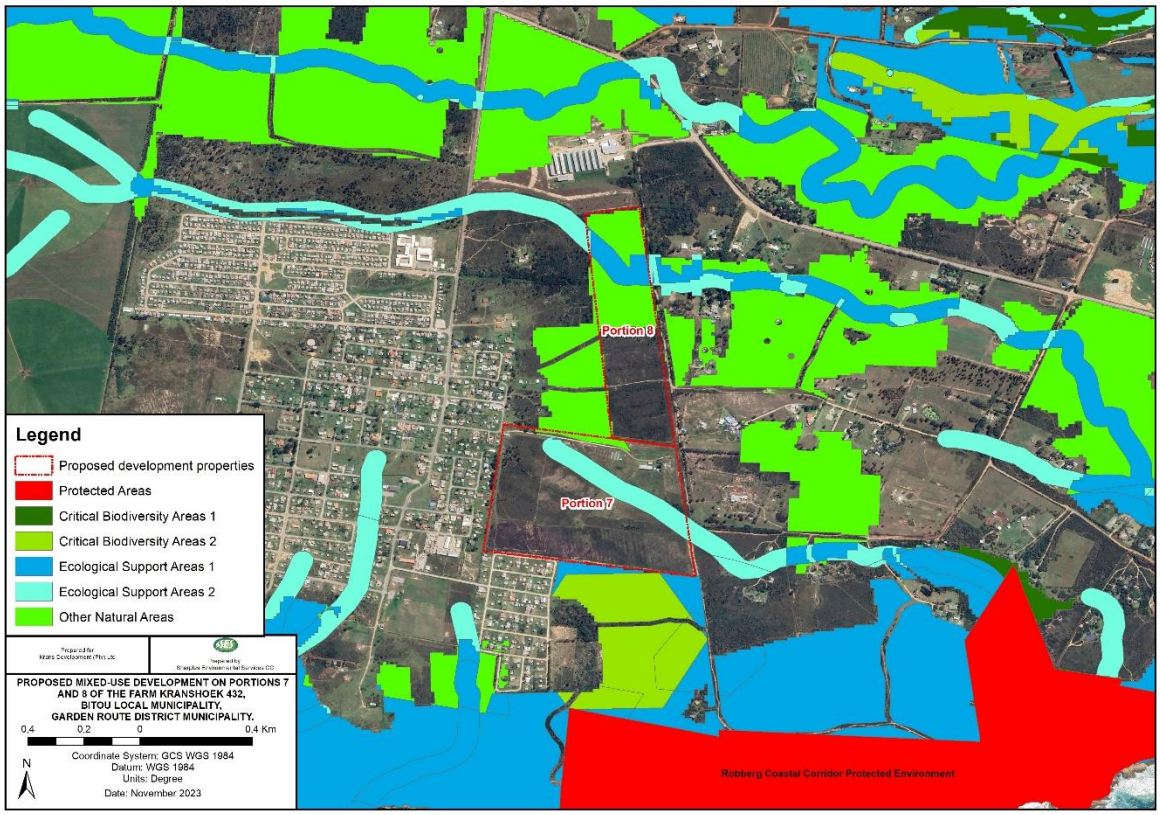


Figure 12: The site in relation to Western Cape Spatial Biodiversity Plan (SANBI, 2017).

6.3.1.2. National Freshwater Ecosystem Priority Areas (NFEPA's) and the National Wetland Map5 (NWM5)

The National Aquatic Ecosystem Priority Areas (NFEPA) map provides strategic spatial priorities for conserving South Africa's aquatic ecosystems and supporting sustainable use of water resources. FEPAs were identified based on a range of criteria dealing with the maintenance of key ecological processes and the conservation of ecosystem types and species associated with rivers, wetlands and estuaries (Driver *et al.* 2011). The NFEPA project did not identify any rivers or wetlands within this study area. Additionally, the National Wetland Map 5 project, which provides a more refined approach to the identification of the wetlands in South Africa, did not identify any freshwater resources in the proposed development site.

6.3.1.3. *Strategic Water Source Areas (SWSAs)*

The Strategic Water Source Areas (SWSAs) refer to the 10% of the country's surface area that provides approximately 50% of the country's water runoff. Understanding where these SWSAs are is crucial to planning and management of water resources, including the ecosystems that support water quality and quantity. The 2021 spatial layer for SWSAs for surface water is a fine-scale delineation of the SWSAs, intended to support the integration of SWSAs in a range of catchment- and local-level planning, management, and regulatory processes (Lötter & Maitre, 2021). The proposed development area is in the southern reaches of the Outeniqua Surface water SWSA (Figure 13) and is of National importance. According to the information retrieved from the Department of Rural Development and Land Reform (DRDLR, 2023), two non-perennial watercourses transect the proposed development site. To protect the freshwater resources, the aquatic biodiversity specialist has delineated the watercourses, provided buffer areas and mitigation measures aimed towards limiting the impacts on the natural aquatic resources.

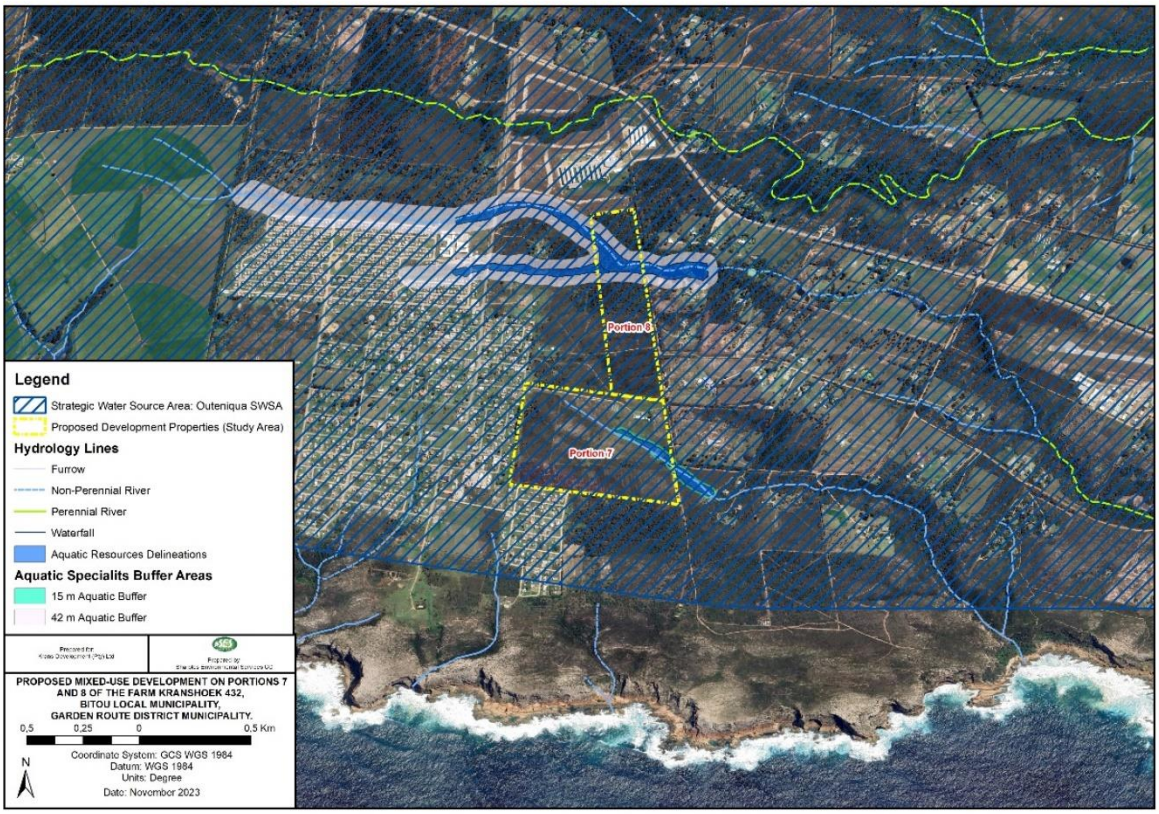


Figure 13. Location of the proposed development in relation to the Outeniqua SWSA (Surface water), the hydrological features (Sourced from DRDLR, 2023) and the watercourses delineated by the appointed independent aquatic biodiversity specialist (Fordham, 2023).

6.3.2. *The Aquatic Environment – Site Verified*

The study area of the proposed project is located within the DWS Quaternary Catchment K60G and falls within the Gouritz Water Management Area.

A screening assessment identified a number of wetland systems within a 500 m radius of the site. The watercourses that may potentially be impacted upon by the proposed project were verified through infield soil samples and documentation of vegetation communities and species and key features within the landscape. The three wetlands that traverse the site, named HGM1, HGM2 and HGM3 for the purposes of this study, would be directly impacted upon by the proposed development (Figure 20). HGM1 and HGM2 (unchanneled valley

bottom wetlands) are located within the northern reaches of the proposed development site (Portion 8), whereas HGM3 (degraded seep wetland) is located within the southern reaches of the proposed development site (Portion 7).

6.3.2.1. ***HGM 1 & 2 – Unchannelled valley bottom wetlands***

The HGM1 and HGM2 watercourses are discontinuous valley bottom wetland systems which flow through Portion 8. These wetlands are largely seasonal, with a narrow permanent zone, and temporary zones located laterally along the shallow valley side. Water inputs are derived from rainfall, and lateral and longitudinal seepage. The HGM2 wetland joins the HGM1 system on Portion 8. HGM2 flows through the urban area and has been subjected to significant habitat loss and modification.

The reach of the HGM1 wetland on Portions 8 & 9 of Krans Hoek 432 is relatively undisturbed and in good ecological condition. Despite some alien invasive tree infestation, the reach is geomorphologically stable and well-vegetated with relatively high species diversity. The dominant plant species identified in the wetlands were *Cyperus congestus, Carpha glomerata, Eleocharis limosa, Zantedeschia aethiopica, Phragmites australis, Typha capensis, Cliffortia odorata, Leucadendron eucalyptifolium, Chrysanthemoides monilifera, Paspalum urvillei, Commelina benghalensis, Pennisetum clandestinum, Cortaderia selloana, Eucaluptus grandis, Acacia cyclops, Acacia mearnsii, and Pinus pinaster.*

The wetland supplies important regulatory and supporting ecosystem services such as flood attenuation, sediment trapping, biodiversity maintenance, and pollutant assimilation. However, towards the eastern property boundary the wetland becomes increasingly degraded and ultimately transformed by the construction of a road and dam downstream. Additionally, the water is severely contaminated by raw effluent when it leaves the property through the road pipe culvert. The source of the effluent was not identified and can likely be attributed to a sewage pipeline break or similar waste entering the wetland. Therefore, while there are portions of HGM1 of high ecological value, the wetland becomes critically modified to the east. The significant habitat loss and high level of water contamination results in an overall 'D' (poor) Present Ecological State (PES) score.

Figure 14: Photograph of the seasonal zone of HGM1 running through Portion 8 (Fordham, 2023)

Figure 15: Photograph of the eastern region of HGM1 (Fordham, 2023)

Figure 16: Photograph of the HGM2 (Fordham, 2023)

Figure 17: Photograph of the upper reaches of HGM1 (Fordham, 2023)

6.3.2.2. *HGM 3 – Degraded Seep Wetland*

HGM3 is a severely modified seep wetland which originates on Portion 7 of Krans Hoek 432. Under natural conditions, the seep would flow in a diffuse manner towards the southeast and be vegetated with short sedges and fynbos plants. However, there is presently very little wetland habitat remaining on the property. The upper reach assessed obtained a poor ecological health score (PES= D). The habitat has been transformed for grazing and the wetland has been artificially drained and then dammed. The hydrology and geomorphology have been irreversibly changed. Downstream the wetland remains intact but the source zone on the property is transformed. The remaining wetland should be retained to regulate stormwater flows from the site, but overall, the seep has Very Low ecological importance and functionality.

Figure 18: Photograph of the channelised source zone of HGM3 (Fordham, 2023)

Figure 19: Photograph of the dam constructed on HGM3 (Fordham, 2023)

Table 8 below provides a summary of the ecological integrity of the various HGM units identified by the Aquatic Biodiversity Specialist. As HGM1 and HGM 2 forms one large system and has been described simultaneously by the specialist, a similar approach will be followed in the beforementioned table.

Table 8. Summary of ecological value of the respective watercourses identified within the proposed development area.

	HGM 1 + 2	HGM3
Hydrogeomorphic Type	Unchannelled Valley Bottom Wetland	Seep Wetland
Combined Ecological Category	D	D
Ecological Importance and functionality	Very Low	Very Low
Buffer Zones	42 m	15 m
EcoServices		

	HGM 1 + 2	HGM3
Regulating and Supporting Services	Stream Flow Regulation Sediment Trapping Toxicant Assimilation Biodiversity Maintenance	Stream Flow Regulation
Provisioning Services	All services listed have an Importance of Very Low	All services listed have an Importance of Very Low
Cultural Services	All services listed have an Importance of Very Low	All services listed have an Importance of Very Low

Figure 20: Freshwater ecosystems in relation to the proposed site and the DWS 500 m radius regulated area. (Source: Fordham, 2023)

6.4. Soil, Geology & Agricultural Potential

6.4.1. Soil & Geology

According to the 3322 Oudtshoorn 1:250 000 geological map, the site consists of the arenite quartzitic sandstones of the Peninsula Formation from the Table Mountain Group, with soils depth of between 450mm and 750mm. Arenite is a sedimentary rock with sand grains of medium nature and is the hardest and most erosion resistant layer of the Cape Supergroup.

According to Mucina and Rutherford (2006) the area consists of acidic lithosol soils that are derived from the sandstone geology of the Table Mountain group (which forms part of the Cape Supergroup). The summarised biophysical characteristics are indicated below:

Table 9: Biophysical characteristics of the area around the proposed project site

Biophysical categories	Biophysical characteristics	Source
Approximate Elevation	151 - 160 m	Google Earth
Mean annual precipitation	974 – 1030 mm	Schulze, 2009
Rainfall seasonality	All year	DWAF, 2007
Potential Evaporation	871 mm	Schulze, 2009
Quaternary catchment	K60G	WRC
DWA Ecoregion	South Eastern Coastal Belt	DWA, 2005
NFEPA	No	Driver *et al*, 2011

6.4.2. Agricultural Potential

As can be seen from the Figure 21 below, the proposed development site has been classified as having a Moderately-High land capability, despite being located within the urban edge.

According to the Environmental Screening Report extracted from the DFFE's Screening Tool website, the proposed development has the following sensitivities where only the highest sensitivity is acknowledged by the Screening Tool:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;09. Moderate-High/10. Moderate-High
Very High	Land capability;11. High/12. High-Very high/13. High-Very high/14. Very high/15. Very high
Very High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;11. High/12. High-Very high/13. High-Very high/14. Very high/15. Very high

The classified land capability of the proposed development site ranges between 9 and 11. The DFFE Screening Tool's agricultural land capability data have been obtained through the DAFF 2016 Draft Land Capability dataset. This dataset categorises the country into 15 different classes, which have been sub-categized into 4 classes. The dataset was generated through GIS modelling. As per the Departmental description of 'land capability', the value of the land capability is determined by the interaction of climate, soil and the terrain for the purpose of intensive long-term use of land for the purposes of rainfed farming (DAFF, 2017).

The proposed development site has been zoned as Agricultural Zone I, and the terrestrial biodiversity and the faunal species specialists, respectively, confirmed that the proposed development site had been historically used for Agricultural purposes.

An Agricultural Specialist will be appointed to undertake an Agricultural Compliance Statement as part of the Environmental Impact Assessment Phase of the proposed development.

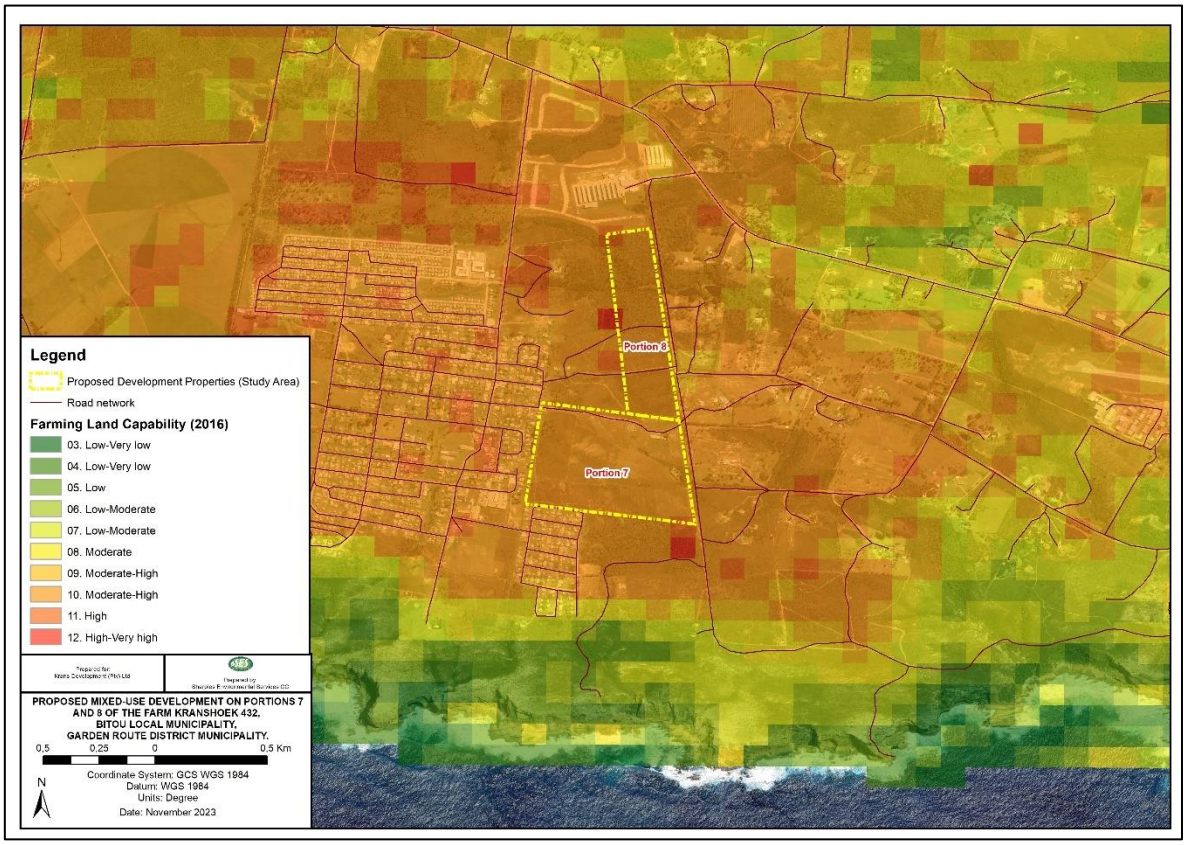


Figure 21: Agricultural Potential Map

6.5. Vegetation

6.5.1. Vegetation Type

The Ecological Impact Assessment undertaken by Jamie Pote (2019) explains that the units primarily affected by the proposed development is South Outeniqua Sandstone Fynbos. The ecosystem type is Unlisted (of Least Concern) in terms of the Revised List of Ecosystems they are Threatened and in Need of Protection (DFFE, 2022). The site is also in the general vicinity of areas having Garden Route Shale Fynbos (**Endangered**) and Knysna Sand Fynbos (**Critically Endangered**). No elements of these units were however noted to be present on the proposed site (Figure 22).

According to Mucina & Rutherford (2006), the South Outeniqua Sandstone Fynbos is limited to the Western Cape Province and occurs along the southern slopes of the Outeniqua Mountains from the Cloetesberg northeast of Albertinia in the west to the upper reaches of the Keurbooms River where it borders on Tsitsikamma Sandstone Fynbos. It includes sandstone outcrops on the lowlands from the vicinity of the Goukamma River near Knysna in the west and Komkromma Point near Nature's Valley in the east. Altitude from the coast to 1 579 m on Cradock's Berg north of George.

The South Outeniqua Sandstone Fynbos is typically characterized by tall, open to medium dense shrubland with medium dense, medium tall shrub understorey and is mainly proteoid and restioid fynbos, with extensive ericaceous fynbos on the upper slopes. Some grassy fynbos is present at lower altitudes, and scrub fynbos in riverine areas.

The Conservation target of this vegetation unit is 23%. 47 % of the unit is Statutorily conserved in the proposed Garden Route National Park, Doring River Wilderness Area as well as in

Ruitersbos and Witfontein Nature Reserves. About 2% of the unit is protected in private nature reserves. Overall the vegetation type has seen 28% transformation as a result of pine plantations and cultivation practices. Alien species include *Pinus pinaster* and *Hakea sericea* scattered over part of the area. Occurrence of erosion in this unit is very low.

