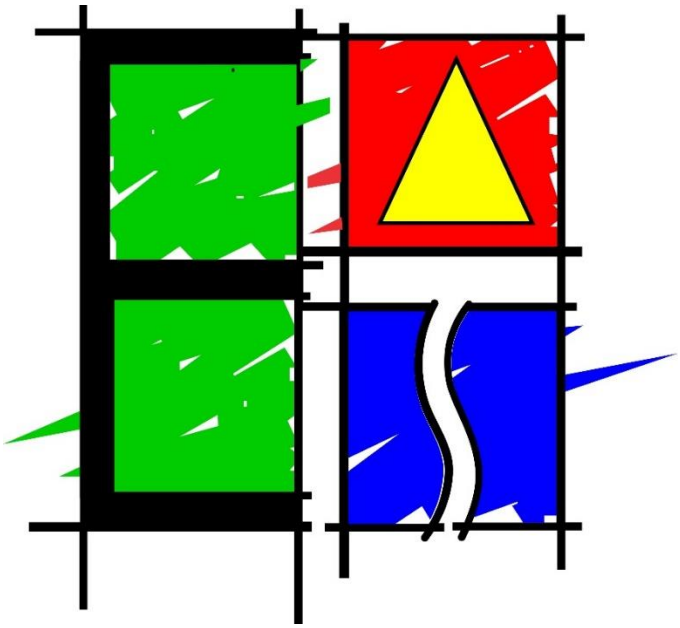
APPLICATION FOR ENVIRONMENTAL AUTHORISATION

DRAFT BASIC ASSESSMENT REPORT

PROPOSED RESIDENTIAL DEVELOPMENT OF ERF 325, THEESCOMBE, GQEBERHA, EASTERN CAPE



Report Prepared by:

Engineering Advice & Services (Pty) Ltd

Report Prepared for:

C.G.S Properties Trust

DEDEAT Ref: **ECm1/C/LN1&3/M/35-2025**

July 2025

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

BASIC ASSESSMENT REPORT

(For official use only)

File Reference Number:	
NEAS Number:	
Date Received:	

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

Kindly note that:

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

9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
11. The Environmental Assessment Practitioner (EAP) must be registered in terms of S24H Regulations with the Registration Authority EAPASA as from 8 August 2022.

11.1 S24H (14) states that "only a person registered as an Environmental Assessment practitioner may perform tasks in connection with an application for an environmental authorisation contemplated in

a) Chapter 5 of the Act read with the Environmental impact Assessment Regulations.
b) Section 24G of the Act
c) Chapter 5 of the National Environmental Management Waste Act 2008 (Act No 59 of 2008) read with the Environmental Impact Assessment Regulations

11.2. Tasks in regulation 14 may only be conducted by an EAP that is registered

11.4. Regulations 20 of S24H indicates the offences and penalties as indicated below:

"20. Offences and penalties

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

"A person convicted of an offence in terms of section 49A(1)(h), (l), (m), (n), (o) or (p) is liable to a fine or to imprisonment for a period not exceeding one year, or to both a fine and such imprisonment.".

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ABBREVIATIONS

ASAPA	Association of South African Professional Archaeologists
BP	Borrow Pit
CARA	Conservation of Agricultural Resources Act 43 of 1983
CBA	Critical Biodiversity Area
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs (National)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DEMC	Desired Ecological Management Class
DMR	Department of Mineral Resources

DWAF	Department of Water Affairs and Forestry (former department name)
DWAS	Department of Water Affairs and Sanitation
EA	Environmental Authorisation
EAS	Engineering Advice and Services
ECO	Environmental Control Officer
ECDOT	Eastern Cape Department of Transport
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EIS	Ecological Importance and Sensitivity
ELO	Environmental Liaison Officer
EMC	Ecological Management Class
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
ER	Environmental Representative
ESS	Ecosystem Services
IAP's	Interested and Affected Parties
IEM	Integrated Environmental Management
LHS	Left Hand Side
LM	Local Municipality
LoM	Life of Mine
masl	meters above sea level
MIA	Mining Infrastructure Area
MPRDA	Mineral and Petroleum Resources Development Act 28 of 2002
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act 107 of 1998
NEMBA	National Environmental Management: Biodiversity Act 10 of 2004
NFA	National Forest Act 84 of 1998
NOMR	New Order Mining Right
PEMC	Present Ecological Management Class
PES	Present Ecological State
RDL	Red Data List
RHS	Right Hand Side
RoD	Record of Decision
RoM	Run of Mine
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biodiversity Institute