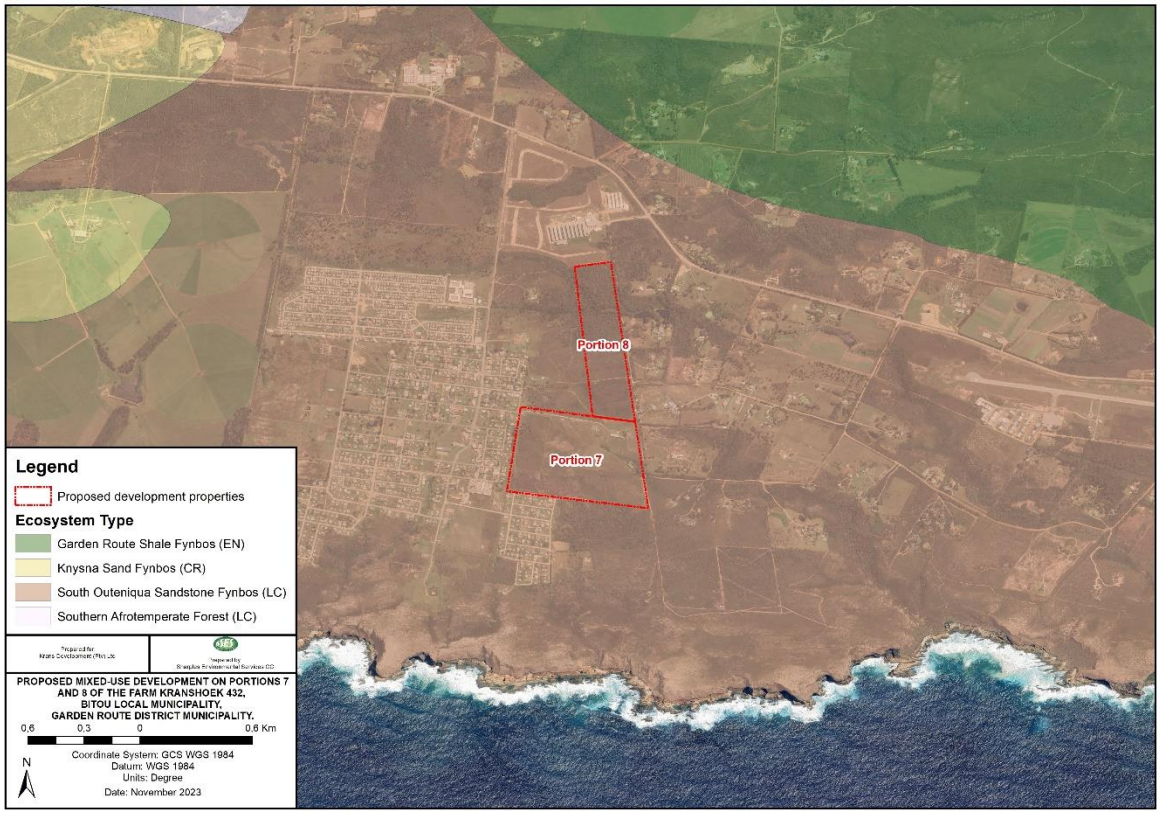


Figure 22: Vegetation Map of SA shows that the site falls within vegetation of South Outeniqua Sandstone Fynbos, with Garden Route Shale Fynbos to the north east of the site and Knysna Sand Fynbos to the northwest of the site.

The South Outeniqua Sandstone Fynbos vegetation type is typically composed of the following taxa (Mucina & Rutherford, 2006):

Small trees:	Geophytic Herbs:	Low Shrubs (continued):	Graminoids (continued):
Widdringtonia nodiflora	*Pteridium aquilinum*	*Leucadendron comosum* subsp. *comosum*	*Tetraria involucrata*
	Blechnum attenuatum	*Leucadendron salignum*	*Tetraria microstachys*
Tall Shrubs:	*Caesia contorta*	*Leucadendron spissifolium* subsp. *fragrans*	*Andropogon appendiculatus*
Chrysanthemoides monilifera	*Geissorhiza bracteata*	*Leucospermum cuneiforme*	*Anthochortus ecklonii*
Laurophyllus capensis	*Geissorhiza fourcadei*	*Leucospermum wittebergense*	*Cannomois scirpoides*
Leucadendron conicum	*Geissorhiza inconspicua*	*Lobelia neglecta*	*Capeobolus brevicaulis*
Leucadendron eucalyptifolium	*Lanaria lanata*	*Mimetes cucullatus*	*Chrysitrix capensis*
Leucadendron liginosum subsp. uliginosum	*Romulea fibrosa*	*Otholobium carneum*	*Cyathocoma hexandra*
Metalasia densa	*Tritoniopsis caffra*	*Phaenocoma prolifera*	*Ficinia gracilis*
Protea neriifolia	*Watsonia fourcadei*	*Phylica confusa*	*Mastersiella purpurea*
Protea repens		*Protea cynaroides*	*Merxmuellera decora*
Anginon difforme	**Low Shrubs:**	*Protea lorifolia*	*Pentaschistis colorata*
Dodonaea viscosa var. angustifolia	*Berzelia intermedia*	*Pseudobaeckea cordata*	*Pentaschistis malouinensis*
Anginon difforme	*Brunia nodiflora*	*Relhania calycina*	*Pentaschistis pallida*
Halleria lucida	*Erica cordata*	*Senecio glastifolius*	*Restio strictus*

Leucospermum glabrum
Liparia hirsuta
Metalasia trivialis
Mimetes pauciflorus
Osteospermum junceum
Passerina falcifolia
Podalyria burchellii
Podalyria sericea
Protea mundii
Psoralea affinis
Pterocelastrus tricuspidatus

Herbaceous Parasitic Climber:
Cassytha ciliolata

Carnivorous Herb:
Drosera trinervia

Semi-parasitic Shrub:
Thesium virgatum

Herbs:
Carpacoce spermacocea
Centella affinis
Centella virgata
Dichrocephala integrifolia subsp. *integrifolia*
Helichrysum felinum
Mairia crenata
Erica densifolia
Erica glomiflora
Erica triceps
Erica uberiflora
Leucadendron ericifolium
Penaea cneorum subsp. *cneorum*
Penaea cneorum subsp. *gigantea*
Acmadenia maculata
Acmadenia tetragona
Anisodontea scabrosa
Aspalathus angustifolia subsp. *angustifolia*
Aspalathus ciliaris
Aspalathus rubens
Cliffortia ilicifolia
Cliffortia stricta
Erica deflexa
Erica. discolor variant 'speciosa'
Erica formosa
Erica fuscescens
Erica gracilis
Erica hispidula
Erica lanata
Erica nabea
Erica similis
Erica simulans
Erica sparsa
Erica versicolor
Euryops pinnatipartitus
Lachnaea diosmoides
Stoebe alopecuroides
Struthiola eckloniana
Syncarpha paniculata
Ursinia coronopifolia
Ursinia scariosa subsp. *scariosa*
Ursinia *trifida*

Graminoids:
Cannomois parviflora
Cannomois virgata
Ehrharta dura
Ehrharta rupestris subsp. *tricostata*
Elegia fistulosa
Elegia galpinii
Elegia juncea
Epischoenus adnatus
Hypodiscus albo-aristatus
Hypodiscus aristatus
Hypodiscus striatus
Hypodiscus synchroolepis
Ischyrolepis gaudichaudiana
Merxmuellera rufa
Pentameris distichophylla
Platycaulos anceps
Platycaulos compressus
Restio fourcadei
Restio triticeus
Rhodocoma gigantea
Tetraria cuspidata
Staberoha aemula
Tetraria capillacea
Tetraria fimbriolata
Tetraria sylvatica
Tetraria thermalis
Tetraria ustulata
Thamnochortus cinereus
Themeda triandra
Willdenowia teres

6.5.2. Botanical Sensitivity

6.5.2.1. Western Cape Biodiversity Spatial Plan (WC BSP)

The Western Cape Biodiversity Spatial Plan (WC BSP) is a spatial tool that forms part of a broader set of national biodiversity planning tools and initiatives that are provided for in national legislation and policy. It comprises the Biodiversity Spatial Plan (BSP) map of biodiversity priority areas, accompanied by contextual information and land use guidelines that make the most recent and best quality biodiversity information available for use in land use and development planning, environmental assessment and regulation, and natural resource management.

Critical Biodiversity Areas (CBA's) are required to meet biodiversity targets. These areas have high biodiversity and ecological value and therefore must be kept in a natural state without further loss of habitat or species. Low-impact, biodiversity sensitive land uses are the only land uses allowed in CBA's. Critically Endangered (CR) ecosystems, critical corridors for maintaining landscape connectivity and areas required to meet biodiversity pattern targets, are included in CBA's. The WCBSP made a distinction between areas likely to be in a natural condition (CBA1) and areas that could be degraded (CBA2).

Ecological Support Areas (ESA's) are not essential for meeting biodiversity targets but are important as they support the functioning of CBA's and Protected Areas (PA's). ESA's support landscape connectivity, surrounds ecological infrastructure that provide ecosystem services, and strengthen resilience to climate change. These areas include Endangered vegetation;

water source and recharge areas; and riparian habitat around rivers and wetlands. The WCBSP also made a distinction between ESA's in a functional condition (ESA1) and degraded areas in need of restoration (ESA2).

Implications
No Critical Biodiversity Areas are affected within the site.

Whereas a *small portion of Ecological Support Area is identified along the north-eastern boundary (in Portion 8) and traverses the eastern boundary of Portion 7. This area should be maintained as Open Space to protect ecological processes and connectivity with the surrounding area (In line with guidelines). The alignment of the aquatic resource delineation agrees with the ESA. The ESA located in Portion 8 will be completely excluded from the proposed development layout and the ESA located in Portion 7 will be partially excluded from the proposed development layout. Please refer to Appendix D2.*

Other Natural Areas are areas that have not been identified as a priority in the current biodiversity spatial plan but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. Although they have not been prioritised for meeting biodiversity targets, they are still an important part of the natural ecosystem. ONAs should be managed or utilised in a manner that minimises habitat and species loss and ensures ecosystem functionality through strategic landscape planning. These 'other natural areas' offer considerable flexibility in terms of management objectives and permissible land uses, but some authorisation may still be required for high impact land uses.

Implications
A small portion of Other Natural Area is identified within the site. The area identified as such has been seen high degrees of alien species invasion.
The site is located directly adjacent to an existing urban area.
The vegetation type is well conserved regionally and has a widespread distribution.
The vegetation on site is comprised of a mozaic of near-natural, degraded and transformed vegetation with some alien infestation (predominantly Pine).
The vegetation on site has a low species diversity compared to surrounding areas.
Species of Conservation Concern are generally absent from the site and thus has a low potential contribution to conservation.

Retention of a buffer around the drainage lines as well as the north-eastern portion (Ecological Support Area) as Open Space as well as the overall development of a 'compact urban settlements, whilst maintaining an open space system' thus means that the proposed development is possible whilst meeting the guideline recommendations.

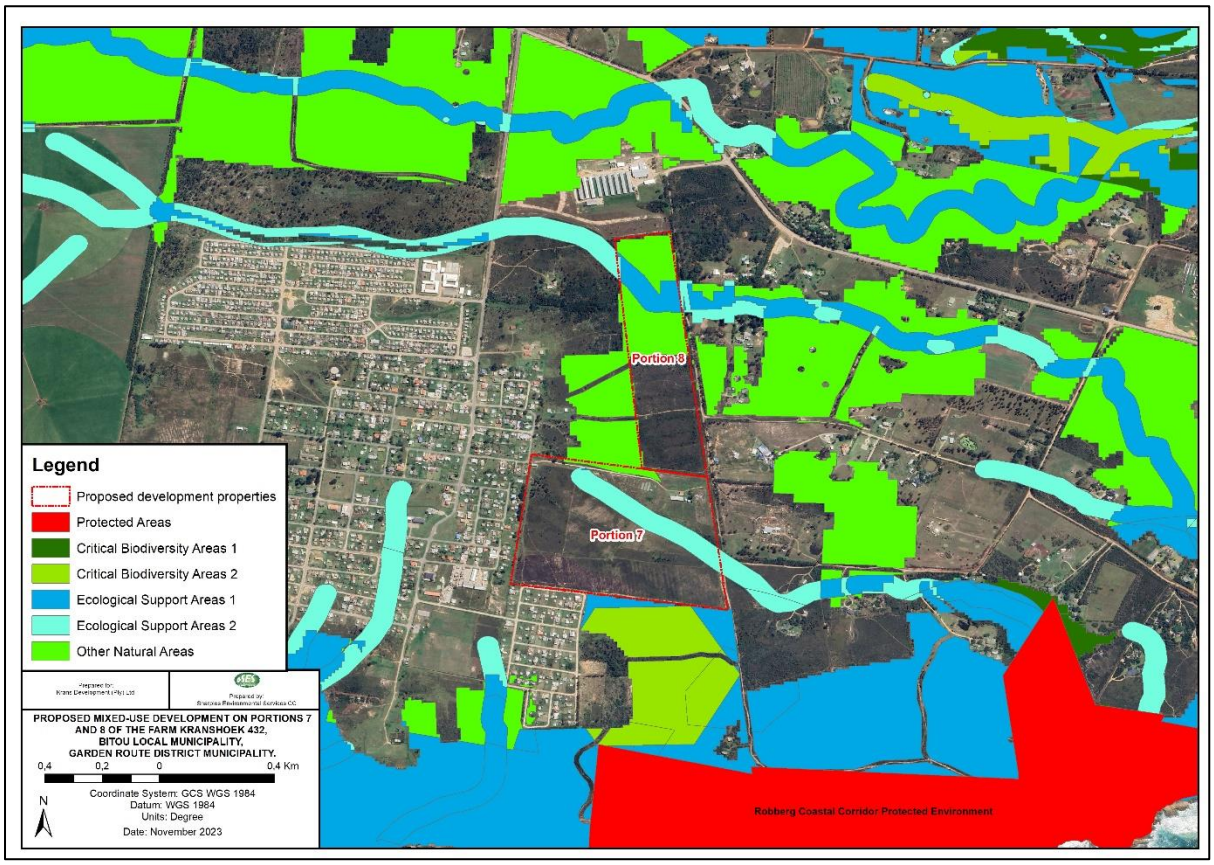


Figure 23: Mapped CBA and ESA areas on and surrounding the proposed site

Please refer to the Table below (Table 10) for a detailed description of the various terrestrial biodiversity features and the impact (area) which the proposed development will have on the respective strategic planning features.

Table 10. Strategic Ecological Features in proximity to the proposed development site.

Biodiversity Priorities	Hectares Lost	Is the proposed development aligned with the land management objectives	Proximity to Biodiversity Priority Area
Critical Biodiversity Areas: Terrestrial	-	According to the land management objectives of the affected CBA, the purpose of the CBA is "To maintain the area in a natural or near-natural state, with no further loss of natural habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate." **This CBA is not applicable to the proposed development as it does not intersect the proposed development footprint.**	<800 m
Critical Biodiversity Areas 2: Terrestrial (degraded)	-	According to the land management objectives, the purpose of the degraded CBA is to maintain the area in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land-uses are appropriate. **This degraded CBA is not applicable to the proposed development as it does not intersect the proposed development footprint.**	<10 m
Ecological Support Area 1	The ESA1 area towards the north has been excluded from the proposed development area. The ESA1 area located towards the south, within Portion 7, is approximately 0.008 ha.	The land management objectives of the ESA is to maintain in a functional, near-natural state the ESA. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised, however these areas are not essential for meeting biodiversity targets but play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services. **This ESA will only marginally intersect the proposed development footprint, however the wetland delineation did not identify the area as part of the aquatic system.**	0 m
Ecological Support Area2	Approx. 2.36 ha	According to the land management objectives of the affected degraded CBA, the purpose of the degraded CBA is to restore and/or manage and to minimise impacts on ecological processes and ecological infrastructure functioning, especially soil and water-related services, and to allow for faunal movement,	0 m

Biodiversity Priorities	Hectares Lost	Is the proposed development aligned with the land management objectives	Proximity to Biodiversity Priority Area
		however these areas are not essential for meeting biodiversity targets, but play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services. **This ESA will only marginally intersect the proposed development footprint, however the wetland delineation did not identify the area as part of the aquatic system.**	
Protected Areas	-	The proposed development is located approximately 210 m north of the Robberg Coastal Corridor Protected Environment. This area is considered a designated Protected Environment. The drainage lines intersecting the proposed development site, eventually discharge into the Indian Ocean within the boundaries of this Protected Area. Furthermore, the proposed development is located within the buffer area of the Garden Route National Park which sees its boundaries approximately 4 km due west of the proposed development site, and the Fynbos Nature Reserve, which sees its boundaries approximately 1.3 km South East of the proposed development site. No areas designated/proclaimed in terms of the NEM:PAA will be directly intersected as a result of the proposed development. **No PAs will be intersected as part of the proposed development.**	Approximately 210 m
Forest	-	**No indigenous forests are present within the proposed development site boundaries.**	-
River NFEPA including 32m buffer	-	**No NFEPA Rivers are present within the proposed development site boundaries.**	Approximately 2 km
Wetland NFEPA including 32m buffer	-	**No NFEPA wetlands are present within the proposed development site boundaries.**	<100 m

6.5.3.Species of Conservation Concern

Jamie Pote was appointed to conduct the Terrestrial Biodiversity and Plant Species Assessment for the proposed development site.

According to the Environmental Screening Tool of the proposed development, the following species have a potential to occur within the proposed development footprint:

Sensitivity	Feature(s)
Medium	*Aspalathus bowieana*
Medium	Sensitive species 131 – *Cyclopia Laxiflora*
Medium	*Leucospermum glabrum*
Medium	*Mimetes pauciflorus*
Medium	*Erica glandulosa subsp. fourcadei*
Medium	*Pterygodium newdigateae*
Medium	*Osteospermum pterigoideum*
Medium	*Acmadenia alternifolia*
Medium	*Muraltia knysnaensis*
Medium	*Erica glumiflora*
Medium	*Pterygodium cleistogamum*

It was confirmed by the appointed specialist that no species of conservation concern were identified during the site visit.

Due to the proximity of the proposed development area to known locations of a number of plant species of conservation concern, search and rescue of the species likely to occur within the proposed development site is to be conducted prior to the commencement of the construction phase.

Implications
The proposed expansion and disturbance during construction of the site is thus unlikely to result in any significant impact to species conservation.

6.5.4.Terrestrial Habitat Sensitivity Assessment

According to Jamie Pote (2023) the overall sensitivity assessment can be summarised as:

- Areas scoring an overall **LOW** sensitivity include the portions of the site that are completely transformed or severely degraded, that have a low conservation status, or where there is very dense alien infestation. Loss of these areas will not significantly compromise the current conservation status of the vegetation unit at a regional level, nor is its loss likely to compromise the ecological functioning of surrounding areas. Low sensitivity areas include transformed areas and high density alien invaded areas.
- Areas scoring an overall **LOW-MODERATE** sensitivity include the portions of the site that contain secondary vegetation older than 10 years where some ecological functioning has returned but are still not considered to be in a near natural or natural state. Low-Moderate sensitivity areas include the old lands where some Fynbos regeneration has occurred.
- Areas scoring an overall **MODERATE** sensitivity include the portions of natural vegetation that is mostly intact, but not having specific biodiversity related issues of significance or where proposed activity will have limited overall impact and recovery will be good with minimal intervention. **No Moderate** sensitivity areas area designated.
- Areas scoring an overall **HIGH** sensitivity include those areas having intact vegetation and deemed to have a sensitivity, including being within intact Critical Biodiversity Areas and connectivity corridors, or are deemed critical habitat for fauna and/or flora

species that are considered to be vulnerable and/or have confirmed presence of species of conservation concern. High sensitivity terrestrial areas are not identified but do include the ESA designated buffers around the watercourses and some relict natural vegetation around these watercourses.

- Areas scoring an overall **VERY HIGH** sensitivity (No-Go Areas) include areas having a Critically Endangered or Endangered conservation status, or that are irreplaceable in terms of Critical Biodiversity Areas or are critical habitat (refer to Section 3.1.10) for any faunal species that is endangered or critically endangered. For the purposes of this assessment **no specific Very High** sensitivity terrestrial areas have been identified (which would imply irreplaceable habitat).

Areas of moderate (medium) sensitivity are those areas that contain a reasonably intact habitat and intact ecological functioning. *Within the site, this comprises the intact vegetation.*

Areas scoring a high sensitivity on site are those having an important ecological function, having specialized habitats, significant populations of Species of Conservation Concern. *In this case the Ecological Process areas (Riparian vegetation) and watercourses have been given a high sensitivity.*

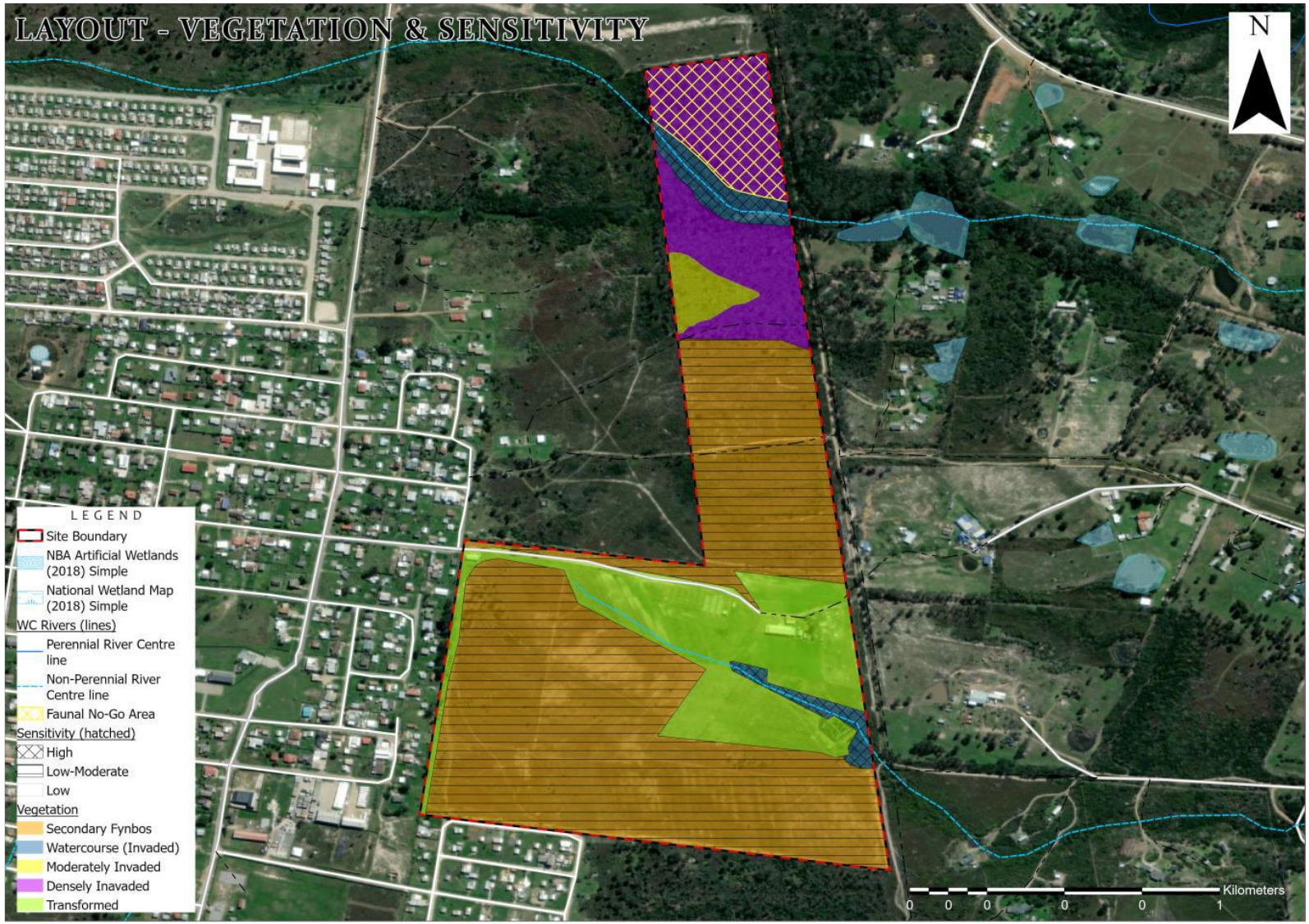


Figure 24: Sensitivity and Vegetation Cover Map (Source: Pote, 2023)

6.6. Fauna

According to the Environmental Screening Tool Report generated for the proposed development, the following Animal Species of Concern were likely to be found within the site:

Table 11. Faunal SCCs identified in the DFFE Screening Tool and the likelihood of occurrence based on the habitat types identified on site by the EAP. The highlighted species represents the confirmed species of conservation concern found on site.

Sensitivity	Feature(s)	Species name	IUCN Status	Preferred Habitat	Likelihood of occurrence
High	*Aves-Circus ranivorus*	*African Marsh Harrier*	*LC*	*Permanent wetlands (roosting) and fynbos (hunting).*	*High*
High	*Aves-Neotis denhami*	*Denham's bustard*	*NT*	*Grassland and shrubland, dried marshes and farmlands.*	*Medium*
High	*Aves-Bradypterus sylvaticus*	*Knysna Warbler*	*VU*	*Vegetation along banks of watercourses or drainage lines in forest patches located within the Fynbos Biome.*	*Low*
Medium	*Amphibia-Afrixalus knysnae*	*Knysna Spiny Reed Frog*	*EN*	*Temperate forests, freshwater marshes and arable land.*	*Low-Medium*
Medium	*Insecta-Aloeides thyra orientis*	*Red Copper Butterfly*	*EN*	*Coastal fynbos on flat sandy ground between 40 m and 240 m above sea level.*	*Very High*
Medium	*Mammalia-Chlorotalpa duthieae*	*Duthie's golden Mole*	*VU*	*Southern Afrotemperate Forests*	*Medium*
Medium	*Sensitive species 8*	*Confidential*	*LC*	*Forests*	*Medium*
Medium	*Invertebrate-Aneuryphymus montanus*	*Yellow-winged Agile Grasshopper*	*VU*	*Fynbos*	*High*

Blueskies Consulting (Dr. Jacobus Visser) was appointed to undertake the site sensitivity verification of the faunal species present within the proposed development footprint. The specialist conducted his site verification site visit on the 13th and 14th of July 2023. During the site visit, the appointed specialist confirmed the presence of the following habitat types:

- Non-indigenous forests;
- Non-perennial stream / Wetlands
- Semi-intact Fynbos
- Degraded Fynbos
- Burnt
- Fallow lands and old fields
- Cleared / Grassland areas

During the site visit, the specialist identified six (6) mammals, three (3) amphibian species and thirty-five (35) Avian species on site. confirmed the presence of the Species of Conservation Concern (SCC), the Duthie's Golden Mole (*Chlorotalpa duthieae), on site.* The species presence was confirmed and restricted to the northern non-perennial stream and non-indigenous forest. The specialist has also recommended that based on the occurrence of SCC's on site, the associated habitats need to be avoided and a 30m buffer applies around the development footprint . The Site Ecological Importance (SEI) is of a high concern.

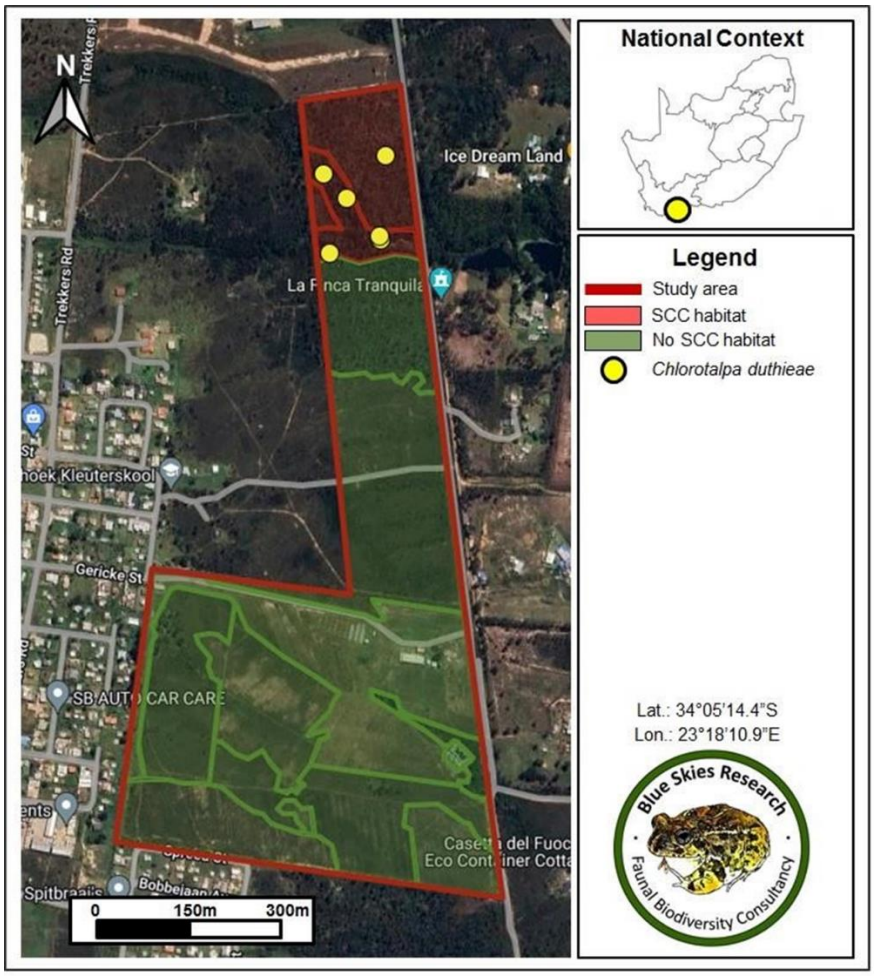


Figure 25. Specialist Map of the ICUN Vulnerable species *Chlorotalpa duthieae* on the proposed site development.

6.7. Archaeology & Heritage

The initial site investigation was undertaken by ASHA Consulting (Jayson Orton). There was a possible heritage significance on site. The identified structure related to a possible heritage significance is a cottage on Portion 7 of the Farm Krans Hoek 432 owned by the Le Fleur family. Because Kranshoek was originally settled by the Griqua community, a statement was sought to determine whether this cottage had any connections to the early settlement. They note that the cottage does not hold significance to the Griqua community and no objection has been raised with regard to its demolition to make way for expansion of the town.

The specialist has also noted that it is highly unlikely that any graves or cemeteries will be present on site, but there is a small possibility of unmarked precolonial burials occurring. No features of archaeological concern were observed on site. The Environmental Management Programme (EMPr) will include further information should any remains/features of Cultural Heritage or Archaeological concern be found and the procedures to be followed will be included.

The SAHRIS PaleoSensitivity Map shows the entire Kranshoek area to be of High Sensitivity.

Figure 26: Paleontological Sensitivity of the Kranskoek area. Orange signifies High Sensitivity (Source: SAHRIS PaleoSensitivity Mapping Tool, as accessed in November 2023).

Based on the response received from HWC regarding the project, no further action will be required for the proposed development. Please refer to **Appendix K6** for the NID submitted to HWC as well as the response from HWC confirming the way forward.

6.8. Socio Economic Environment of Bitou

6.8.1.Administrative Context

The Bitou Local Municipal Area is relatively small at only 992 km^2. The northern portion of the municipal area is mountainous (Tsitsikamma range) and the settlement pattern is concentrated along the coast and on the coastal plain. Due to the mountainous terrain and other factors, only a small percentage of the area is considered suitable for intensive agriculture. Consequently the agricultural sector does not constitute the backbone of the local economy. Instead nature and coastal-based tourism is the key driver of the Bitou economy. The portion of the N2 through Bitou forms part of the internationally renowned Garden Route, with Plettenberg Bay – marketed by Plett Tourism as the "jewel of the Garden Route" - an established key attraction.

Bitou settlements include Plettenberg Bay, Nature's Valley, Kranshoek, Covie, Harkerville, Keurbooms, Kurland, Wittedrift, Qolweni, Bossiesgif, New Horizons and Kwa-Nokothula. Plettenberg Bay is the only large town in the LM. Qolweni, Bossiesgif, New Horizons and Kwa-Nokothula are essentially Apartheid era satellite suburbs of Plettenberg Bay. The vast bulk of the municipality's population lives in Plettenberg Bay and these surrounding townships (Barbour, 2016).

Plettenberg Bay is as the main service centre in the LM, providing higher order medical, educational, commercial and administrative services. Kurland, Kranshoek and Nature's Valley are regarded as secondary settlements and the balance as small rural villages. All of them are

reliant on Plettenberg Bay or other nearby large towns such as Knysna and George for major services.

6.8.2. *Demographic Profile*

6.8.2.1. *Population*

Bitou Local Municipality's population is relatively small and the economy is less diverse than nearby Knysna and George and reliant mostly on tourism to drive the economy.

According to Municipal SDF (2021, as approved in 2023) the Bitou LM has a population of 49 162, representing 9.7% of the Garden Route District Municipality's (GRDM) population as based on the Census 2016. Kranshoek has a population of 7 396 (anticipated to be 15 936 in 2040 based on the current population growth pattern), which comprises of only 15% of the population of the Bitou LM. Plettenberg Bay is by far the largest town (38 477), accounting for nearly 78% of the Bitou population. The population growth rate for Bitou over a period of 2018 and 2023 was 3.8 % p.a. compound annual growth rate. Therefore, the estimated population size of the BLM is approximately 61 184 people. The majority of people moving to the Bitou LM area, are from the Eastern Cape. 28.9% of residents are born in the Eastern Cape making the Eastern Cape the biggest contributor to the current migrations patterns.

According to the Census 2011, the majority of the Bitou population is Black African (45.2%), followed by Coloured (31.2%), and Whites (16.9%). Other groups accounted for 6.1%. This is in contrast with Kranshoek, which has a population of 53.46% Coloured, 36.11% Other, 8.97% Black African, 1% Indian/Asian and 0.48% Whites.

The dominant language within the Municipality is Afrikaans (~42.3%), followed by isiXhosa (~37%) and English (~13%). This is very similar to Kranshoek, however 87.9% of the population speak Afrikaans.

There were approximately 20 040 households in Bitou in 2021, with the average number of persons per household at 2.3. Kranshoek made up 4% of these households, at 820 households at a density of 116.99 per km^2. **The current registered housing demand for the area stands at about 1 207 units (MSDF, 2021).**

The MSDF states that the BLM population pyramid has a wide base, however narrowing towards the top of the pyramid. The definite triangle-shaped pyramid, indicating high fertility levels, with low life expectancy levels. The population segment aged 0-4 and 5-10 represents 21.2% of the total population, whereas the population segment aged 60+ merely represents 5.6%. With an equal distribution between the amount of male and females in the BLM (Figure 27).

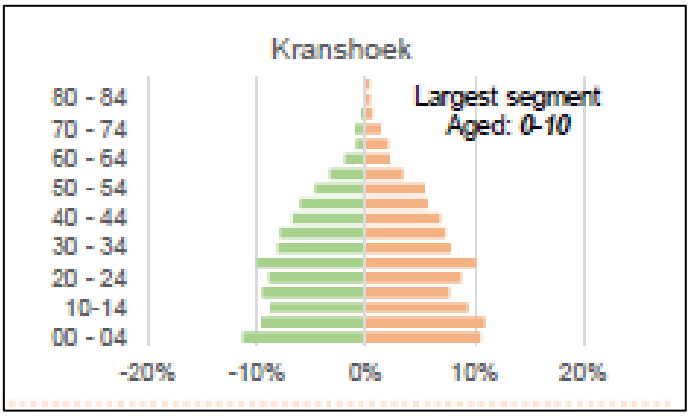


Figure 27: Age Profile of the Kranshoek (Source: Bitou Municipal SDF, 2021).

Table 12: Overview of key demographic indicators for Garden Route DM and Bitou LM Compiled from StatsSA Census 2011 Municipal Fact Sheet

ASPECT	GARDEN ROUTE DM		BITOU LM	
	2001	2011	2001	2011
Population	454 924	574 265	29 182	49 162
% Population <15 years	28.5	25.9	26	25.2
% Population 15-64	65.1	66.3	68.2	68.4
% Population 65+	6.4	7.8	5.8	6.4
No of Households	119 306	164 110	8 763	16 645
Household size (average)	3.7	3.3	3.2	2.8
Formal Dwellings %	83.1	83.8	79.8	72.2
Dependency ratio per 100 (15-64)	53.5	50.7	46.6	46.1
Unemployment rate (official) - % of economically active population	26.5	22.5	26.3	30.1
Youth unemployment rate (official) - % of economically active population 15-34	33.9	29.9	33.4	37.9
No schooling - % of population 20+	8	3.7	7.3	2.4
Higher Education - % of population 20+	9.9	10.9	11.4	12.1
Matric - % of population 20+	22.7	28	24.5	28.2

6.8.2.2. ***Employment levels***

The Bitou Local Municipality has the highest unemployment rate of the 7 local municipalities comprising the Garden Route District. This is reflected in the high level of households in the Bitou Local Municipality that live close to or below the poverty line (59.2%). The Bitou Local Municipality also witnessed the highest rate of increase of the 7 local municiplaity's during the period 2001-2011. In this regard, while the GRDM witnessed a 4% decrease to 22.5%. The Bitou unemployment rate decreased by 5.6% to 27.9%. This figure is higher than the provincial average of 21.1%. This trend is also reflected in terms of youth unemployment (15-34 age group). Whilst the level for the Garden Route DM dropped 4% to 29.9%, unemployment in Bitou increased with 4.5% to 37.9% - 8% higher than the DM rate.

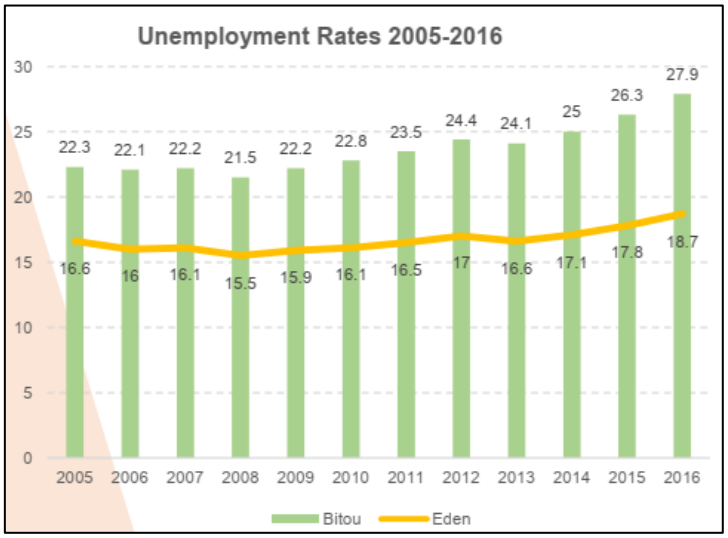


Figure 28: Unemployment Rates in Bitou Local Municipality compared to Garden Route (previously known as Eden) District Municipality (Source: Bitou Municipal SDF, 2021)

6.8.2.3. ***Household income***

Based on the data from the 2011 Census, a significantly high 18.1 % of the population of the Bitou Local Municipality have no formal income, 4.4 % earn between R1 and R 4 800, 5.5 % earn between R 4 801 and R 9 600 per annum, 16.4 % between R 9 601 and R19 600 per annum and 19.7 % between R 19 600 and R 38 200 per annum (Census 2011).

6.8.2.4. ***Economic Activity***

The Bitou municipal area has a regional gross domestic product amounting to R2.79 billion (2021). Economic activity in the Bitou municipal area is dominated by the tertiary sector which amounted to R1.97 billion (or 70.7%) in 2015. The tertiary sector is estimated to have grown by 1.6% in 2016, boosted by the finance, insurance, real estate and business services sector and the wholesale, retail trade, catering and accommodation sector. The finance, insurance, real estate and business services sector recorded an average growth of 2.7% between 2005 and 2015, and has continuously reported high growth rates post the 2008 recession.

The secondary sector has also been recovering from the 2008 recession with even higher growth rates than the tertiary sector. The secondary sector, which totaled R671 million in 2015, grew by an average of 4.2% between 2005 and 2015. Real GDPR growth for the secondary sector is slower in 2016 compared to 2012 but still positive, with a recording of 1.8% growth estimated for 2016. The secondary sector within the Bitou municipal economy is largely supported by the construction industry which recorded high growth rates in 2012 and 2013 at 5.0% and 4.8% respectively. However, this high growth in the construction industry slowed down a little in 2016 with 2.0%.

The primary sector, which totaled R145 million in 2015, continues to struggle in terms of growth. Both the agriculture, forestry and fishing subsector, as well as mining and quarrying declined significantly by 5.5% and 7.5% respectively.

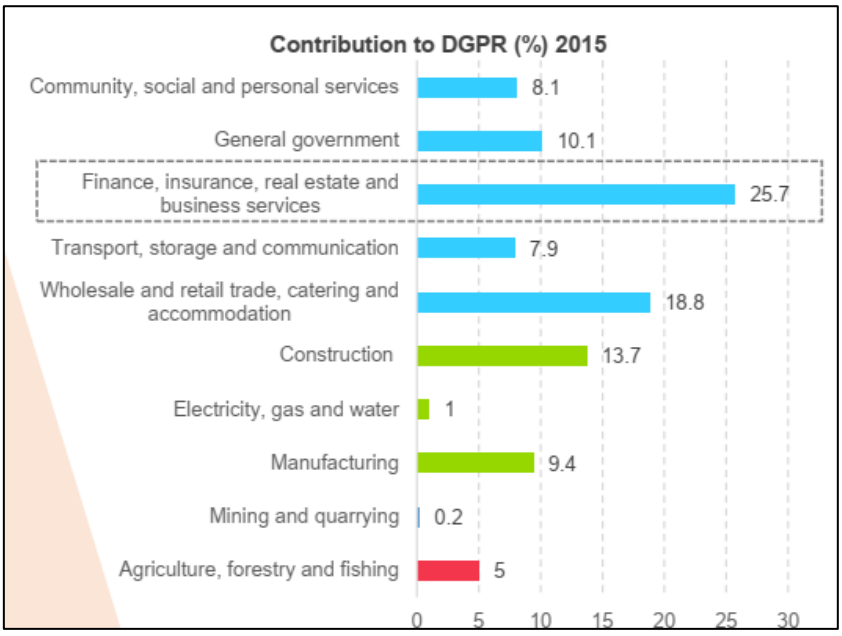


Figure 29: Industry Contribution to DGPR in Bitou LM (Source: Bitou MSFD, 2021)

Figure 30 the number of jobs provided by the top 5 economic sectors in Bitou LM in 2015. The top contributing Sector was Wholesale and Retail, Catering and Accommodation (4 557 jobs), followed by Community, Social and Personal Services (3 676 jobs) and Construction (2 959 jobs. The Construction Industry is followed closely by Finance, Insurance, Real Estate and Business Services (2 908 jobs), with General Government contributing 1 662 jobs.

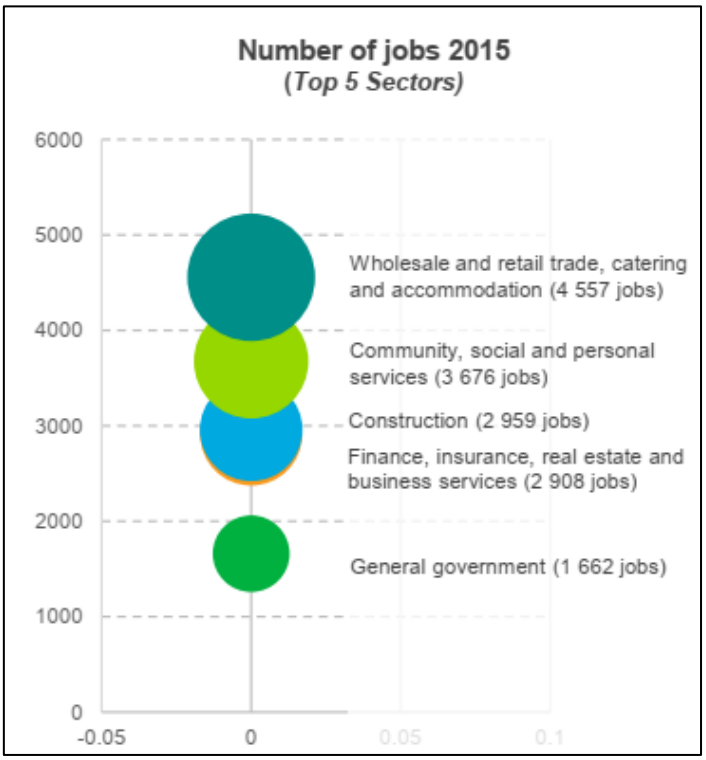


Figure 30: Number of Jobs provided per Sector (Source: Bitou MSDF, 2021).

7. PROJECT NEED AND DESIRABILITY

The Need and Desirability Guideline of 2017 (DEA) explains that the needs and desirability is determined by considering the broader community's needs and interests as reflected in a credible IDP, SDF and EMF for the area, and as determined by the EIA process. It is further also highlighted that society in general should improve the efficiency and responsibility with which we use resources, and improve on the level of integration of social, economic, ecological and governance systems. The need and desirability therefore need to illustrate how a development integrates the socio-economic, ecological and political aspect in a beneficial manner.

Need and Desirability relates to the nature, scale and location of the proposal where the need can be translated to time (in other words would the time of this proposal be considered the right time to commence with said proposal), and the desirability can be translated to the place (is the proposal located in the correct place for the proposed activities) (DEA&DP, 2013; DEA, 2017). Through these considerations, it can be determined whether a proposal would be considered to be in alignment with the sustainability principles as well as the National Development Plan 2030 (NDP 2030)'s principles toward the transitioning to an environmentally sustainable, low-carbon economy. This section strives to answer the questions on Need and Desirability as posed in the relevant guidelines for the purpose of due consideration of both the biophysical and the socio-economic environments.