SARTM	South African Rural Traffic Model
SDF	Spatial Development Framework
SoER	State of the Environment Report
SSC	Species of Special Concern
TOPS	Threatened of Protected Species
ToR	Terms of Reference
+ve	Positive
-ve	Negative

GLOSSARY

TERMS	DEFINITION
Corridors:	Have important functions as strips of a particular type of landscape, differing from adjacent land on both sides. Habitat, ecosystems or undeveloped areas that physically connect habitat patches. Smaller, intervening patches of surviving habitat can also serve as "stepping stones" that link fragmented ecosystems by ensuring that certain ecological processes are maintained within and between groups of habitat fragments.
Degraded habitat/land:	Land that has been impacted upon by human activities (including introduction of invasive alien plants, light to moderate overgrazing, accelerated soil erosion, dumping of waste), but still retains a degree of its original structure and species composition (although some species loss would have occurred) and where ecological processes still occur (albeit in an altered way). Degraded land is capable of being restored to a near-natural state with appropriate ecological management.
ECO/ESO:	Environmental Control/Site Officer – person responsible for the Day-to-Day Environmental Management on-site during construction.
Ecological Processes:	Ecological processes typically only function well where natural vegetation remains, and in particular where the remaining vegetation is well-connected with other nearby patches of natural vegetation. Loss and fragmentation of natural habitat severely threaten the integrity of ecological processes. Where basic processes are intact, ecosystems are likely to recover more easily from disturbances or inappropriate actions if the actions themselves are not permanent. Conversely, the more interference there has been with basic processes, the greater the severity (and longevity) of effects. Natural processes are complex and interdependent, and it is not possible to predict all the consequences of loss of biodiversity or ecosystem integrity. When a region's natural or historic level of diversity and integrity is maintained, higher levels of system productivity are supported in the long run and the overall effects of disturbances may be dampened.
Ecosystem status:	Ecosystem status of terrestrial ecosystems is based on the degree of habitat loss that has occurred in each ecosystem, relative to two thresholds: one for maintaining healthy ecosystem functioning, and one for conserving the majority of species associated with the ecosystem. As natural habitat is lost in an ecosystem, its functioning is increasingly compromised, leading eventually to the collapse of the ecosystem and to loss of species associated with that ecosystem.
Ecosystem:	All of the organisms of a particular habitat, such as a lake or forest, together with the physical environment in which they live.
Endangered:	Endangered terrestrial ecosystems have lost significant amounts (more than **60 %** lost) of their original natural habitat, so their functioning is compromised.

TERMS	DEFINITION
Endemic:	A plant or animal species, or a vegetation type, which is naturally restricted to a particular defined region. It is often confused with indigenous, which means 'native, occurring naturally in a defined area'.
Environment:	The external circumstances, conditions, and objects that affect the existence and development of an individual, organism, or group. These circumstances include biophysical, social, economic, historical, and cultural aspects.
Environmental Impact Assessment (EIA):	A study of the environmental consequences of a proposed course of action.
Exotic:	Non-indigenous; introduced from elsewhere, may also be a *weed* or an alien *invasive* species. Exotic species may be invasive or non-invasive.
Fragmentation (habitat):	Causes land transformation, an important current process in landscapes, as more and more development occurs.
Habitat:	The home of a plant or animal species. Generally, those features of an area inhabited by animals or plants that are essential to its survival.
Indigenous:	Native; occurring naturally in a defined area.
Indigenous Vegetation:	Refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation, and where the topsoil has not been lawfully disturbed during the preceding ten years.
Least threatened terrestrial ecosystems:	These ecosystems have lost only a small proportion (more than 80 % remains) of their original natural habitat, and are largely intact (although they may be degraded to varying degrees, for example by invasive alien species, overgrazing, or overharvesting from the wild).
Method statement (construction):	A method statement is prepared for each task on a particular site by the contractor; the group of work method statements are then packaged and included in the overall *Construction Plan.*
Off-sets:	Compensation for biodiversity loss resulting from authorized changes in land use. Can include assigning stewardship or protected area status to remaining conservation-worthy land or making a financial bequest for purposes of biodiversity conservation.
Riparian:	Pertaining to, situated on, or associated with a river bank.
River corridors:	River corridors perform a number of ecological functions, such as modulating stream flow, storing water, removing harmful materials from water, and providing habitat for aquatic and terrestrial plants and animals. These corridors also have vegetation and soil characteristics distinctly different from surrounding uplands and support higher levels of species diversity, species densities, and rates of biological productivity than most other landscape elements. Rivers provide for migration and exchange between inland and coastal biotas.