Toward "securing ecological sustainable development and use of natural resources"
Under the Revised National List of Ecosystems that are threatened and in need of protection promulgated in November 2022 under the National Environmental Management Act of 2004 (Act No. 10 of 2004), the site is located within an Unlisted Ecosystem (South Outeniqua Sandstone Fynbos) and within close proximity to the Robberg Coastal Corridor.

The following specialists have been appointed to inform the sensitivity of the receiving environment:

- An Aquatic Biodiversity Specialist;
- A Heritage and Cultural Specialist;
- A Terrestrial Biodiversity and Plant Species Specialist;
- An Animal Species Specialist; and
- An Agricultural Specialist.

These specialists identified and assessed the direct and indirect impacts that will be seen on the natural resources within the area. As part of the Environmental Impact Assessment Phase of the proposed development, these specialists will provide further impact determinations and provide mitigations toward limiting the impact of the construction and operational activities on the receiving environment. Please note the impacts and impact ratings provided in this report are scoping ratings and will be further refined during the impact assessment phase.

In order to follow the risk-averse approach, the appointed specialists identified the limitations and assumptions made for the purpose of completing their assessments. These limitations and assumptions have been described in the Section 3 of this Scoping Report. Furthermore, a specialist in rehabilitation has been appointed to provide a management plan for the Ecosystem Corridor (Attached as Appendix K7).

Please see further alignment with the Municipal Strategic documents below providing further context to the regional and strategic need and desirability of the proposed development.

7.1. Regional Need & Desirability

The Bitou Local Municipality Integrated Development Plan (IDP) highlights the Bitou Municipalities phenomenal population growth over the past two decades. Subsequently, it is anticipated that the population will reach 100 400 by 2040. The key challenges associated with this rate of population growth are:

- The need for additional housing opportunities;
- The need for additional infrastructure services and bulk infrastructure;
- Increasing backlogs of infrastructure maintenance;
- Encroachment and illegal dwellings;
- More Illegal electrical connections;
- Increased unemployment;
- Increased health hazards; and
- Increases in crime.

The SDF states that there are more than 8 238 households in need of housing in the whole Bitou area. This proposed development of approximately 875 units will make a major contribution towards meeting this need in the region and the need to provide service infrastructure.

The Bitou SDF proposes that housing projects should adhere to 10 key principles. These principles are listed in the table below. The table also comments on the compatibility of the proposed development in terms of these principles which shows why the development is "needed and desired" in this region.

Table 13: Bitou SDF Key Principles and comment on compatibility (need and desirability) of the proposed development.

Key principles listed in SDF	Comment on compatibility (need and desirability) of the proposed development
Provide for a mix of different kinds of land uses, e.g. residential, retail, business, and recreational opportunities	The proposed development provides a mix of land uses, including provision for affordable housing, schools, retail, places of worship, public open spaces etc.
Create well-designed compact neighbourhoods where the different activities are in close proximity to each other	The proposed development provide for the establishment of a compact neighbourhoods where the different activities are in close proximity to each other. The inclusion of apartments, and not just single dwelling residential units, assists with this principle.
Provide a variety of transportation choices, including private, public and non-motorised transport opportunities that are safe	The proposed development does cater for public and private transport. The final layout and design should also ensure that the needs of pedestrians are catered for by designing wide pavements etc.
Create a variety of housing opportunities, i.e. in terms of function, form and affordability	The proposed development provides a variety of housing opportunities, both in terms of affordability, size and density.
Encourage growth in existing communities this can be done through infrastructure upgrade, urban renewal new amenities and densification	The proposed development will support growth in the existing adjacent communities through the upgrading of existing and provision of new infrastructure.
Preserve open spaces, natural beauty, and environmentally sensitive areas	The proposed development does identify open spaces and makes provision for the conservation of these spaces and areas of natural beauty and environmental sensitivity.
Protect and enhance agricultural lands and secure these as a productive a land base for food security, employment, etc.	The site is located within the urban edge and has therefore been identified as suitable for development. The proposed development also aligns with the SDF as the proposed development site has been partially identified as a Strategic Development Area.
Utilize smarter, and cheaper infrastructure and green buildings and promote renewable and sustainable technologies	The developers must ensure that the final design and construction ensure the use of smarter, and cheaper infrastructure and the development of green buildings and the promotion of renewable and sustainable technologies, where possible.
Foster a unique neighbourhood identity building on the unique and diverse characteristics of each community	The proposed development represents a natural expansion of the existing Kranshoek residential area. The development will therefore create an opportunity to develop a new neighbourhood that is associated with the unique and diverse characteristics of the adjacent communities.
Nurture engaged citizens through providing for residential, work, and play areas	The proposed development makes provision for open spaces and areas for recreation, as well as a business zone,
Engaged citizens to participate in community life and decision-making	The proposed development makes provision for places of worship, a business and community social facilities which would bring the residents together to participate in community activities.

The Bitou IDP lists a number of key objectives. These objectives are listed in the table below. The table also comments on the compatibility (the need and desirability) of the proposed development in terms of these objectives.

Table 14: Bitou IDP Key Objectives and comment on compatibility (need and desirability) of the proposed development

Key Objectives identified in BLM IDP	Comment on compatibility of proposed development
KPA 1 Strategic Planning For Transformation: Objective 1.1 Spatially integrate areas separated by apartheid, promote access for poor to work, recreational and commercial opportunities	The proposed affordable housing development provides a combination of housing, retail and commercial options.
KPA 2 Economic Development: Objective 1.1 Grow local economy, create jobs, empower previously disadvantaged, transform ownership patterns 2. Economic development of	The proposed development is aimed at meeting the needs of low to middle income households in an affordable and sustainable manner, while providing potential job opportunities through the development of the Business Zone and School. 2. The proposed development will create employment and business opportunities for the local economy and community during both the construction and operational phase.

Key Objectives identified in BLM IDP	Comment on compatibility of proposed development
local economy	
KPA 3 Community and Social Development: Objective 3.1 Eradicate poverty and uplift previously disadvantaged communities, promote social cohesion	The proposed development is aimed at meeting the needs of low to middle income households thereby creating an opportunity for social development. However, due to the location of the site there are likely to be limited opportunities for community integration with higher income communities in the area.
KPA 4 - Infrastructure Development: Objective 4.1 Universal access to decent quality of services	The proposed development is aimed at addressing the backlog in services and housing.
KPA 5 Institutional Development: Objective 5.1 Build a capable, corruption-free administration that is able to deliver on developmental mandate	As this is a private development, this Objective is not applicable to the proposed project.
KPA 6 Financial Sustainability: Objective 6.1 Manage expenditure prudently, grow revenue base and build long term financial sustainability so as to invest in social and economic development	As this is a private development, this Objective is not applicable to the proposed project.
Objective 7 Public Participation: Objective 7.1 An active and engaged citizenry, able to engage with and shape the municipality's programme.	This environmental process will aim to engage with the affected citizens in the area and will provide them with an opportunity to comment on the proposed development and shape the outcome of the process.

7.2. Desirability of the Site Location

The settlement of Kranshoek is situated 8km from the main Plettenberg Bay urban area but is considered a functional element of the town of Plettenberg Bay. Kranshoek is connected to Plettenberg Bay by a growing public transport system, however Plettenberg Bay remains the main area of employment for residents of Kranshoek. Kranshoek finds itself as a node at the end of a corridor which will be linked into the Plettenberg Bay system.

The region between Kranshoek and the greater Plettenberg Bay urban area is of key strategic spatial importance. The topography of the region and land ownership profile of makes further expansion of the main Plettenberg Bay town challenging and costly. The high costs of land and the challenging development environment limit the potential of low – middle income residential developments.

The land development objectives, as they apply to Kranshoek through the BMSDF, proposes that Kranshoek develops as a future growth node (development occurring backwards to Plettenberg Bay along the airport road corridor) with growth commencing from the Kranshoek node eventually linking Kranshoek with Plettenberg Bay. According to the DMSDF, Kranshoek is considered a Second Order Node, which warrants the provision of typical middle order community facilities and currently have a limited range of economic activities which are predominantly aimed toward serving the local needs.

The BMSDF further suggests that residential development around Kranshoek should be on land continuous with Kranshoek with development upwards of 1 000 units at a maximum density of 25 units/Ha gross.

As such, Kranshoek should be promoted as a balanced, self-sufficient settlement with commercial and retail frontages on the main road and a possible resort onto the coast to the south. Some of the principles to give effect to this broad objective would be the need to develop an economic base in Kranshoek itself, improve accessibility into the larger system between Plettenberg Bay and balance the constraints and opportunities created by the airport which is seen as an economic catalyst half-way between the two settlements.

Plettenberg Bay is known traditionally as a holiday town and summer playground of wealthy tourists; however, the town has started to mature in recent years into a more diverse and multi-faceted town. The town has seen a sharp rise in demand for permanent homes in recent years, attracting families in search of a better lifestyle as well as empty-nesters and retirees looking to enjoy their golden years in a scenic, tranquil setting. While much of this demand has originated from upper-middle to upper income households, this shift in the nature of the town has seen an increased demand for housing in the lower- and middle-income categories as local employment opportunities have increased (Urban-Econ Development Economists, 2019).

Emerging from a period of subdued performance, following the financial crisis of 2008/09, Plettenberg Bay has shown remarkably strong performance in recent years, with 2017 and 2018 showcasing remarkably strong performances for property sales and property prices. Despite a flailing economy and subdued market, in 2017 the coastal town achieved its highest ever sales in terms of Rand value, with transactions totalling R1.043 billion, up from R1.041 billion in 2016. Sotheby's International Realty Plettenberg Bay recorded an increase of 60% (year on year) for the first quarter of 2018. 2017 was a record year for the property market as a whole in the upmarket coastal resort town. Total sales value was the highest ever documented, breaking the R1 billion mark for the second time in history, and total average prices were also the highest recorded to date at R2,3 million, though the number of sales were down by 14% from 2016. While data for 2018 is still incomplete, interactions with local estate agents indicate that this strong performance continued throughout 2018 (Urban-Econ Development Economists, 2019).

Entry level prices have increased substantially. While this is a positive for property developers, it does put increased pressure on lower- and middle-income earners. The entry level for apartments is R800,000 and vacant land starts at about R275,000. The entry level for freestanding houses is around R1,8 million, though there are cheaper options in areas surrounding Plettenberg Bay, particularly found in townhouse styled cluster sectional title estates. It is becoming increasingly difficult to find houses below R2million.

There is an imbalance in the town's property market (something which is not commonly noted by estate agents in the area). There are a plethora of housing options for upper income earners, and growing low income areas, but very few options for middle income earners. This can be observed by looking at the average property prices per suburb, where suburbs are either filled with properties above R 1.2 million average price, or below R 200 000. As a result of this large gap in housing options, rental rates in middle income brackets are elevated when compared to other urban areas.

As such, there is significant demand for housing in the lower income brackets. There is a dire need for houses between R 400 000 – R 600 000, of which there is currently non-existent supply available in this bracket.

At present the housing gap across all income brackets stands at 3 394 for the primary income categories (R1501 – R22000), and 9 042 overall across all income categories in the Bitou LM. When accounting for household indebtedness, the total gap for housing in the target income brackets could drop to as low as 2 036 in the primary income category. By 2028 this housing gap is expected to grow to 4 698 in the primary income categories and 12 518 overall.

There thus appears sufficient demand for the development of a new affordable housing development offering FLISP and other social housing rental units.

The proposed development is compatible with and supports the key principles and objectives contained in the relevant key land use planning and policy documents that pertain to the Western Cape and Bitou area, including the Western Cape Provincial Spatial Development Framework (2014), Bitou Local Municipality Integrated Development Plan 2022-2027 and the Bitou Local Municipality Spatial Development Framework (2021). The proposed development is also located within the Urban Edge. ***The proposed site has therefore been identified as a desirable site location.***

8. PUBLIC PARTICIPATION PROCESS

8.1. Opportunity to Comment

It is a requirement according to the National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations of 2014, as amended, that once an application is submitted to obtain an Environmental Authorisation in terms of the NEMA EIA Regulations, that potential or registered Interested and / or Affected Parties (interested in the proposed development or affected by the proposed development) are subjected to a consultation period (at least 30 days) on the Draft Scoping Report before their comments are taken into account and responded to in a Final Scoping Report which is then submitted for decision making.

Please note that all comments submitted to SES in writing on the Draft Scoping Report will be responded to in the Comments & Responses Report. All those that submit comment will be automatically registered on the database and will be notified for the remainder of the EIA process of all reports available for review and comment.

The **Draft Scoping Report** (first round of Public & Authority Consultation) will be made available to identified Potential Interested & Affected Parties (I&APs) and Automatically Registered Key Authorities to review in order to provide comment on from **16 September 2025 to 17 October 2025 (30+ days).** The Draft Scoping Report will be provided in the preferred format to Key Authorities and will also be available for free download and review directly from our website (www.sescc.net) under the public documents tab. The Report will also be available in hardcopy at the **Kranshoek Public Library**.

As per the legislated process, the Draft Scoping Report will be revised based on comments received during the 30-day public participation process. The Scoping Report will be finalised and submitted to DEA&DP for consideration (Acceptance/Rejection).

8.2. Interested & Affected Party Register

A desktop assessment was undertaken in order to ascertain the erven and farm numbers of the adjacent affected landowners & occupiers. The figure below (Figure 31) shows a map of the farm and the adjacent erven and farms that were identified as being **Potential** I&APs. Letter drops will be conducted to these identified properties where no alternative contact details are available.

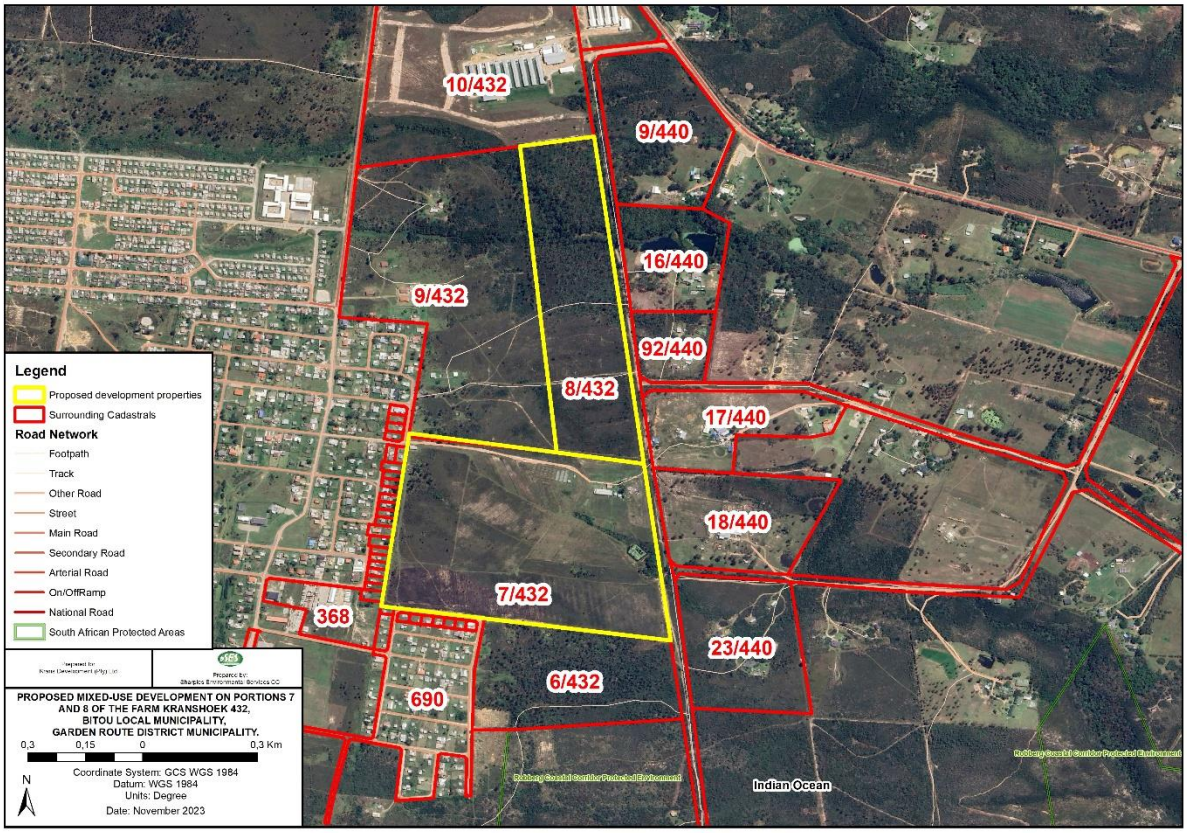


Figure 31: All erven and farms highlighted in red (adjacent landowners & occupiers) have been identified as Potential Interested & Affected Parties

Key Authorities (automatically must be registered) and other key stakeholders have also been identified and placed on the Register.

8.3. Landowner Consent

It is a requirement in terms of the NEMA EIA Regulations of 2014, as amended, to obtain Landowner Consent for non-linear development. Please therefore refer to **Appendix E2** for the WinDeed Extracts for the properties. The respective properties have the following landowner details:

Table 15. Landowners of the respective properties.

Property number	21-Digit SG code	Owner (as stipulated)
Portion 7 of the Farm Krans Hoek 432	C03900000000043200007	Krans Development 7 (Pty) Ltd
Portion 8 of the Farm Krans Hoek 432	C03900000000043200008	Krans Development 8 (Pty) Ltd

8.4. Site Notice

A site notice, in English, will be placed at the proposed entrance to the proposed mixed-use development, notifying potential Interested and Affected Parties (I & AP's) of the availability of the Draft Scoping Report and inviting I & AP's to register on the database as Registered Interested & Affected Parties. Please refer to **Appendix E3** for the content of the site notice. Proof of placement will be included as part of the Final Scoping Report.

8.5. Newspaper Advertisement

A newspaper advertisement, in English and Afrikaans, will be placed in the local newspaper (Knysna-Plett Herold) notifying potential I&APs of the availability of the Draft Scoping Report and inviting I & AP's to register on the database as Registered I&APs. This notice will be placed on the 11 September 2025. Please refer to **Appendix E3** for the content of the newspaper. Proof of placement will be included as part of the Final Scoping Report.

9. DESCRIPTION OF THE IMPACTS & RISKS IDENTIFIED

The impact tables in the section below include the identified potential environmental impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of impact, the degree to which the impact can be reversed, may cause irreplaceable loss of resources and can be avoided, managed or mitigated.

These impact tables have however only at this "scoping" stage been informed by the Scoping Phase Terrestrial Biodiversity and Plant Species Assessment, Freshwater Biodiversity Assessment, Scoping Animal Species Assessment and Heritage and Palaeontological Investigations. The findings of the impact tables therefore at this stage are based on specialist input and the professional opinion of the EAP and may change from once more detailed specialist impact assessments occur and once we have received input for the public and the Authorities.

9.1. Potential Environmental Impacts Identified

9.1.1. *Construction Phase*

The following potential environmental impacts have been identified by the EAP and by initial input from Botanical and Freshwater specialists as impacts that may occur during the construction phase that need to firstly be avoided and if unavoidable, mitigated to an acceptable level of impact significance.

- **Agricultural Potential Impact - Loss of agricultural land** that has the potential to be used for cultivation of crops or other agricultural purposes (opportunity cost).
- **Terrestrial Biodiversity Impact** - **Permanent loss of vegetation cover as a result of site clearing:** Site clearing before construction will result in the blanket clearing of vegetation within the affected footprint. Although no Floral SCCs were identified on site, such loss could be seen, and should subsequently be prevented.
- **Terrestrial Biodiversity Impact – Alien Invasive Infestation:** Due to the heavily invaded state of the proposed development site, management of alien invasive vegetation will be critical during the construction phase of the proposed development.

- **Terrestrial Biodiversity Impact - Susceptibility of some areas to erosion as a result of construction related disturbance:** Removal of vegetation cover and soil disturbance may result in some areas being susceptible to soil erosion after completion of the activity.
- **Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats:** Removal of vegetation cover and soil disturbance may result in the loss of the faunal SCC identified on site.
- **Terrestrial Biodiversity Impact – Impact on Ecological Processes:** Removal of vegetation cover and soil disturbance may result in the altering of Ecological and Aquatic, processes.
- **Dust & Noise Impact:** Limited dust and noise impacts may result due to construction activities on the site. Excavations and associated earth-moving activities may generate noise and vibration which may pose a nuisance to surrounding residents and other land users. Movement of heavy vehicles to & from the site may generate noise, which may affect surrounding residents.
- **Faunal Impact - Loss of Faunal Habitat and Species of Conservation Concern (SCCs):** Activity will result in the loss of habitat for faunal species. Additionally, the appointed specialist identified the Vulnerable species, Duthie's Golden Mole within the northern reaches of Portion 8.
- **Freshwater Resources Impact – Disturbance/Loss of aquatic vegetation and habitat:** Disturbance of aquatic habitat biota from clearance of vegetation, earthworks, and further invasive alien plant infestation, which can result in further deterioration in freshwater ecosystem integrity, and a reduction in the supply of ecosystem services.
- **Freshwater Resources Impact – Erosion of the banks and sedimentation of the watercourses:** Changes to hydrological regimes that could also lead to sedimentation and erosion, that could also occur in the operational phase. Concentrated stormwater flow paths and altered flow patterns causing increased erosion within the watercourses and sedimentation as the disturbed soils are carried by unmanaged surface runoff down slope. These impacts can result in the deterioration of aquatic ecosystem integrity and a reduction/loss of habitat for flora & fauna.
- **Freshwater Resources Impact – Changes to water quality:** There is potential for surface runoff to be contaminated and enter the watercourses, especially during flood events. During construction, earthworks will expose and mobilise earth materials, and a number of materials as well as chemicals will be imported and used on site and may end up in the surface water. In the operational phase, hydrocarbons and chemicals could potentially enter the watercourses. If not prevented, litter, and contaminants, including sand, silt, and dirt particles, will enter storm water runoff and pollute the watercourse. Micro-litter such as cigarette butts may travel through certain stormwater grids and grids may not be regularly cleared. Sewage leaks are probable and of high risk. This can result in possible deterioration in aquatic ecosystem integrity and species diversity. However, the HGM1 wetland is already highly contaminated by raw effluent.
- **Freshwater Resources Impact – Changes to hydrological regime:** Possible increase in surface water runoff/ patterns on hydrological form and function during the construction and into the operational phase. Poor stormwater management could result in localised changes to flows (volume) that would result in form and function changes within aquatic habitat. The impact can result in further deterioration in freshwater ecosystem integrity, and a reduction in the supply of ecosystem services.
- **Heritage Impact** - The loss of Heritage resources, including Archaeological and Paleontological: Due to land clearing and excavations on the site.
- **Pollution & Contamination of Soil and Water Resources:** Construction activities will generate waste. In addition, fuel, oil, lubricants and other pollutants may leak from vehicles/

machinery and contaminate the soil. Pollution and soil contamination could also occur from chemical toilets, cement mixing directly on the soil and storm water runoff may flow over the site camp area and carry contaminants off-site.

- **Socio-Economic Impact – Creation of business and employment opportunities:** The majority of work during the construction phase is likely to be undertaken by local contractors and builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in the Garden Route District Municipality (GRDM) and Bitou Local Municipality (BLM). The majority of the building materials associated with the construction phase will be sourced from locally based suppliers from the GRDM and BLM. A significant portion of the annual wage bill will be spent in the local GRDM and BLM.
- **Traffic & Safety Impact:** It is proposed to deliver a significant amount of materials and equipment to the site during the construction phase of the development. Numerous truck trips will be required every day that could cause a temporary disturbance to traffic in the area. Impacts are expected to occur to the traffic in the area due to increased truck and construction vehicle traffic expected during the construction phase. Construction vehicles may impact on the existing road conditions (road capacity and congestion). Vehicles may impact on road safety conditions due to an increase in construction phase vehicles entering and exiting the site and they may impact on the condition of the existing road network.
- **Visual Impact:** The construction phase is associated with temporary disturbance as a result of construction (trench excavations, vehicles, machinery, fencing & signage) that may have a negative visual impact to the area.

9.1.2.Operation Phase

- **Terrestrial Biodiversity Impact - Permanent loss of vegetation cover as a result of site clearing:** The impacts of the construction phase, specifically regarding the re-establishment of vegetation within the proposed development site is likely to persist as the site camp is removed from the development footprint and private open space areas (integrated within the proposed development area) are revegetated.
- **Terrestrial Biodiversity Impact – Alien Invasive Infestation:** Due to the heavily invaded state of the proposed development site, management of alien invasive vegetation will be critical during the operational phase of the proposed development.
- **Terrestrial Biodiversity Impact - Susceptibility of some areas to erosion as a result of construction related disturbance:** Removal of vegetation cover and soil disturbance may result in some areas being susceptible to soil erosion after completion of the activity. Such impact from the construction phase may still be present during the operational activities and should be mitigated accordingly.
- **Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats:** Removal of vegetation cover and soil disturbance may result in the disturbance of the faunal SCC identified on site, this impact could possibly be seen throughout the operational phase of the proposed development.
- **Terrestrial Biodiversity Impact – Impact on Ecological Processes:** Removal of vegetation cover and soil disturbance may result in the disruption of the ecological and aquatic processes of the sensitive receptors on site. This impact is likely to persist during the operational phase of the proposed development as the open space areas will not fenced-off from the public.

- **Freshwater Resources Impact – Erosion of the banks and sedimentation of the watercourses:** Where soil erosion problems and bank stability concerns initiated during the construction phase are not timeously and adequately addressed, these can persist into the operational phase of the development project and continue to have a negative impact downstream. The increase in hardened surface by development, and the impact of road and pipe crossings will be considerable and, if not mitigated against, will result in further erosion. Surface runoff and velocities will be increased, and flows will be concentrated by stormwater infrastructure.
- **Freshwater Resources Impact – Water Pollution:** In the operational phase, hydrocarbons and chemicals could potentially enter the watercourses. If not prevented, litter, and contaminants, including sand, silt, and dirt particles, will enter storm water runoff and pollute the watercourse. Micro-litter such as cigarette butts may travel through certain stormwater grids and grids may not be regularly cleared. Sewage leaks are probable and of high risk. This can result in possible deterioration in aquatic ecosystem integrity and species diversity. However, the HGM1 wetland is already highly contaminated by raw effluent.
- **Freshwater Resources Impact – Flow Modification:** increase in surface water runoff/ patterns on hydrological form and function during the construction and into the operational phase. Poor stormwater management could result in localised changes to flows (volume) that would result in form and function changes within aquatic habitat. The impact can result in further deterioration in freshwater ecosystem integrity, and a reduction in the supply of ecosystem services.
- **Socio-Economic Impact - Provision of affordable income housing: T**he proposed development will assist to address the housing backlog in the area, specifically the housing needs of the low and middle income households. This will represent a significant social benefit for the households in the local municipality that currently live in informal areas.
- **Socio-Economic Impact - Provision of schools and public spaces:** The proposed development makes provision for the establishment of schools, public open spaces and private open spaces etc. These components will all contribute to an improved quality of life for many residents in the local municipality who currently live in informal areas that are not well serviced and lack public facilities, such as parks and open spaces.
- **Socio-Economic Impact - Employment and business:** The business and commercial components will create employment opportunities for local residents. The residential component may also create some opportunities for domestic workers and gardeners etc. However due the low-income levels these opportunities are likely to be limited. Additional employment opportunities will also be created by the proposed schools. The majority of the employment opportunities are likely to benefit Historically Disadvantaged Individuals (HDIs). Given the high unemployment levels in the surrounding areas, coupled with the low income and education levels, this would represent a positive social impact. The operational phase will also create opportunities for local businesses, such as local maintenance and building companies, garden services and security companies, petrol stations, shops and restaurants etc. and create opportunities for new businesses to develop. The increased number of households will also create opportunities for the taxi sector. The local estate agencies in the area and legal firms would also benefit from the sale and resale of properties associated with the new development.
- **Socio-Economic Impact - Broaden the rates base:** The development will result in an increase in the rates base. In addition, the proposed development would also generate revenue for the local municipality from the consumption of water and electricity.

- **Traffic & safety impact:** A significant increase in traffic is expected to occur in the area as a result of more than 855 erven (including various social amenities) proposed. Vehicles may impact on the existing road network and road safety conditions due to an increase in vehicles entering and exiting the site.
- **Visual Impact – Land use character & "sense of place":** It is proposed to change the land use character and existing sense of place of the site from a largely undeveloped site in a rural environment to a built up mixed use development of approximately 36ha. The proposed development could impact on the "sense of place" of the area to sensitive receptors that can see the development.

9.2. Methodology Applied in Impact Assessment

The following assessment methodology was used by the Specialists and the EAP. It has been adapted from the DEAT (2002) Information Series 5, Integrated Environmental Management Information Series on Impact Significance:

Table 16: Methodology in determining the extent, duration, probability, significance, reversibility and cumulative impact of an environmental impact (to be read with section 9.2 impact tables below).

Determination of Extent (Scale):

Site Specific	The impact is limited to the development site (development footprint) or part thereof.
Local	The impacted area includes the whole or a measurable portion of the site, but could affect the area surrounding the development, including the neighbouring properties and wider municipal area.
Regional	The impact would affect the broader region (e.g. neighbouring towns) beyond the boundaries of the adjacent properties.
National	The impact would affect the whole country (if applicable).

Determination of Duration:

Temporary	The impact will be limited to part of the construction phase or less than one month.
Short term	The impact will continue for the duration of the construction phase, or less than one year.
Medium term	The impact will continue for part the operational phase
Long term	The impact will continue for the entire operational lifetime of the development, but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact that will be non-transitory. Such impacts are regarded to be irreversible, irrespective of what mitigation is applied.

Determination of Probability:

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

Determination of Significance (without mitigation):

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

Determination of Significance (with mitigation):

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

Determination of Reversibility:

Completely Reversible	The impact is reversible with implementation of minor mitigation measures
Partly Reversible	The impact is partly reversible but more intense mitigation measures
Barely Reversible	The impact is unlikely to be reversed even with intense mitigation measures
Irreversible	The impact is irreversible and no mitigation measures exist

Determination of Degree to which an Impact can be Mitigated:

Can be mitigated	The impact can be completely mitigated
Can be partly mitigated	The impact can be partly mitigated
Can be barely mitigated	It is possible to mitigate the impact only slightly
Not able to mitigate	It is not possible to mitigate the impacts

Determination of Loss of Resources:

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

Determination of Cumulative Impact:

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

9.3. Pre-Construction Phase Impacts

9.4. Pre-Construction Phase Impact Table

9.4.1. Legislative Compliance and Design Considerations including Climate Change

	Legislative Compliance and Design Considerations including Climate Change			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	When finalizing the design, climate change risks must be considered, and planned for, where possible. All relevant financial and time allowances for meeting the requirements of any conditions or requirements of the approved licences/permits/authorizations, including the approved EMPr, must be planned for and integrated into appropriate tender documents and other relevant agreements. All relevant approvals/licenses/permits must be obtained and valid before construction commences, or the specific activity is commenced with, if relevant (such as Water Use Authorizations, for specific activities).			No impact as the site remains as is. The property should be managed in line with the Climate Change Adaptation and Mitigation Plan for the South African Agricultural and Forestry (when promulgated).
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Temporary	Site Specific; Temporary	Site Specific; Temporary	-N/A
Probability of occurrence:	Improbable	Improbable	Improbable	-N/A
Degree to which the impact can be reversed:	Completely reversible	Completely reversible	Completely reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources	No loss of resources	No loss of resources	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be mitigated	Can be mitigated	Can be mitigated	-N/A
Proposed mitigation:				-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	- No impact (Status quo remains as is)

General:

- Planning and design team must take into consideration on relevant conditions of any relevant licenses/permits/authorizations.
- All relevant licenses/permits/authorizations must be obtained prior to the start of construction.
- Local contractors, suppliers, labour must be utilized.
- The appointed consulting engineer must ensure that the aforementioned conditions/requirements are integrated into appropriate contractual documentation, including the tender document.
- An appropriately registered/qualified ECO must be appointed prior to construction to ensure that all pre-construction conditions are met.
- An appropriately registered/qualified Environmental Auditor must be appointed prior to construction to ensure that all pre-construction conditions are met.

Duties of the Environmental Control Officer (ECO):

- Appoint an independent Environmental Control Officer (ECO) to monitor construction activity.
- Site inspections should be undertaken on a weekly basis, for the duration of the construction phase.
- ECO monitoring audit reports must be compiled on a monthly basis, reporting on the compliance against the conditions of the Environmental Authorisation and the approved EMPr.
- The duties of the ECO will be included in the EMPr.

Climate Change Considerations:

- Final designs must include:
  - Green building materials must be integrated into the development as much as possible.
  - Apply soft engineering techniques, where possible.
  - Take into consideration floodline/drainage areas that can be exacerbated during flooding/storm surge events.
  - Incorporate thermal efficiency into designs and use climate-resilient technologies.
  - Water saving technologies/techniques (jo-jo tanks for rainwater collection) and energy saving technologies/techniques (solar geezers/solar panels on roofs, potentially in for light poles, etc. and utilizing energy saving bulbs where possible).
  - An appropriate stormwater management plan must be compiled and approved.
  - Ensure materials are sourced locally, and consider Life Cycle of all materials utilized, when selecting materials.

9.5. Construction Phase Impact Tables

Note: There is only one site location proposed for the development, however three layout Alternatives are being assessed (**Alternative A and Alternative B (Options 1 & 2)**). These three alternatives have been assessed compared to the NO-GO (**Alternative C**). The highlighted option (Option 3), is considered the preferred option of the proposed development.

9.5.1. Agricultural Potential Impact – Loss of Agricultural Land

	Agricultural Potential Impact – Loss of Agricultural Land			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Loss of agricultural land that has the potential to be used for cultivation of crops or other agricultural purposes (opportunity cost). The land proposed for the affordable housing development site are currently zoned for Agriculture and has been mapped to have a moderate agricultural potential land use. The site is currently however not actively used for crop production / food crops so the opportunity cost lost is low.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A

Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	High	High	High	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be barely mitigated	Can be barely mitigated	-N/A
Proposed mitigation:	No mitigation is proposed or necessary given the low impact and current land use of the site. However, should the specialist require further mitigation as part of the Compliance Statement, such will be added during the EIAR phase of the proposed development.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

9.5.2. ***Terrestrial Biodiversity Impact - Permanent loss of vegetation cover as a result of site clearing***

	Terrestrial Biodiversity Impact - Permanent Loss of Indigenous Vegetation			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Site clearing before construction will result in the blanket clearing of vegetation within the affected footprint. Although no Floral SCCs were identified on site, such loss could be seen, and should subsequently be prevented.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A

irreplaceable loss of resources:				
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

- Blanket clearing of vegetation must be limited to the approved development footprint, and the area to be cleared must be demarcated before any clearing and grubbing commences.
- No clearing outside of development and infrastructure footprint area to take place.
- Final siting of footprint should be undertaken in consultation with respective specialists, including a botanist.
- Open Space to be incorporated in final plan to include ecological corridors.
- Topsoil must be striped and stockpiled separately during site preparation and replaced on completion where revegetation will take place.
- Any site camps and laydown areas requiring clearing must be located within already disturbed areas away from watercourses.
- A search and rescue plan must be implemented prior to the commencement of the construction phase of the proposed development. Should species of conservation concern be found within the site boundaries at this time, an experienced botanist must be appointed to identified practicable rescue operations aimed toward the success of the species as appropriate.
- Respective permits to be obtained beforehand.
- Removed topsoil should be used in rehabilitation of transformed areas that are within the open space areas.

9.5.3.Terrestrial Biodiversity Impact – Alien Invasive Infestation:

	Terrestrial Biodiversity Impact – Alien Invasive Infestation			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Due to the heavily invaded state of the proposed development site, management of alien invasive vegetation will be critical during the construction phase of the proposed development.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A

Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

- Alien trees and weeds must be removed from the site as per CARA/NEMBA requirements, excluding the norther area as determined by the faunal specialist where the alien tree forest will need to be retained to preserve the habitat for the Golden Mole.
- A suitable weed management strategy to be implemented in construction and operation phases.
- After clearing and construction is completed, an appropriate cover may be required, should natural re-establishment of grasses not take place in a timely manner along road verges. This will also minimise dust. Please note, due to the presence of an SCC in the pine forest located north of the northern drainage line on Portion 8, open space area in the north is to be left undisturbed by mass clearing activities. The relevant licence towards preserving this forest will be required. Options toward the use and/or conservation of this area will be further elaborated upon in the EIAR phase of the application.

9.5.4. *Terrestrial Biodiversity Impact – Susceptibility of some areas to erosion as a result of construction related disturbances.*

	Terrestrial Biodiversity Impact - Susceptibility of some areas to erosion as a result of construction related disturbances.			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Removal of vegetation cover and soil disturbance may result in some areas being susceptible to soil erosion after completion of the activity.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A

Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

- Suitable measures must be implemented in areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed.
- Topsoil must be stripped and stockpiled separately and replaced on completion.
- If natural vegetation re-establishment does not occur, a suitable grass must be applied.

9.5.5.Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats:

	Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Removal of vegetation cover and soil disturbance may result in the loss of the faunal SCC identified on site. Please refer to section 9.5.10.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	High	High	High	-N/A

Significance rating of impact prior to mitigation	High	High	High	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

- Blanket clearing of vegetation must be limited to the footprint.
- It is important that clearing activities are kept to the minimum and take place in a phased manner, where applicable. This allows any smaller animal species to move into safe areas and prevents wind and water erosion of the cleared areas.
- The habitats and microhabitats present on the project site are not unique and are widespread in the general area, hence the local impact associated with the footprint would be of low significance if mitigation measures are adhered to.
- Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area. They will most likely vacate the area once construction commences. As with all construction sites there is a latent risk that there will be some accidental mortalities. Specific measures are made to reduce this risk. The risk of Species of Conservation Concern is low, and it is unlikely that there will be any impact to populations of such species because of the activity.
- Reptiles such as lizards are less mobile compared to mammals, and some mortalities could arise. It is recommended that a faunal search and rescue be conducted before construction commences, although experience has shown that there could still be some mortalities as these species are mobile and may thus move onto site once construction is underway. A retile handler should be on call for such circumstances.
- Should any amphibian migrations occur between wetland areas during construction, appropriate measures (including temporarily suspending works in the affected area) should be implemented.
- A pre-commencement faunal search and rescue is recommended.
- Respective permits to be obtained beforehand.
- No animals are to be harmed or killed during the course of operations.
- Workers are NOT allowed to snare any faunal species.

9.5.6.Terrestrial Biodiversity Impact – Impact on Ecological and Aquatic Processes:

	Terrestrial Biodiversity Impact – Impact on Ecological and Aquatic Processes			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Removal of vegetation cover and soil disturbance may result in the disruption of the ecological and aquatic processes of the sensitive receptors on site.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A

impact may cause irreplaceable loss of resources:				
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

- Suitable measures must be implemented in areas that may be susceptible to erosion, including but not limited to gabions and runoff diversion berms (if necessary).
- Areas must be rehabilitated and a suitable cover crop planted once specific phases of construction is completed.

If site development does not occur soon after preparation of the site, a suitable cover crop to be established as a temporary measure.

9.5.7.Terrestrial Biodiversity Impact – Impact on Plant Species of Conservation Concern:

	Terrestrial Biodiversity Impact – Impact on Species of Conservation Concern			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Upon initial site visit, the specialist did not identify any plant species of conservation concern within the boundaries of the proposed development area. However it was noted that a number of species had the potential of occurring with the proposed development area. Subsequent to the undertaking of the original site sensitivity verification by the appointed specialist, pre-construction activities on a neighbouring property lead to the discovery of a new orchid species on site. Upon further discussion between the development team, DEA&DP, CapeNature and the EAP, it was decided that the appointed specialist (to the current application) would have a site visit (in the correct season for optimal discoverability) to ascertain whether the species is also present within the boundaries of the proposed development site. As such, further adjustments to the proposed development plan would be proposed if required.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Possible	Possible	Possible	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A

impact may cause irreplaceable loss of resources:				
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

- A site visit is to be undertaken in the correct season to ascertain the presence of the orchid species on site.
- A search and rescue operations are to be undertaken prior to the commencement of the construction phase in order to ensure that no species of conservation concern are impacted upon. Should species of conservation concern be found in within the site boundaries at this time, an experienced botanist must be appointed to identified practicable rescue operations aimed toward the success of the species as appropriate.

9.5.8.Contamination & Pollution Impact – Associated with Construction Activities

	Contamination & Pollution Impact – Associated with Construction Activities			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Construction activities will generate waste. In addition, fuel, oil, lubricants and other pollutants may leak from vehicles/ machinery and contaminate the soil. Pollution and soil contamination could also occur from chemical toilets, cement mixing directly on the soil and stormwater runoff may flow over the site camp area and carry contaminants off-site.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Local; Medium term	Local; Medium term	Local; Medium term	-N/A
Probability of occurrence:	Improbable	Improbable	Improbable	-N/A
Degree to which the impact can be reversed:	Partly reversible	Partly reversible	Partly reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resources	Significant loss of resources	Significant loss of resources	-N/A
Cumulative impact prior to mitigation:	Low	Low	Low	-N/A

Significance rating of impact prior to mitigation	Medium – High	Medium - High	Medium - High	-N/A
Degree to which the impact can be mitigated:	Can be mitigated	Can be mitigated	Can be mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

The appointed Environmental Control Officer (ECO) must undertake at least one site inspection per week, for the duration of the construction phase, and to produce a short monthly ECO monitoring audit report, auditing on the compliance of the property developer with the conditions of the Environmental Authorisation and the approved EMP.

General Pollution Management:

- No pollution of surface water or ground water resources may occur due to any activity on the site.
- No storm water runoff from any premises containing waste, or water containing waste emanating from construction activities may be discharged into the environment. Polluted stormwater must be contained on the site.
- Cement batching / mixing may not take place directly on the soil surface, it must be done on an impervious lining that will prevent cement particles from contaminating the soil.

General Waste Management:

- Dedicated waste bins or skips must be provided on site, and kept in a demarcated area on an impermeable surface.
- Separate waste bins/skips must be provided for recyclable waste, general waste and hazardous waste. Recovered builder's rubble & green waste may be stockpiled on the ground within the site camp, or in separate skips until removal.
- Waste must be placed in the appropriate waste bins/skips/ stockpiles.
- Hazardous waste bins must be kept on an impermeable bunded surface capable of holding at least 110% of the volume of the bins.
- Skips/ bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust.
- Waste bins/skips must be regularly emptied and must not be allowed to overflow.
- Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.
- The Contractor must ensure that all workers on site are familiar with the correct waste disposal procedures to be followed.
- Waste generated on site must be classified and managed in accordance with the National Environmental Management: Waste Act – Waste Classification and Management Regulations (GN No. R. 634 of August 2013).
- Disposal of waste to landfill must be undertaken in accordance with the National Environmental Management: Waste Act – National Norms and Standard for the Assessment of Waste for Landfill Disposal (GN No. R. 635 of August 2013).
- All waste, hazardous as well as general, which result from the proposed activities must be disposed of appropriately at a licensed Waste Disposal Facility (WDF).

Pollution Management – hydrocarbons (oil, fuel etc.)

- Vehicles and machinery must be in good working order and must be regularly inspected for leaks.
- If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired.
- Repairs to vehicles/ machinery may take place on site, within a designated maintenance area at the site camp. Drip trays, tarpaulin or other impermeable layer must be laid down prior to undertaking repairs.
- Refuelling of vehicles/ machinery may only take place at the site camp or vehicle maintenance yard. Where refuelling must occur, drip trays should be utilised to catch potential spills/ drips.
- Drip trays must be utilised during decanting of hazardous substances and when refilling chemical/ fuel storage tanks.
- Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is risk of leakage/spillage.
- Where feasible, fuel tanks should be elevated so that leaks are easily detected.

- A spill kit to neutralise/treat spills of fuel/ oil/ lubricants must be available on site, and workers must be educated on how to utilise the spill kit.
- Soil contaminated by hazardous substances must be excavated and disposed of as hazardous waste.