TERMS	DEFINITION
Scoping:	A procedure to consult with stakeholders to determine issues and concerns and for determining the extent of and approach to the EIS, used to focus the EIA.
Scoping Report	A written report describing the issues identified to date for inclusion in an EIA.
Transformation:	In ecology, transformation refers to adverse changes to biodiversity, typically habitats or ecosystems, through processes such as cultivation, forestry, drainage of wetlands, urban development, or invasion by alien plants or animals. Transformation results in habitat fragmentation – the breaking up of a continuous habitat, ecosystem, or land-use type into smaller fragments.
Transformed Habitat/Land:	Land that has been significantly impacted upon by human activities (such as cultivation, urban development, mining, landscaping, severe overgrazing), and where the original structure, species composition, and functioning of ecological processes have been irreversibly altered. Transformed habitats are not capable of being restored to their original states.
Tributary/ Drainage line:	A small stream or river flowing into a larger one.
Untransformed habitat/land:	Land that has not been significantly impacted upon as a result of human interferences/disturbances. These are ecosystems that are in a near-pristine condition in terms of structure, species composition, and functioning of ecological processes.
Vulnerable:	Vulnerable terrestrial ecosystems have lost some (more than 60 % remains) of their original natural habitat, and their functioning will be compromised if they continue to lose natural habitat.
Weed:	An indigenous or non-indigenous plant that grows and reproduces aggressively, usually a ruderal pioneer of disturbed areas. Weeds may be unwanted because they are unsightly, or they limit the growth of other plants by blocking light or using up nutrients from the soil. They can also harbor and spread plant pathogens.
Wetlands:	A collective term used to describe lands that are sometimes or always covered by shallow water or have saturated soils, and where plants adapted for life in wet conditions usually grow.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	**YES**	NO
If YES, please complete form XX for each specialist thus appointed:		

Any specialist reports must be contained in Appendix D.

1 Activity Description

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

1.1 Introduction

Engineering Advice and Services (EAS) has been appointed by the applicant, CGS Properties Trust, to undertake a Basic Assessment application for the residential development of Erf 325, Theescombe, located within Ward 1, Gqeberha, Nelson Mandela Bay Municipality, Eastern Cape (Figure 1). The geographic coordinates of the central point of the site are 34° 0'19.68"S, 25°32'22.43"E. The proposed Erf 325 Theescombe measures approximately 17,438 Ha in extent; however, approximately 11,28 Ha will be used for the development, leaving 6,15 Ha as natural no-go areas. In accordance with previous Town Planning Layouts, Erf 325 Theescombe currently has multiple zonings: Residential 1, Residential 2, Public Open Space, and Transportation 1 (refer to **Appendix G3** and **G4**). The developer intends to rezone the proposed property under General Residential 2 Zoning.

The development is situated on undeveloped land with Pari Park residential suburb to the east of the site, and Mount Pleasant and Providentia north of the site. The land use next to the entrance of the site is a public place. The land use on the east and north of the site is residential. The site is currently vacant and largely undeveloped. The majority of the vegetation on site can be considered to be intact or lightly degraded. Vegetation cover of half of the site comprises Sardinia Forest Thicket, while the other half is covered by Algoa Sandstone Fynbos. There are no structures on the site, and disturbance is limited to vehicle track paths and footpaths, with some dumping observed. Surrounding land uses include residential, vacant land, public places, roads, and infrastructure.

The proposed development comprises 331 residential units with additional provisions for a gatehouse and a community centre (refer to **Error! Reference source not found.**). The total development area is 11,28 Ha, which will constitute the unit area, gatehouse, community centre, and internal roads. The development site will constitute seven small villages (Village A—Village G), each consisting of between 12 and 69 units. A total of 4965,5 parking bays will be needed. The development will have internal roads leading from the access routes onto the site. Access to the subject site will be from Blumberg Road, opposite Merle Road and Chopin Road.