Pollution Management – Ablution facilities

- Chemical toilets should be kept at the site camp, on a level surface and secured from blowing over.
- Toilets must be located well outside of any storm water drainage lines, and may not be linked to the storm water drainage system in any way.
- Chemical toilets must be regularly emptied and the waste disposed of at an appropriate waste water disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets.

Pollution Management – Hazardous Substances

- Any hazardous substances (materials, fuels, other chemicals etc.) that may be required on site must be stored according to the manufacturers' product-storage requirements, which may include a covered, waterproof bunded housing structure.
- Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases.
- Hazardous chemicals and fuels should be stored on bunded, impermeable surfaces with sufficient capacity to hold at least 110% of the capacity of the storage tanks.

Cement Batching:

- Cement batching must take place on an impermeable surface large enough to retain any slurry or cement water run-off. If necessary, plastic/ bidem lined detention ponds (or similar) should be constructed to catch the run-off from batching areas. Once the water content of the cement water/ slurry has evaporated the dried cement should be scraped out of the detention pond and disposed of at an appropriate disposal facility authorised to deal with such waste
- Cement batching should take place on already transformed areas within the footprint of the facility.
- Unused cement bags must be stored in such a way that they will be protected from rain. Empty cement bags must not be left lying on the ground and must be disposed of in the appropriate waste bin.
- Washing of excess cement/concrete into the ground is not allowed. All excess concrete/ cement must be removed from site and disposed of at an appropriate location.

9.5.9. *Dust & Noise Impact – Associated with Construction Activities*

	Dust & Noise Impact – Associated with Construction Activities			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Dust impacts may result due to construction activities and excavation activities on the site. Excavations and associated earth-moving activities may generate noise and vibration which may pose a nuisance to surrounding residents and other land users. Movement of heavy vehicles to & from the site may generate noise, which may affect surrounding residents.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Temporary	Site Specific; Temporary	Site Specific; Temporary	-N/A
Probability of occurrence:	Highly probable	Highly probable	Highly probable	-N/A
Degree to which the impact can be reversed:	Irreversible	Irreversible	Irreversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource	No loss of resource	No loss of resource	-N/A

Cumulative impact prior to mitigation:	Low	Low	Low	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Negligible (-)	Negligible (-)	Negligible (-)	-N/A

Dust Mitigation:

- Land clearing and earthmoving activities should not be undertaken during strong winds, where possible.
- Cleared areas should be provided with a suitable cover as soon as possible, and not left exposed for extended periods of time.
- Stockpiles of topsoil, spoil material and other material that may generate dust must be protected from wind erosion (e.g. covered with netting, tarpaulin or other appropriate measures. Note that topsoil should not be covered with tarpaulin as this may kill the seedbank).
- The location of stockpiles must take into account the prevailing wind direction, and should be situated so as to have the least possible dust impact to surrounding residents, road-users and other land-users.
- Speed limits must be enforced in all areas, including public roads and private property to limit the levels of dust pollution.
- The speed limit should be set at 20-40km/h.
- Dust must be suppressed on access roads and the construction site during dry periods by the regular application of non-potable water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that will not result in the generation of excessive run off.
- Dust suppression measures such as the wetting down of sand heaps as well as exposed areas around the site must be implemented especially on windy days.
- The use of straw worked into the sandy areas may also help and the ECO must advise when this is necessary.
- If dust appears to be a continuous problem the option of using shade cloth to cover open areas may be necessary or the erecting of shade netting above the fenced off are may need to be explored.
- All vehicles transporting sand need to have tarpaulins covering their loads which will assist in any windblown sand occurring off the trucks.
- Work on site must be well-planned and should proceed efficiently so as to minimise the handling of dust generating material.
- Material loads should be properly covered during transportation.
- Dust levels specified in the *National Dust Control Regulations* (GN 827 of November 2013) may not be exceeded. i.e. dust fall in residential areas may not exceed 600mg/m^2/day, measured using reference method ASTM D1739;
- A Complaints Register must be available at the site office for inspection by the ECO of dust complaints that may have been received.
- The appointed Environmental Control Officer (ECO) must undertake a site inspection once per week, for the duration of the construction phase, and to produce a short monthly ECO monitoring audit report, auditing on the compliance of the property developer with the conditions of the Environmental Authorisation and the approved EMP.

Noise Mitigation:

- A noise complaints register will be opened.
- Excavations and earth-moving activities must be restricted to normal construction working hours (7:30 – 17:30) as far as possible.
- Work on site must be well-planned and should proceed efficiently so as to limit the duration of the disturbance.
- Vehicles and equipment must be kept in good working condition. If deemed necessary, machinery and equipment should be fitted with mufflers/ exhaust silencers. No unnecessary disturbances should be allowed to emanate from the construction site.

- Due to the proximity of the proposed development site to residents, noise levels must be kept to a minimum at all times. If excessive noise is expected on the boundary of the residential erven bordering the site they must be informed in advance of when the high noise levels will occur and for how long they will occur.
- Workers should be educated on how to control noise-generating activities that have the potential to become disturbances, particularly over an extended period of time.
- Noise levels must comply with the relevant health & safety regulations and SANS codes and should be monitored by the Health & Safety Officer as necessary and appropriate.
- Affected parties must be informed of the excessive noise factors.
- The noise management and monitoring measures prescribed in the EMPr must be adhered to.
- Vehicles must be equipped with noise reduction instruments.

The appointed Environmental Control Officer (ECO) must undertake a site inspection every two weeks, for the duration of the construction phase, and to produce a short monthly ECO monitoring audit report, auditing on the compliance of the property developer with the conditions of the Environmental Authorisation and the approved EMP.

9.5.10. Faunal Impact – Loss of Species of Conservation Concern

	Faunal Impact – Loss of Species of Conservation Concern			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Activity will result in the loss of habitat for faunal species. The specialist confirmed the presence of Duthie's golden mole in the northern reaches of Portion 8. This species is considered Vulnerable with a large subpopulation found on the proposed development site. The persistence of the majority of SCC confirmed or possibly occurring in the study area are threatened by direct impacts of habitat alteration, -fragmentation, -degradation and -loss and due to development and increased urbanization. Several edge effects are expected during the operational phase, emanating from the developed part of the site. These edge effects include vibration and noise from vehicles and people, collision of fauna with vehicles on the newly constructed roads, human foot traffic, predation by domestic pets (dogs and cats), poisoning of fauna, illegal grazing through subsistence farming, uncontrolled burning of vegetation and illegal hunting within areas adjacent to the development footprint.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Permanent	Local; Short Term	Local; Short Term	Local; Permanent
Probability of occurrence:	Definite	Probable	Probable	Unlikely
Degree to which the impact can be reversed:	Not Reversible	Not Reversible	Not Reversible	Completely reversible
Degree to which the impact may cause irreplaceable loss of resources:	Complete loss of resource	Marginal loss of resource	Marginal loss of resource	No loss of resource
Cumulative impact prior to mitigation:	Very High	Medium	Medium	Low
Significance rating of impact prior to mitigation	High	Medium	Medium	Low
Degree to which the	Can be not mitigated	Can be mitigated	Can be mitigated	Low

impact can be mitigated:				
Proposed mitigation:	Please see below.			No mitigation proposed
Cumulative impact post mitigation:	High	Medium	Low	Low
Significance rating of impact after mitigation	Very High (-)	Low (-)	Low (-)	Very Low

- The Non-indigenous forest and Non-perennial stream / Wetland habitats (all habitats which are retrieved as "High" SEI) be excluded from any development planning (i.e., avoidance mitigation). Currently, these "No-Go" areas constitute the northern part of Portion 8.
- Footprints must be kept at a minimum so as not to impinge on adjacent habitats in the landscape.
- Every effort should be made to save and relocate any mammal, reptile, amphibian, bird, or invertebrate that cannot flee of its own accord, encountered during site preparation (i.e., to avoid and minimise the direct mortality of faunal species). These animals should be relocated to a suitable habitat area immediately outside the project footprint (in the adjoining natural habitats), but under no circumstance to an area further away.
- It is recommended that pollution of the development footprint, as well as any areas adjacent to the footprint, be monitored and avoided during the construction phase.
- Blanket clearing of vegetation must be limited to the approved development footprint, and the area to be cleared must be demarcated before any clearing commences
- Open Space to be incorporated in final plan to include ecological corridors and riparian zones.

Open Space rehabilitation and removal of invasives should commence before site clearing commences.

9.5.11. Freshwater Resources Impact – Loss and disturbance of aquatic habitat

	Freshwater Impact - Disturbance/loss of aquatic vegetation and habitat.			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The Alternative A layouts indicate a road and associated infrastructure where wetland habitat is located. In order to construct this, wetland habitat would be completely lost as a result of clearing, excavations and infilling. Disturbance of aquatic habitat biota from clearance of vegetation, earthworks, and further invasive alien plant infestation, which can result in further deterioration in freshwater ecosystem integrity, and a reduction in the supply of ecosystem services. The movement of topsoil and incorrectly placed stockpiles could bury aquatic habitat. Due to construction, alien invasive species may encroach further into any disturbed areas and outcompete indigenous vegetation thereby reducing aquatic biodiversity. These impacts are significantly reduced in Alternative B: Option 3.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Local; Permanent	Local; Long term	Local; Long term	-N/A
Probability of occurrence:	Highly Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Partly	Barely	Barely	-N/A
Degree to which the impact may cause irreplaceable	Marginal Loss	Marginal Loss	Marginal Loss	-N/A

loss of resources:				
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Partly	Can be mitigated	Can be mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Medium	Low	Low	-N/A
Significance rating of impact after mitigation	Medium	Low (-)	Low (-)	-N/A

Mitigation Measures:

- A construction method statement must be compiled and available on site. It must consider the buffer zone and include methods to avoid unnecessary disturbance and prevent material being washed downslope into the wetlands.
- Any contractor found working within No-Go areas must be fined as per fining schedule/system setup for the project.
- It is the contractor's responsibility to continuously monitor the area for newly established alien species during the contract and establishment period, which if present must be removed. Removal of these species shall be undertaken in a way which prevents any damage to the remaining indigenous species and inhibits the re-infestation of the cleaned areas. Any use of herbicides in removing alien plant species is required to be investigated by the ECO before use.
- Where vegetation has been cleared in the buffer and open ground in the riparian area has resulted (i.e. where indigenous vegetation has been replaced by dense alien plant infestations), it is recommended that cover components be reinstated appropriately. Only indigenous species are to be considered.
- It is recommended that the wetland be fenced to prevent or at least discourage encroachment by humans and livestock.
- The local authority should prevent illegal dumping in this area by providing suitable waste disposal facilities where waste can be recycled and disposed of in a controlled manner.
- Engage with the community to explain the reasons why the buffer and the water resources are protected. This could be targeted at learners to prevent the dumping of solid waste and other activities that threaten the watercourses and buffer zones.
- The community could be involved in the monitoring.
- Placement of signage near the boundary of the buffer zone should also be considered to help mark the boundary and educate the community about the purpose and value of protecting buffer zones. Information can include a description and visual of alien invasive plant species.

9.5.12. Freshwater Resources Impact – Sedimentation and Erosion

	Freshwater Impact - Sedimentation and Erosion.			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Vegetation clearing and exposure of bare soils directly within and adjacent to the wetland habitat during construction will decrease the soil binding capacity and cohesion of the upslope soils and thus increase the risk of erosion and sedimentation downslope. The gentle slope of the study area does limit the magnitude of this impact to a degree, but it is highly likely to affect all of the identified wetlands. This activity may cause the burying of aquatic habitat. Changes to hydrological regimes that could lead to sedimentation and erosion,			No Impact.

	that could also occur in the operational phase. Concentrated stormwater flow paths and altered flow patterns causing increased erosion within the watercourses and sedimentation as the disturbed soils are carried by unmanaged surface runoff down slope. These impacts can result in the deterioration of aquatic ecosystem integrity and a reduction/loss of habitat for flora & fauna.			
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Long term	Local; Long Term	Local; Long Term	-N/A
Probability of occurrence:	Highly Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Partly Reversible	Partly Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- A stormwater management plan must be developed in the preconstruction phase, detailing the stormwater structures and management interventions that must be installed to manage the increase of surface water flows directly into any natural systems. The stormwater management infrastructure must be designed to ensure the runoff from the development is not contaminated before entering the surrounding area. The volume and velocity of water must be reduced through discharging the surface flow at multiple locations surrounding the development. Effective stormwater management must include effective stabilisation of exposed soil.
- Sedimentation must be minimised with appropriate measures. Any construction causing bare slopes and surfaces to be exposed to the elements must include measures to protect against erosion using covers, silt fences, sandbags, earthen berms etc.
- All stockpiles must be protected and located in flat areas where run-off will be minimised and sediment recoverable.
- Construction must have contingency plans for high rainfall events during construction. Even in the operational phase, measures to contain impacts caused during high rainfall events must be planned for and available for use.
- The buffer area must be maintained through alien invasive plant species removal (which is the landowner's responsibility regardless of mitigation associated with this project) and the establishment of indigenous vegetation cover to filter run-off before it enters the aquatic habitat.

- Stormwater infrastructure must be inspected at least once every year (before the onset of rains) to ensure that it is working efficiently. Any evidence of erosion from this stormwater system must be rehabilitated and the volume/velocity of the water reduced through further structures and/or energy dissipaters.

9.5.13. Freshwater Resources Impact – Changes to surface water quality

	Freshwater Impact – Changes to surface water quality			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	There is potential for surface runoff to be contaminated and enter the watercourses, especially during flood events. During construction, earthworks will expose and mobilise earth materials, and a number of materials as well as chemicals will be imported and used on site and may end up in the surface water. In the operational phase, hydrocarbons and chemicals could potentially enter the watercourses. If not prevented, litter, and contaminants, including sand, silt, and dirt particles, will enter storm water runoff and pollute the watercourse. Micro-litter such as cigarette butts may travel through certain stormwater grids and grids may not be regularly cleared. Sewage leaks are probable and of high risk. This can result in possible deterioration in aquatic ecosystem integrity and species diversity. However, the HGM1 wetland is already highly contaminated by raw effluent.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Long Term	Local; Medium Term	Local; Medium Term	-N/A
Probability of occurrence:	Highly Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Partly Reversible	Reversible	Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	High	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be mitigated	Can be mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Medium	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation Measures:

Specialist's mitigation measures:

- A stormwater management plan and report must be developed for the site.
- The Department of Water and Sanitation regional office should be notified, as soon as possible, of any significant chemical spill or leakage to the environment where there is the potential to contaminate surface water or groundwater.
- Sewage infrastructure should not encroach into the watercourses and measures must be in place to prevent wastewater from entering the environment under any circumstances.
- Stormwater exit points must include a best management practice approach to trap any additional suspended solids and pollutants originating from the proposed development. Also include the placement of stormwater grates (or similar). The use of grease traps/oil separators to prevent pollutants from entering the environment from stormwater is recommended. To ensure the efficiency of these, they must be regularly maintained.
- Inlet protection measures to capture solid waste and debris entrained in storm water entering the storm water management system (inlet protection devices) will be incorporated into the design of the system and could include the use of either curb inlet/inlet drain grates and/or debris baskets/bags.
- It is also important to note that storm water infrastructure will likely require regular on-going maintenance in the form of silt, debris/litter clearing in order to ensure their optimal functioning. occur due to any activity on the site.
- No storm water runoff from any premises containing waste, or water containing waste emanating from construction activities may be discharged into the environment. Polluted stormwater must be contained on the site.

General Pollution Management:

- No pollution of surface water or ground water resources may occur due to any activity on the site.
- No storm water runoff from any premises containing waste, or water containing waste emanating from construction activities may be discharged into the environment. Polluted stormwater must be contained on the site.
- Cement batching / mixing may not take place directly on the soil surface, it must be done on an impervious lining that will prevent cement particles from contaminating the soil.

General Waste Management:

- Waste must be placed in the appropriate waste bins/skips/ stockpiles.
- Hazardous waste bins must be kept on an impermeable bunded surface capable of holding at least 110% of the volume of the bins.
- Skips/ bins must be provided with secure lids or covering that will prevent scavenging and windblown waste or dust.
- Waste bins/skips must be regularly emptied and must not be allowed to overflow.
- Construction workers must be instructed not to litter and to place all waste in the appropriate waste bins provided on site.

Pollution Management – hydrocarbons (oil, fuel etc.)

- Vehicles and machinery must be in good working order and must be regularly inspected for leaks.
- If a vehicle or machinery is leaking pollutants it must, as soon as possible, be taken to an appropriate location for repair. The ECO has the authority to request that any vehicle or piece of equipment that is contaminating the environment be removed from the site until it has been satisfactorily repaired.
- Repairs to vehicles/ machinery may take place on site, within a designated maintenance area at the site camp. Drip trays, tarpaulin or other impermeable layer must be laid down prior to undertaking repairs.
- Refuelling of vehicles/ machinery may only take place at the site camp or vehicle maintenance yard. Where refuelling must occur, drip trays should be utilised to catch potential spills/ drips.
- Drip trays must be utilised during decanting of hazardous substances and when refilling chemical/ fuel storage tanks.
- Drip trays must be placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is risk of leakage/spillage.
- Where feasible, fuel tanks should be elevated so that leaks are easily detected.
- A spill kit to neutralise/treat spills of fuel/ oil/ lubricants must be available on site, and workers must be educated on how to utilise the spill kit.

Pollution Management – Ablution facilities

- Chemical toilets should be kept at the site camp, on a level surface and secured from blowing over.
- Toilets must be located well outside of any storm water drainage lines, and may not be linked to the storm water drainage system in any way.
- Chemical toilets must be regularly emptied and the waste disposed of at an appropriate waste water disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets.

Pollution Management – Hazardous Substances

- Any hazardous substances (materials, fuels, other chemicals etc.) that may be required on site must be stored according to the manufacturers' product-storage requirements, which may include a covered, waterproof bunded housing structure.

- Material Safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimise negative environmental impacts during accidental releases.
- Hazardous chemicals and fuels should be stored on bunded, impermeable surfaces with sufficient capacity to hold at least 110% of the capacity of the storage tanks.

Cement Batching:

- Cement batching must take place on an impermeable surface large enough to retain any slurry or cement water run-off. If necessary, plastic/ bidem lined detention ponds (or similar) should be constructed to catch the run-off from batching areas. Once the water content of the cement water/ slurry has evaporated the dried cement should be scraped out of the detention pond and disposed of at an appropriate disposal facility authorised to deal with such waste
- Cement batching should take place on already transformed areas within the footprint of the facility.
- Unused cement bags must be stored in such a way that they will be protected from rain. Empty cement bags must not be left lying on the ground and must be disposed of in the appropriate waste bin.
- Washing of excess cement/concrete into the ground is not allowed. All excess concrete/ cement must be removed from site and disposed of at an appropriate location.

9.5.14. Freshwater Resources Impact – Changes to the hydrological regime

	Freshwater Impact – Changes to the hydrological regime			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Possible increase in surface water runoff/ patterns on hydrological form and function during the construction and into the operational phase. Poor stormwater management could result in localised changes to flows (volume) that would result in form and function changes within aquatic habitat. The impact can result in further deterioration in freshwater ecosystem integrity, and a reduction in the supply of ecosystem services.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Permanent	Local; Permanent	Local; Permanent	-N/A
Probability of occurrence:	Definite	Highly probable	Highly probable	-N/A
Degree to which the impact can be reversed:	Irreversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	High	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A

Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	High	Medium	Medium	-N/A
Significance rating of impact after mitigation	Medium (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- A stormwater management plan must be developed in the preconstruction phase, detailing the stormwater structures and management interventions that must be installed to manage the changes to surface water flows.
- When developing a stormwater management plan for the site, it will be critical that due consideration is given to the collection and treatment of stormwater prior to discharge into the natural environment. It is therefore recommended that the stormwater management plan be developed with appropriate ecological input and be developed based on Sustainable Drainage Systems (SUDS). The SUDS systems attempt to maintain or mimic the natural flow systems as well as prevent the wash-off of urban pollutants to receiving waters.
- Soft infrastructure must be considered where practical. For example, permeable surfaces can be done via permeable concrete block pavers (such as Amorflex), brick pavers, stone chip, and gravel and may contribute to slowing surface flows (especially if maintained). Baffles in the stormwater conduits are effective. Stormwater managed by the development could be discharged into porous channels / swales ('infiltration channels or basins') running near parallel or parallel to contours within and along the edge of the development. This will provide for some filtration and removal of urban pollutants (e.g. oils and hydrocarbons), provide some attenuation by increasing the time runoff takes to reach low points, and reduce the energy of storm water flows within the stormwater system through increased roughness when compared with pipes and concrete V-drains.
- The stormwater management infrastructure must be designed to ensure the runoff from the development is not highly contaminated or concentrated before entering the surrounding area. Any stormwater retention ponds or berms must be located outside of the buffer area.
- The adoption of the 42m aquatic buffer zone between the development infrastructure and HGM1.
- The volume and velocity of water must be reduced through discharging the surface flow at multiple locations surrounding the development.
- Effective stormwater management must include effective stabilisation (gabions and Reno mattresses) of exposed soil. Contingency plans must be in place for high rainfall events which may occur during construction.
- If flower/plant beds are to be established adjacent to hard surfaces, then these should be designed to receive storm water from hardened surfaces and should be planted with robust indigenous species that to contribute to storm water management objectives.
- Storm water should be harvested onsite from roofed surfaces thus reducing the quantity (volume) of water received by downstream water resources as surface flow.
- The project will need to comply with all regulations of the National Water Act (Act 36 of 1998), including the protection of downstream users, and minimise any potential ecological impacts upon water resources.

9.5.15. Heritage Impact – Impact on cultural heritage and palaeontological resources

	Heritage Impact – Impact on cultural heritage and palaeontological resources			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The loss of Heritage Resources, including Archaeological and Paleontological Resources, due to land clearing and excavations on the site. During his site visit, the Heritage Consultant identified a building older than 60 years, however it was confirmed that the building holds no			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Permanent	Site Specific; Permanent	Site Specific; Permanent	-N/A
Probability of occurrence:	Probable	Probable	Probable	-N/A
Degree to which the	Irreversible	Irreversible	Irreversible	-N/A

impact can be reversed:				
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Negligible	Negligible	Negligible	-N/A
Significance rating of impact prior to mitigation	Low	Low	Low	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Negligible	Negligible	Negligible	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation Measures:

- In the event that any heritage resources (human remains, grave stones, stone tools, artefacts, old coins and pottery, fossil shell middens, rock art and engravings, remains of old built structures etc.) are encountered during construction:
- The finding should be protected from further disturbance (ideally left in situ) and the ECO and relevant Heritage Authority should be notified.
- The finding should be handled and/or removed from site as per instructions issued by the Heritage Authority or delegated heritage specialist.
- A demolition permit in terms of the NHRA must be obtained for the historic building located on site

9.5.16. Socio-Economic Impact –Creation of Business & Employment Opportunities

	Socio-Economic Impact –Creation of Business & Employment Opportunities			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The majority of work during the construction phase is likely to be undertaken by local contractors and builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in the GRDM and BLM. Where possible, the majority of the building materials associated with the construction phase will be sourced from locally based suppliers from the GRDM and BLM. A significant portion of the annual wage bill will be spent in the local GRDM and BLM. This would in turn benefit local business.			The no-development option would result in a lost opportunity in terms of the employment opportunities associated with the construction. A high negative socio-economic impact significance would occur if the proposed development is not constructed.

Nature of impact:	Positive	Positive	Positive	Negative
Extent and duration of impact:	Regional; temporary	Regional; temporary	Regional; temporary	Regional; temporary
Probability of occurrence:	Definite	Definite	Definite	Definite
Degree to which the impact can be reversed:	N/A – this is a positive impact, proposed to be enhanced	N/A – this is a positive impact, proposed to be enhanced	N/A – this is a positive impact, proposed to be enhanced	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A – this is a positive impact, proposed to be enhanced	N/A – this is a positive impact, proposed to be enhanced	N/A – this is a positive impact, proposed to be enhanced	No loss of resource
Cumulative impact prior to mitigation:	Medium (positive)	Medium (positive)	Medium (positive)	Medium (negative)
Significance rating of impact prior to mitigation / **enhancement:**	Medium (positive)	Medium (positive)	Medium (positive)	High (negative)
Degree to which the impact can be mitigated:	N/A – this is a positive impact, proposed to be **enhanced**	N/A – this is a positive impact, proposed to be **enhanced**	N/A – this is a positive impact, proposed to be **enhanced**	The NO-GO Alternative assumes no mitigation. It assumes the status quo.
Proposed **enhancement** / mitigation:	Please see below.			The NO-GO Alternative assumes no mitigation. It assumes the status quo.
Cumulative impact post mitigation:	Medium (positive)	Medium (positive)	Medium (positive)	Medium (negative)
Significance rating of impact after **enhancement**	High (+)	High (+)	High (+)	High (-)

Enhancement Measures:
In order to enhance local employment and business opportunities associated with the construction phase of the project the following measures are proposed to be implemented:

- Where possible, the developer must inform the local authorities, local community leaders, organizations and councillors of the project and the potential job opportunities for local builders and contractors;
- The developer will establish a database of local construction companies in the area, specifically SMME's owned and run by HDI's, prior to the commencement of the tender process for the bulk services component of the project. These companies will be notified of the tender process and invited to bid for project related work;
- The developer, in consultation with the appointed contractor/s, must look to employ a percentage of the labour required for the construction phase from local area in order to maximize opportunities for members from the local HD communities.

9.5.17. Traffic & Safety Impact – Associated with Construction Vehicles

	Traffic & Safety Impact – Associated with Construction Vehicles

	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	It is proposed to deliver a significant amount of materials and equipment to the site during the construction phase of the development. Numerous truck trips will be required every day that could cause a temporary disturbance to traffic in the area. Impacts are expected to occur to the traffic in the area due to increased truck and construction vehicle traffic expected during the construction phase. Construction vehicles may impact on the existing road conditions (road capacity and congestion). Vehicles may impact on road safety conditions due to an increase in construction phase vehicles entering and exiting the site and they may impact on the condition of the existing road network.			No Impact.
Nature of impact:	Negative	Negative	Negative	-No Impact
Extent and duration of impact:	Local; Temporary	Local; Temporary	Local; Temporary	-N/A
Probability of occurrence:	Highly Probable	Highly Probable	Highly Probable	-N/A
Degree to which the impact can be reversed:	Completely reversible	Completely reversible	Completely reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource	No loss of resource	No loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- All construction vehicles must adhere to traffic laws when travelling to and from the site.
- All drivers and machinery operators must be sensitised to the fact that they are working in an area with a potentially high volume of foot and vehicle traffic, and must exercise due caution when entering/ exiting the site.
- Appropriate signage should be erected to warn other road users about the presence of construction vehicles.
- Speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users.
- Construction vehicles must adhere to the load carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by construction vehicles.

- The Contractor must ensure that any large or abnormal loads (including hazardous materials) that must be transported to/ from the site are routed appropriately, and that appropriate safety precautions are taken during transport to prevent road accidents.
- Where possible, construction traffic that may obstruct traffic flow on the surrounding roads should be scheduled for outside of peak traffic times.
- Where possible, heavy machinery should be parked within a secure demarcated area within the footprint of the site instead of moving the machinery to and from the site each day.
- Construction work must be confined to typical work hours (07:00 – 17:00 in weekdays) and where works are required over weekends, such must be communicated with the immediately surrounding inhabitants.

9.5.18. Visual Impact – Associated with Construction Activities

	Visual Impact – Associated with Construction Activities			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The construction phase is associated with temporary disturbance as a result of construction (trench excavations, vehicles, machinery, fencing & signage) that may have a negative visual impact to the area.			No Impact.
Nature of impact:	Negative	Negative	Negative	-No Impact
Extent and duration of impact:	Site Specific. Temporary	Site Specific. Temporary	Site Specific. Temporary	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Partly reversible	Partly reversible	Partly reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource	No loss of resource	No loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium – High	Medium - High	Medium - High	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- Consult with the ECO when determining the appropriate site for the site camp.
- The site camp and construction areas must be kept neat and tidy and free of litter at all times.

- Waste must be managed according to the EMPr and the mitigation measures listed above in terms of waste management. Good housekeeping practices on site must be maintained to ensure the site is kept neat and tidy.
- The site camp, storage facilities, stockpiles, waste bins, and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible.
- Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time.
- The site camp, storage facilities, stockpiles, waste bins, elevated tanks and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible.
- The site camp may require visual screening via shade cloth or other suitable material.
- Special attention must be given to the screening of highly reflective material.
- Use of lighting (if required) should take into account surrounding residents and land users and should present little or no nuisance. Downward facing, spill-off type lighting is recommended.
- Construction vehicles must enter and leave the site during working hours.
- Working areas, storage facilities, stockpiles, waste bins, elevated tanks and any other temporary structures on site should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible.

The appointed Environmental Control Officer (ECO) must undertake at least once site inspection per week, for the duration of the construction phase, and to produce a short monthly ECO monitoring audit report, auditing on the compliance of the property developer with the conditions of the Environmental Authorisation and the approved EMP.

9.6. Rehabilitation / Operational Phase Impact Tables

9.6.1. *Terrestrial Biodiversity Impact - Permanent loss of vegetation cover as a result of site clearing*

	Terrestrial Biodiversity Impact - Permanent Loss of Indigenous Vegetation			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The impacts of the construction phase, specifically regarding the re-establishment of vegetation within the proposed development site is likely to persist as the site camp is removed from the development footprint and private open space areas (integrated within the proposed development area) are revegetated.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Marginal Loss of Resource	Marginal Loss of Resource	Marginal Loss of Resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A

Degree to which the impact can be mitigated:	Can be mitigated	Can be mitigated	Can be mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

Where applicable, these mitigation measures are enforceable by the Homeowners' Association, once established. These relate to day-to-day operations as well as maintenance activities associated with the proposed development.

- No clearing outside of development and infrastructure footprint area to take place.
- Construction / Rehabilitation team only: All site camps and laydown areas requiring clearing must be removed following the completion of the construction phase and the area must be rehabilitated.

Construction / Rehabilitation team only: Topsoil removed during clearance activities should be used in rehabilitation of transformed areas that are within the open space areas.

9.6.2. *Terrestrial Biodiversity Impact – Alien Invasive Infestation:*

	Terrestrial Biodiversity Impact – Alien Invasive Infestation			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Due to the heavily invaded state of the proposed development site, management of alien invasive vegetation will be critical during the operational phase of the proposed development.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A

impact can be mitigated:				
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- Alien trees and weeds must be removed from the site as per CARA/NEMBA requirements, excluding the norther area as determined by the faunal specialist where the alien tree forest will need to be retained to preserve the habitat for the Golden Mole.
- A suitable weed management strategy to be implemented in construction and operation phases.

Construction / Rehabilitation team only: After clearing and construction is completed, an appropriate cover may be required, should natural re-establishment of grasses not take place in a timely manner along road verges. This will also minimise dust

9.6.3. *Terrestrial Biodiversity Impact – Susceptibility of some areas to erosion as a result of construction related disturbances.*

	Terrestrial Biodiversity Impact - Susceptibility of some areas to erosion as a result of construction related disturbances.			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Removal of vegetation cover and soil disturbance may result in some areas being susceptible to soil erosion after completion of the activity. Such impact from the construction phase may still be present during the operational activities and should be mitigated accordingly.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A

impact can be mitigated:				
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- Suitable measures must be implemented in areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed.
- Construction / Rehabilitation team only: Topsoil must be stripped and stockpiled separately and replaced on completion.
- Construction / Rehabilitation team only: If natural vegetation re-establishment does not occur, a suitable grass must be applied.
- Construction / Rehabilitation team only: All bare surfaces (as a result of the construction activities) must be rehabilitated.
- A suitable Alien invasive Plant and weed management plan must be prepared and implemented for the proposed development.

9.6.4. *Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats:*

	Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Removal of vegetation cover and soil disturbance may result in the loss of the faunal SCC identified on site.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	High	High	High	-N/A
Significance rating of impact prior to mitigation	High	High	High	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A

Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation measures:

- Small mammals within the habitat on and around the affected area are generally mobile and likely to be transient to the area. The risk of Species of Conservation Concern is low, and it is unlikely that there will be any impact to populations of such species because of the activity.
- No animals are to be harmed or killed during the course of operations.
- No persons are allowed to snare any faunal species.
- Information boards notifying the public of the sensitivity of the remaining natural areas and the importance of conserving these areas must be placed are strategic points within the proposed development site.
- The School (located on Portion 8) is to be educated on the sensitivity of the ecological corridor located towards the north of the proposed erven.

9.6.5.Terrestrial Biodiversity Impact – Impact on Ecological and Aquatic Processes:

	Terrestrial Biodiversity Impact – Impact on Ecological and Aquatic Processes			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Removal of vegetation cover and soil disturbance may result in the disruption of the ecological and aquatic processes of the sensitive receptors on site. This impact is likely to persist during the operational phase of the proposed development as the open space areas will not fenced off from the public.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Site Specific; Long Term	Site Specific; Long Term	Site Specific; Long Term	-N/A
Probability of occurrence:	Definite	Definite	Definite	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Significant loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A

Proposed mitigation:	• Suitable measures must be implemented in areas that may be susceptible to erosion, including but not limited to gabions and runoff diversion berms (if necessary). • Construction / Rehabilitation team only: Areas must be rehabilitated and a suitable cover crop planted once specific phases of construction is completed. • Construction / Rehabilitation team only: If site development does not occur soon after preparation of the site, a suitable cover crop to be established as a temporary measure.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

9.6.6. *Faunal Impact – Loss of Species of Conservation Concern*

	Faunal Impact – Loss of Species of Conservation Concern			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Several edge effects are expected during the operational phase, emanating from the developed part of the site. These edge effects include vibration and noise from vehicles and people, collision of fauna with vehicles on the newly constructed roads, human foot traffic, predation by domestic pets (dogs and cats), poisoning of fauna, illegal grazing through subsistence farming, uncontrolled burning of vegetation and illegal hunting within areas adjacent to the development footprint.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Permanent	Local; Short Term	Local; Short Term	Local; Permanent
Probability of occurrence:	Definite	Probable	Probable	Unlikely
Degree to which the impact can be reversed:	Not Reversible	Not Reversible	Not Reversible	Completely reversible
Degree to which the impact may cause irreplaceable loss of resources:	Complete loss of resource	Marginal loss of resource	Marginal loss of resource	No loss of resource
Cumulative impact prior to mitigation:	Very High	Medium	Medium	Low
Significance rating of impact prior to mitigation	High	Medium	Medium	Low
Degree to which the impact can be mitigated:	Can be not mitigated	Can be mitigated	Can be mitigated	Low

Proposed mitigation:	Please see below.			No mitigation proposed
Cumulative impact post mitigation:	High	Medium	Low	Low
Significance rating of impact after mitigation	Very High (-)	Low (-)	Low (-)	Very Low

Mitigation Measures:

- The Non-indigenous forest and Non-perennial stream / Wetland habitats (all habitats which are retrieved as "High" SEI) be excluded from any development planning (i.e., avoidance mitigation). Currently, these "No-Go" areas constitute the northern part of Portion 8.
- Given that direct impacts from the current development of Community Zone 1 will be restricted to an area outside of, and at least 30m away from the subpopulation of *C. duthieae*, along with the fact that the planned development will reduce indirect impacts in the long term.
- Construction / Rehabilitation team only: Footprints must be kept at a minimum so as not to impinge on adjacent habitats in the landscape.
- Every effort should be made to save and relocate any mammal, reptile, amphibian, bird, or invertebrate that cannot flee of its own accord, encountered during site preparation (i.e., to avoid and minimise the direct mortality of faunal species). These animals should be relocated to a suitable habitat area immediately outside the project footprint (in the adjoining natural habitats), but under no circumstance to an area further away.
- Construction / Rehabilitation team only: It is recommended that pollution of the development footprint, as well as any areas adjacent to the footprint, be monitored and avoided during the construction phase.
- Open Space to be incorporated in final plan to include ecological corridors and riparian zones.
- Open Space rehabilitation and removal of invasives should commence before site clearing commences.

9.6.7. *Freshwater Resources Impact – Sedimentation and Erosion*

	Freshwater Impact - Sedimentation and Erosion.			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Vegetation clearing and exposure of bare soils directly within and adjacent to the wetland habitat during construction will decrease the soil binding capacity and cohesion of the upslope soils and thus increase the risk of erosion and sedimentation downslope. The gentle slope of the study area does limit the magnitude of this impact to a degree, but it is highly likely to affect all of the identified wetlands. This activity may cause the burying of aquatic habitat. Changes to hydrological regimes that could lead to sedimentation and erosion, that could also occur in the operational phase. Concentrated stormwater flow paths and altered flow patterns causing increased erosion within the watercourses and sedimentation as the disturbed soils are carried by unmanaged surface runoff down slope. These impacts can result in the deterioration of aquatic ecosystem integrity and a reduction/loss of habitat for flora & fauna.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Long term	Local; Long Term	Local; Long Term	-N/A
Probability of occurrence:	Highly Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Barely Reversible	Partly Reversible	Partly Reversible	-N/A
Degree to which the	Significant loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A

impact may cause irreplaceable loss of resources:				
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Mitigation Measures:

- A stormwater management plan must be developed in the preconstruction phase, detailing the stormwater structures and management interventions that must be installed to manage the increase of surface water flows directly into any natural systems. The stormwater management infrastructure must be designed to ensure the runoff from the development is not contaminated before entering the surrounding area. The volume and velocity of water must be reduced through discharging the surface flow at multiple locations surrounding the development. Effective stormwater management must include effective stabilisation of exposed soil.
- The buffer area must be maintained through alien invasive plant species removal (which is the landowner's responsibility regardless of mitigation associated with this project) and the establishment of indigenous vegetation cover to filter run-off before it enters the aquatic habitat.
- Stormwater infrastructure must be inspected at least once every year (before the onset of rains) to ensure that it is working efficiently. Any evidence of erosion from this stormwater system must be rehabilitated and the volume/velocity of the water reduced through further structures and/or energy dissipaters.

9.6.8. *Freshwater Resources Impact – Changes to surface water quality*

	Freshwater Impact – Changes to surface water quality			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	In the operational phase, hydrocarbons and chemicals could potentially enter the watercourses. If not prevented, litter, and contaminants, including sand, silt, and dirt particles, will enter storm water runoff and pollute the watercourse. Micro-litter such as cigarette butts may travel through certain stormwater grids and grids may not be regularly cleared. Sewage leaks are probable and of high risk. This can result in possible deterioration in aquatic ecosystem integrity and species diversity. However, the HGM1 wetland is already highly contaminated by raw effluent.			No Impact.

Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Long Term	Local; Medium Term	Local; Medium Term	-N/A
Probability of occurrence:	Highly Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Partly Reversible	Reversible	Reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A
Cumulative impact prior to mitigation:	High	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be mitigated	Can be mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	Medium	Low	Low	-N/A
Significance rating of impact after mitigation	Low (-)	Low (-)	Low (-)	-N/A

Where applicable, these mitigation measures are enforceable by the Homeowners' Association, once established. These relate to day-to-day operations as well as maintenance activities associated with the proposed development.

Specialist's mitigation measures:

- A stormwater management plan and report must be developed for the site.
- The Department of Water and Sanitation regional office should be notified, as soon as possible, of any significant chemical spill or leakage to the environment where there is the potential to contaminate surface water or groundwater.
- Sewage infrastructure should not encroach into the watercourses and measures must be in place to prevent wastewater from entering the environment under any circumstances.
- Stormwater exit points must include a best management practice approach to trap any additional suspended solids and pollutants originating from the proposed development. Also include the placement of stormwater grates (or similar). The use of grease traps/oil separators to prevent pollutants from entering the environment from stormwater is recommended. To ensure the efficiency of these, they must be regularly maintained. During the operational aspects of the proposed development, the proper functioning of the on-site equipment will be the responsibility of the HOA.
- Inlet protection measures to capture solid waste and debris entrained in storm water entering the storm water management system (inlet protection devices) will be incorporated into the design of the system and could include the use of either curb inlet/inlet drain grates and/or debris baskets/bags. During the operational aspects of the proposed development, the proper functioning of the on-site equipment will be the responsibility of the HOA.
- It is also important to note that storm water infrastructure will likely require regular on-going maintenance in the form of silt, debris/litter clearing in order to ensure their optimal functioning. occur due to any activity on the site. During

the operational aspects of the proposed development, the proper functioning of the on-site equipment will be the responsibility of the HOA.

General Pollution Management:

- No pollution of surface water or ground water resources may occur due to any activity on the site.
- Cement batching / mixing may not take place directly on the soil surface, it must be done on an impervious lining that will prevent cement particles from contaminating the soil. During the operational aspects of the proposed development, proper implementation of this mitigation measure, as much as reasonably possible, will be the responsibility of the HOA.

General Waste Management:

- Waste must be placed in the appropriate waste bins/skips. As such the HOA must encourage waste separation during the operational phase.
- Hazardous waste bins must be kept on an impermeable bunded surface capable of holding at least 110% of the volume of the bins.
- Waste bins/skips must be regularly emptied and must not be allowed to overflow.

Pollution Management – hydrocarbons (oil, fuel etc.)

- Repairs to vehicles may take place on site. The HOA is to encourage the occupants to do such maintenance over drip trays, tarpaulin or other impermeable layer prior to undertaking repairs.
- The HOA must encourage home owners to utilise drip tray, tarpaulin or another form of impermeable layers during decanting of hazardous substances.
- The HOA must encourage home owners to utilise drip trays placed under generators (if used on site) water pumps and any other machinery on site that utilises fuel/ lubricant, or where there is risk of leakage/spillage.
- Any hazardous substances (materials, fuels, other chemicals etc.) that may be required on site must be stored according to the manufacturers' product-storage requirements, which may include a covered, waterproof bunded housing structure.

Pollution Management – Ablution facilities

- Where maintenance activities occur on site that requires chemical toilets to be kept on site, a designated area, no less than 32 m from the nearest watercourse must be used for placement thereof. These must be placed on a level surface and secured from blowing over.
- Toilets must be located well outside of any storm water drainage areas, and may not be linked to the storm water drainage system in any way.
- Where applicable, chemical toilets must be regularly emptied and the waste disposed of at an appropriate waste water disposal/ treatment site. Care must be taken to prevent spillages when moving or servicing chemical toilets.

9.6.9. *Freshwater Resources Impact – Changes to the hydrological regime*

	Freshwater Impact – Changes to the hydrological regime			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	Possible increase in surface water runoff/ patterns on hydrological form and function into the operational phase. Poor stormwater management could result in localised changes to flows (volume) that would result in form and function changes within aquatic habitat. The impact can result in further deterioration in freshwater ecosystem integrity, and a reduction in the supply of ecosystem services.			No Impact.
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Regional; Permanent	Local; Permanent	Local; Permanent	-N/A
Probability of occurrence:	Definite	Highly probable	Highly probable	-N/A
Degree to which the impact can be reversed:	Irreversible	Barely Reversible	Barely Reversible	-N/A
Degree to which the	Significant loss of resource	Marginal loss of resource	Marginal loss of resource	-N/A

impact may cause irreplaceable loss of resources:				
Cumulative impact prior to mitigation:	High	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			-N/A
Cumulative impact post mitigation:	High	Medium	Medium	-N/A
Significance rating of impact after mitigation	Medium (-)	Low (-)	Low (-)	-N/A

Mitigation Measures:

- A stormwater management plan must be developed in the preconstruction phase, detailing the stormwater structures and management interventions that must be installed to manage the changes to surface water flows.
- The stormwater management infrastructure must be designed to ensure the runoff from the development is not highly contaminated or concentrated before entering the surrounding area. Any stormwater retention ponds or berms must be located outside of the buffer area.
- The adoption of the 42m aquatic buffer zone between the development infrastructure and HGM1.
- The volume and velocity of water must be reduced through discharging the surface flow at multiple locations surrounding the development.
- Effective stormwater management must include effective stabilisation (gabions and Reno mattresses) of exposed soil. Contingency plans must be in place for high rainfall events which may occur during construction.
- If flower/plant beds are to be established adjacent to hard surfaces, then these should be designed to receive storm water from hardened surfaces and should be planted with robust indigenous species that to contribute to storm water management objectives.
- Storm water should be harvested onsite from roofed surfaces thus reducing the quantity (volume) of water received by downstream water resources as surface flow.

9.6.10. Socio-Economic Impact – Provision of Affordable Housing

	Socio-Economic Impact –Provision of Affordable Housing			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The proposed development will assist to address the housing backlog in the area, specifically the housing needs of the low and middle income households. This will represent a significant social benefit for the households in the local municipality that currently live in informal areas			The No-Development option would represent a lost opportunity in terms of the benefits associated with the provision of formal housing.
Nature of impact:	Positive	Positive	Positive	Negative

Extent and duration of impact:	Regional extent; permanent	Regional extent; permanent	Regional extent; permanent	Regional; temporary
Probability of occurrence:	Definite	Definite	Definite	Definite
Degree to which the impact can be reversed:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	No loss of resource
Cumulative impact prior to mitigation:	High positive	High positive	High positive	Medium (negative)
Significance rating of impact prior to mitigation / **enhancement:**	High positive	High positive	High positive	High (negative)
Degree to which the impact can be mitigated:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	The NO-GO Alternative assumes no mitigation. It assumes the status quo.
Proposed **enhancement** / mitigation:	The proposed development represents an enhancement measure on its own.			The NO-GO Alternative assumes no mitigation – status quo remains
Cumulative impact post mitigation:	High positive	High positive	High positive	Medium (negative)
Significance rating of impact after **enhancement**	High (+)	High (+)	High (+)	High (-)

9.6.11. *Socio-Economic Impact – Provision of Schools, Public Facilities and Public Spaces*

	Socio-Economic Impact – Provision of Schools, Public Facilities and Public Spaces			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The proposed development makes provision for the establishment of public open spaces, play grounds, crèches, health care facilities etc. These components will all contribute to an improved quality of life for many residents in the local municipality who currently live in informal areas that are not well serviced and lack public facilities, such as parks and open spaces.			The No-Development option would represent a lost opportunity in terms of the benefits associated with the provision of schools and public facilities such as Health Care Facilities.

Nature of impact:	Positive	Positive	Positive	Negative
Extent and duration of impact:	Regional extent; permanent	Regional extent; permanent	Regional extent; permanent	Regional; temporary
Probability of occurrence:	Definite	Definite	Definite	Definite
Degree to which the impact can be reversed:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A
Degree to which the impact may cause irreplaceable loss of resources:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	No loss of resource
Cumulative impact prior to mitigation:	High positive	High positive	High positive	Medium (negative)
Significance rating of impact prior to mitigation / **enhancement:**	High positive	High positive	High positive	High (negative)
Degree to which the impact can be mitigated:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	The NO-GO Alternative assumes no mitigation. It assumes the status quo.
Proposed **enhancement** / mitigation:	The proposed development represents an enhancement measure on its own.			The NO-GO Alternative assumes no mitigation – status quo remains
Cumulative impact post mitigation:	High positive	High positive	High positive	Medium (negative)
Significance rating of impact after **enhancement**	High (+)	High (+)	High (+)	High (-)

9.6.12. *Socio-Economic Impact – Creation of Business and Employment Opportunities*

	Socio-Economic Impact – Creation of business and employment opportunities			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The business and commercial components will create employment opportunities for local residents. The residential component may also create some opportunities for domestic workers and gardeners etc. However due the low income levels these opportunities are likely to be limited. Additional employment opportunities will also be created by the proposed schools. The majority of the employment opportunities are likely to benefit Historically Disadvantaged Individuals (HDIs). Given the high unemployment levels in the surrounding areas, coupled with the low income and education levels, this would represent a positive social			The No-Development option would represent a lost opportunity in terms of the benefits associated with employment opportunities during the operation phase.

	impact. The operational phase will also create opportunities for local businesses, such as local maintenance and building companies, garden services and security companies, petrol stations, shops and restaurants etc. and create opportunities for new businesses to develop. The increased number of households will also create opportunities for the taxi sector. The local estate agencies in the area and legal firms would also benefit from the sale and resale of properties associated with the new development.			
Nature of impact:	Positive	Positive	Positive	Negative
Extent and duration of impact:	Regional extent; permanent	Regional extent; permanent	Regional extent; permanent	Regional extent; permanent
Probability of occurrence:	Definite	Definite	Definite	Improbable
Degree to which the impact can be reversed:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	Completely reversible
Degree to which the impact may cause irreplaceable loss of resources:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	No loss of resource
Cumulative impact prior to mitigation:	Medium positive	Medium positive	Medium positive	Low - Medium negative
Significance rating of impact prior to mitigation / **enhancement:**	Medium positive	Medium positive	Medium positive	Low - Medium negative
Degree to which the impact can be mitigated:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	Can be mitigated
Proposed **enhancement** / mitigation:	The proposed development represents an enhancement measure on its own.			The NO-GO Alternative assumes no mitigation – status quo remains
Cumulative impact post mitigation:	Medium positive	Medium positive	Medium positive	Medium negative
Significance rating of impact after **enhancement**	Medium (+)	Medium (+)	Medium (+)	Medium (-)

9.6.13. *Socio-Economic Impact – Broaden the Rates Base*

	Socio-Economic Impact – Broaden the rates base			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	The development will result in an increase in the rates base. In addition, the proposed development would also generate revenue for the local municipality from the consumption of water and electricity.			The No-Development option would

				represent a lost opportunity in terms of the benefits associated with the an increase in the municipal rates base.
Nature of impact:	Positive	Positive	Positive	Negative
Extent and duration of impact:	Regional extent; permanent	Regional extent; permanent	Regional extent; permanent	Regional extent; permanent
Probability of occurrence:	Definite	Definite	Definite	Improbable
Degree to which the impact can be reversed:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	Completely reversible
Degree to which the impact may cause irreplaceable loss of resources:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	No loss of resource
Cumulative impact prior to mitigation:	Medium positive	Medium positive	Medium positive	Low - Medium negative
Significance rating of impact prior to mitigation / **enhancement:**	Medium positive	Medium positive	Medium positive	Low - Medium negative
Degree to which the impact can be mitigated:	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	N/A – This is a positive impact proposed to be enhanced.	Can be mitigated
Proposed **enhancement** / mitigation:	The proposed development represents an enhancement measure on its own.			By rather constructing the proposed mixed use development.
Cumulative impact post mitigation:	Medium positive	Medium positive	Medium positive	Medium negative
Significance rating of impact after **enhancement**	Medium (+)	Medium (+)	Medium (+)	Medium (-)

9.6.14. Traffic & Safety Impact

	Traffic & Safety Impact			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	A significant increase in traffic is expected to occur in the area as a result of more than 855 units (including the various social amenities) proposed. Vehicles may impact on the existing road network and road safety conditions due to an increase in vehicles entering and exiting the site.			No Impact

Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Local extent; long term	Local extent; long term	Local extent; long term	-N/A
Probability of occurrence:	Probable	Probable	Probable	-N/A
Degree to which the impact can be reversed:	Partly reversible	Partly reversible	Partly reversible	-N/A
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource	No loss of resource	No loss of resource	-N/A
Cumulative impact prior to mitigation:	Medium	Medium	Medium	-N/A
Significance rating of impact prior to mitigation	Medium	Medium	Medium	-N/A
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	Can be partly mitigated	-N/A
Proposed mitigation:	Please see below.			N/A
Cumulative impact post mitigation:	Low	Low	Low	-N/A
Significance rating of impact after mitigation	Low – Medium (-)	Low – Medium (-)	Low – Medium (-)	-N/A

Mitigation measures:

- The necessary road markings, traffic signage, speed limits and early warning systems will need to be developed as per the requirements of the relevant roads-authority (and outcome of the traffic impact assessment yet to be undertaken) to ensure the safety of vehicular and pedestrian traffic during the operational phase of the development.

9.6.15. Visual Impact - Land use character & "sense of place"

	Visual Impact - Land use character & "sense of place"			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
DESCRIPTION OF IMPACT:	It is proposed to change the land use character and existing sense of place of the site from a largely undeveloped site in a rural environment to a built up mixed use development of approximately 36ha. The proposed development could impact on the "sense of place" of the area to sensitive receptors that can see the development.			No Impact
Nature of impact:	Negative	Negative	Negative	No Impact
Extent and duration of impact:	Local; Long Term	Local; Long Term	Local; Long Term	N/A

Probability of occurrence:	Definite	Definite	Definite	N/A
Degree to which the impact can be reversed:	Barely reversible	Barely reversible	Barely reversible	N/A
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource	No loss of resource	No loss of resource	N/A
Cumulative impact prior to mitigation:	Medium – High	Medium - High	Medium - High	N/A
Significance rating of impact prior to mitigation	Medium – High	Medium - High	Medium - High	N/A
Degree to which the impact can be mitigated:	Can be barely mitigated	Can be barely mitigated	Can be barely mitigated	N/A
Proposed mitigation:	Please see below.			N/A
Cumulative impact post mitigation:	Medium	Medium	Medium	N/A
Significance rating of impact after mitigation	Medium (-)	Medium (-)	Medium (-)	N/A

Mitigation measures:

- A Traffic Impact Assessment is to be undertaken prior to the commencement of the construction phase in order to determine the road provisions requirements to accommodate the proposed development.

The following general mitigation measures should be implemented to reduce the identified visual impacts:

Colors for Roofs and Buildings

- Avoid bright reflective or contrasting colors for roofs and buildings.
- Shades and tints of selected complementary colors that fit the setting and vegetation will be considered. Subdued and complimentary natural shades and tints blend easily into a landscape setting.

Lighting

- External lights will increase the visual impact of the project at night therefore attention will be given to their selection for the specific function.
- All lighting therefore will be carefully considered with regard to the extent of illumination, the intensity and color of lights and the luminaire.
- Light fittings will have shields to eliminate sight of the light source;
- Down lighting of areas is preferred to up lighting;
- Any perimeter lights are to be directed downwards and inwards to the development;
- Emitted light color will be a softer light than sodium (yellow) or mercury halide (blue-white).
- The use of flood lights to illuminate structures, large areas or features will not be considered. Rather incorporate concealed lights to shine downwards. Darker areas on the building elevations will provide a less visually noticeable structure;
- No light fittings will spill light upwards or be directed upwards from a distance towards the area or building to be illuminated;
- Security lights will not flood the area with light continuously but should be activated by a motion sensor;

It is now accepted practice that lighting of new projects should be subdued and energy efficient.

10. CONCLUDING ENVIRONMENTAL STATEMENT

10.1. Outcome of Comparative Assessment

10.1.1. Construction Phase Impacts Post Mitigation

The following conclusions can be drawn from the impact assessment findings as shown in the impact tables above for the construction phase:

- The proposed development Layout (Alternative A) is expected to result in environmental impacts, during the construction phase, to the physical, social, cultural and biological environment as opposed to Alternative B (Options 2 & 3) which takes cognisance of the sensitive receptors in located within the proposed development site. Alternative B allows for socio-economic benefit of the proposed development to be seen and strives to find the balance between the Ecological Sensitivity of the proposed development site (and the regional context thereof) and the Socio-Economic need for a development such as this.
- The NO-GO Alternative (Alternative C) of not developing an affordable housing development site is not expected to result in any physical, cultural or biological impacts to the environment during the construction phase because the NO-GO assumes the status quo will remain and no construction related impacts will occur to the environment. However, the no-development option would result in a lost opportunity in terms of the expected temporary employment opportunities associated with the construction phase. A high negative socio-economic impact significance in terms of employment and job opportunities would occur if the proposed development were not constructed (NO-GO Alternative C).
- The proposed development Layout Alternative B: Options 2 & 3 are expected to result in similar environmental impacts, during the construction phase, however, it would result in slightly lower freshwater impacts and significantly lower Faunal Species impact. The reason for this ranking is due to the revised alignment of the road leading through Portion 7 of the Farm Krans Hoek 432 and the avoidance of the sensitive areas for the purpose of construction of hard surfaces.
- Freshwater impacts in terms of loss of habitat and associated biota, erosion and sedimentation, changes to surface water quality and flow regime modification are expected to be mitigated to a **Low** level of impact significance.
- Terrestrial biodiversity impacts are expected to be mitigated to a Low significance.
- Faunal species impacts are expected to be mitigated to a Low significance (through the adoption Alternative B).
- The Creation of business and employment opportunities are expected to result in a High Positive impact after enhancement.
- All other identified impacts are expected to be mitigated to a Low negative significance, which means that it is expected to mitigate the impact to the point where it is of limited importance.
- Alternative B (Option 2 & 3) will have an overall Low impact during the construction phase, should all mitigation measures be implemented accordingly.

The table below is a summary of the projected impacts that could take place during the construction phase of the development and the associated significance of the impact, **post mitigation.**

Table 17: Summary Table of Projected Construction Phase Impacts AFTER MITIGATION

CONSTRUCTION PHASE IMPACTS				
IMPACT	IMPACT SIGNIFICANCE (after mitigation)			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
Agricultural Potential Impact - Loss of agricultural land	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact - Permanent loss of vegetation cover and plant SCCs	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact – Alien Invasive Infestation	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact - Susceptibility of some areas to erosion as a result of construction related disturbance:	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact – Impact on Ecological and Aquatic Processes	Low (-)	Low (-)	Low (-)	No Impact
Contamination & Pollution of Soil and Water Resources	Low (-)	Low (-)	Low (-)	No Impact
Dust & Noise Impact Associated with Construction Activities	Negligible (-)	Negligible (-)	Negligible (-)	No Impact
Faunal Impact – Loss of habitat and SCC	Very High (-)	Low (-)	Low (-)	Very Low (-)
Freshwater Impact – Disturbance/loss of aquatic vegetation and habitat	Low (-)	Low (-)	Low (-)	No Impact
Freshwater Impact - Erosion of the banks and sedimentation of the watercourses:	Low (-)	Low (-)	Low (-)	No Impact
Freshwater Impact – Changes to Surface Water Quality	Low (-)	Low (-)	Low (-)	No Impact
Freshwater Impact – Changes to Hydrological regime	Medium (-)	Low (-)	Low (-)	No Impact
Heritage Impact – Loss of Heritage Resources	Low (-)	Low (-)	Low (-)	No Impact

CONSTRUCTION PHASE IMPACTS				
IMPACT	IMPACT SIGNIFICANCE (after mitigation)			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
Socio-Economic – Creation of business and employment opportunities	High (+)	High (+)	High (+)	High (-)
Traffic & Safety Impact	Low (-)	Low (-)	Low (-)	No Impact
Visual Impact Associated with Construction Activities	Low (-)	Low(-)	Low (-)	No Impact

10.1.2. Operation Phase Impacts Post Mitigation

The table below is a summary of the projected impacts that could take place during the operational phase of the development and the associated significance of the impact, post mitigation.

The following conclusions can be drawn from the impact assessment findings as shown in the impact tables above for the operational phase:

- The proposed development Layout (Alternative A) is expected to result in negative environmental impacts, during the operational phase, to the biological environment (freshwater, terrestrial systems and SCCs), visual "sense of place" of the area, an increase in traffic as opposed to the Alternative B which will see to the adoption of the sensitive areas and avoiding the sensitive receptors. Alternative C: NO-GO assumes the status quo will remain and no development will take place. However, the no-development option would result in a lost opportunity in terms of the expected employment, business and housing opportunities associated with the operational phase. A high negative socio-economic impact significance in terms of the provision of housing, schools, public facilities and public open spaces would occur if the proposed development were not constructed (NO-GO Alternative C).
- The proposed development Layout Alternatives B: Options 2 & 3 are expected to result in similar environmental impacts, during the operational phase, however, it would result in slightly lower freshwater impacts. The reason for this ranking is due to the revised alignment of the road.
- Freshwater impacts are expected to be mitigated to a Low level of impact significance.
- Botanical impacts are expected to be mitigated to a low significance.
- The Provision of housing, schools, public facilities and open spaces are expected to result in High Positive impacts after enhancement. The creation of business and employment opportunities and the broadening of the rates base would have a Medium positive impact.
- Visual impacts were identified to be significant (Med-High) but they will be mitigated to a Medium negative impact significance.
- Traffic & Safety impacts were also identified as being relatively significant but can be reduced to a Low-Medium impact significance.

Table 18: Summary Table of Projected Operation Phase Impacts AFTER MITIGATION

OPERATION PHASE IMPACTS				
IMPACT	IMPACT SIGNIFICANCE (after mitigation)			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
Terrestrial Biodiversity Impact - Permanent loss of vegetation cover and plant SCCs	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact – Alien Invasive Infestation	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact - Susceptibility of some areas to erosion as a result of construction related disturbance:	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact – Impact on Faunal Species and habitats	Low (-)	Low (-)	Low (-)	No Impact
Terrestrial Biodiversity Impact – Impact on Ecological and Aquatic Processes	Low (-)	Low (-)	Low (-)	No Impact
Freshwater Resources Impact – Impact of flow regime modification	Medium (-)	Low (-)	Low (-)	No Impact
Freshwater Resources Impact – Sedimentation and Erosion	Low (-)	Low (-)	Low (-)	No Impact
Freshwater Impact – Water Pollution	Low (-)	Low (-)	Low (-)	No Impact
Faunal Impact – Loss of habitat and SCC	Very High (-)	Low (-)	Low (-)	Very Low (-)
Socio-Economic Impact - Provision of affordable housing	High (+)	High (+)	High (+)	High (-)
Socio-Economic Impact - Provision of schools, public facilities and public spaces	High (+)	High (+)	High (+)	High (-)
Socio-Economic Impact - Employment and business	Medium (+)	Medium (+)	Medium (+)	Medium (-)
Socio-Economic Impact - Broaden the rates base	Medium (+)	Medium (+)	Medium (+)	Medium (-)
Traffic & Safety Impact	Low – Medium (-)	Low – Medium (-)	Low – Medium (-)	No Impact

OPERATION PHASE IMPACTS				
IMPACT	IMPACT SIGNIFICANCE (after mitigation)			
	Alternative A	Alternative B: Option 1	Alternative B: Option 2 (Preferred)	NO-GO Alternative (Alternative C)
Visual Impact – Change of land use and "sense of place"	Medium (-)	Medium (-)	Medium (-)	No Impact

10.2. Concluding Environmental Statement

- The proposed site is the best situated site for establishing an integrated town. **The proposed property to be developed is located entirely with the Bitou Urban Edge and has been specifically set aside and planned for to be a future extension of the existing Kranshoek residential area in various Municipal Planning Frameworks, including the SDF and IDP.** The current housing backlog at Kranshoek is 1 207 unit. The SDF goes on to state that there are more than 8000 households in need of housing in the whole Bitou area, of which 17% is in Kranshoek. This proposed development of approximately 855 units (including amenities) will make a major contribution towards meeting this need.
- The "No Go" alternative is the option of not developing the proposed affordable housing and associated infrastructure development. The no-development option would result in a lost opportunity in terms of the employment opportunities associated with the construction and operation phase as well as the benefits associated with the provision of more than 865 houses, schools and other much needed social facilities. **A high negative socio-economic impact significance would occur if the proposed development were not constructed in terms of the lost opportunity to provide low and middle income housing, crechés, public spaces and other much needed social services.**
- The NO-GO alternative would result in the nature of the site being left as is and prevention of any further development (status quo). Should the site not be developed, one can expect that the impact of informal development and use of the open area within the site will continue. Thus, while this No-Go alternative has the least potential of directly impacting on the ecological features, one can pragmatically expect that informal development and its associated impact on the surrounding area will impact on these ecosystems, further deteriorating the water quality and modifying/reducing aquatic and terrestrial habitat.
- The proposed development is compatible with and supports the key principles and objectives contained in the relevant key land use planning and policy documents that pertain to the Western Cape and Bitou area, including the Western Cape Provincial Spatial Development Framework (2014), Bitou Local Municipality Integrated Development Plan 2022-2027 and the Bitou Local Municipality Spatial Development Framework (2021). The entire proposed development is also located within the Urban Edge. The proposed site has therefore been identified as a desirable site location for housing development.
- The most significant impacts associated with the proposed development, in the construction and operation phase, includes the expected impacts to the Freshwater Resources (habitat and biota) especially with regards to Options 1 & 2, Botanical Impacts (loss indigenous vegetation and potential loss of species of conservation concern) and the expected Visual Impact of the development in terms of the land use character of the site and "sense of place" of the area being changed. Traffic and safety impacts are also noteworthy.
- The proposed layout alternatives identified for the development (Alternative A) are both associated with freshwater impacts of a notable significance. The Freshwater specialist has recommended a 42 m buffer zone around the wetland located within Portion 8 of the Farm Krans Hoek 432 (Alternative B: Options 2 & 3), and has identified the need for a Wetland Offset should the Alternative A layout be proposed for construction.
- It must be noted that revised Specialist Impact Assessments in terms of Botanical and Ecological Assessments that take the alternative layout (Alternative B: Option 2) into account are still required to take place.
- The socio-economic benefits of this project including numerous job opportunities, the provision of affordable housing, schools and other much needed social facilities largely

outweigh the biophysical, visual and traffic impacts identified in an area which is mostly degraded and already transformed and planned for development purposes in the Municipal SDF (within the urban edge and a Strategic Development Area).

- **A detailed Implementation Plan is to be developed during the Environmental Impact Assessment Phase once confirmation of the services requirements has been ascertained. This Implementation Plan will also be highlighted in the Environmental Management Programme (EMPr).**
- The EAP believes that a "balanced approach" to impacts has been undertaken, and that although the proposed project will result in varying degrees of negative impacts in terms of visual, botanical and especially freshwater impacts, the EAP is of the opinion that the Preferred Alternative layout (Alternative B: Option 3) and mitigation measures proposed will ensure that these impacts are reduced to an "acceptable" level of impact significance given the positive impact that this proposed development will have on the socio-economic environment.
- It is proposed to undertake the following Specialist Impact Assessment Studies during the EIA Phase:
    - A Terrestrial Biodiversity and Plant Species Impact Assessment that must include a comparative assessment of the three options for the proposed development layout.
    - An Animal Species Impact Assessment that must include a comparative assessment of the three options for the proposed development layout.
    - An Aquatic Biodiversity Impact Assessment that must include a comparative assessment of the three options for the proposed development layout.
    - An Engineering Services Report further describing Stormwater Management on site, placement of proposed services, confirmation of services capacity (water, wastewater, stormwater, electricity, waste etc) and resource conservation measures.
    - An Agricultural Compliance Statement from an agricultural perspective will be undertaken for the proposed development.