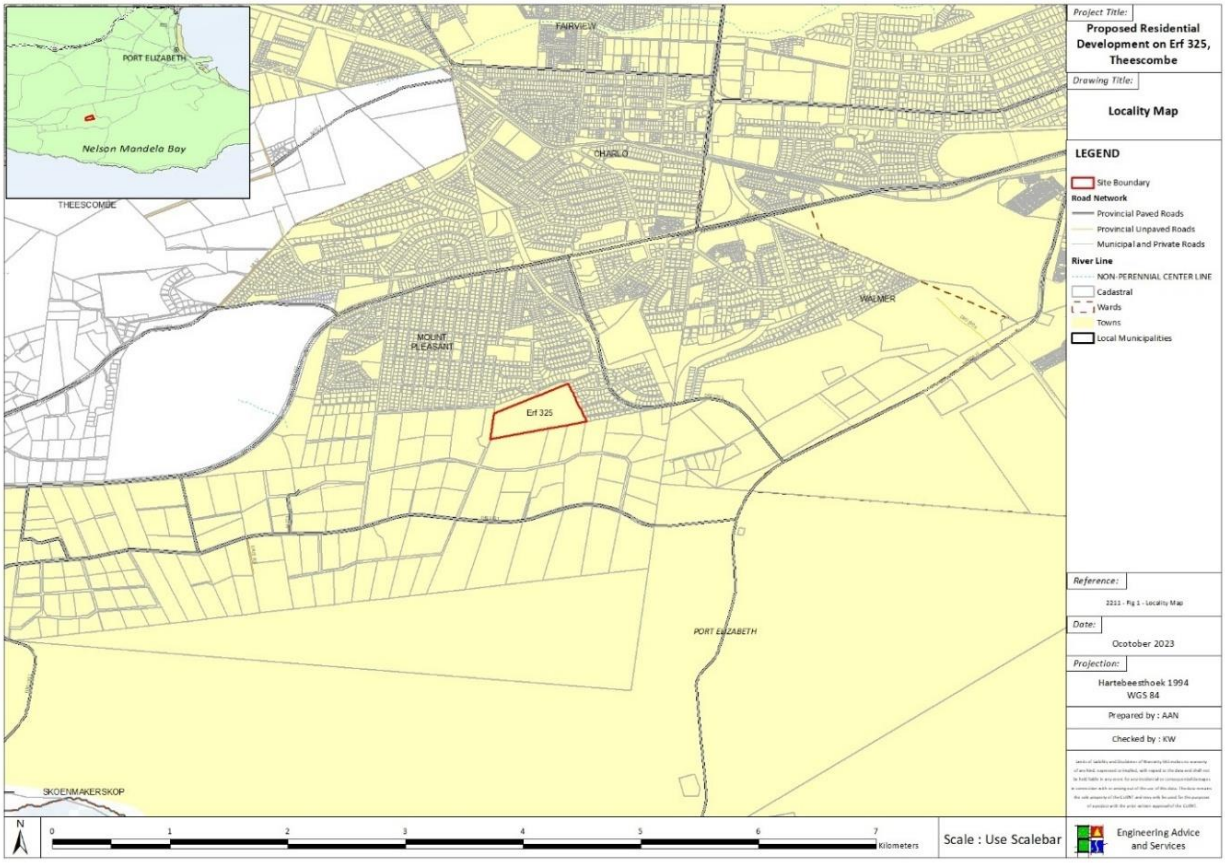

Figure 1. Locality of Erf 325, Theescombe

1.2 Proposed Activities

The proposed development comprises 331 residential units with additional provisions for a gatehouse and a community centre. The total area of the site is approximately 17.43 Ha; however, approximately 11,28 Ha will be used for the development, leaving 6,15 Ha as natural no-go areas. A total of 4965,5 parking bays will be needed. Inside the site will be seven small villages (Village A – Village G), each consisting of between 12 to 69 units (**Figure 2**). The development will have internal roads leading into the access road on the site via Blumberg Road and Chopin Road.

The proposed development will entail the following activities on the site:

- Construction activity related to access to the site via Blumberg Road and Chopin Road;
- Levelling and landscaping the site for roads, units, and on-site parking;
- Construction of internal roads to provide access to buildings and on-site parking areas, walkways, and pathways;
- Foundation work for residential units, gatehouse, and community centre;
- 32 double-storey housing units (Village A and G) = 4800 m^2;
- 174 single-storey housing units (Village B, E, and F) = 17035 m^2;
- 72 walk-up housing units (Village C) = 3960 m^2;
- 69 retirement housing units (Village D) = 3450 m^2;

- Open space for all housing units = 6896 m^2;
- Gatehouse = 60 m^2;
- Community Centre = 250 m^2;
- Parking bays = 5382m2;
- Community open space = 6364 m^2;
- Boundary / security wall = 1900 m;
- Connections to existing municipal services;
- The installation of utilities such as:
    - Water Supply,
    - Sewage,
    - Electrical, and
    - Communication Lines,
- Putting proper drainage systems and;
- Landscaping of the site to provide private open space between the buildings

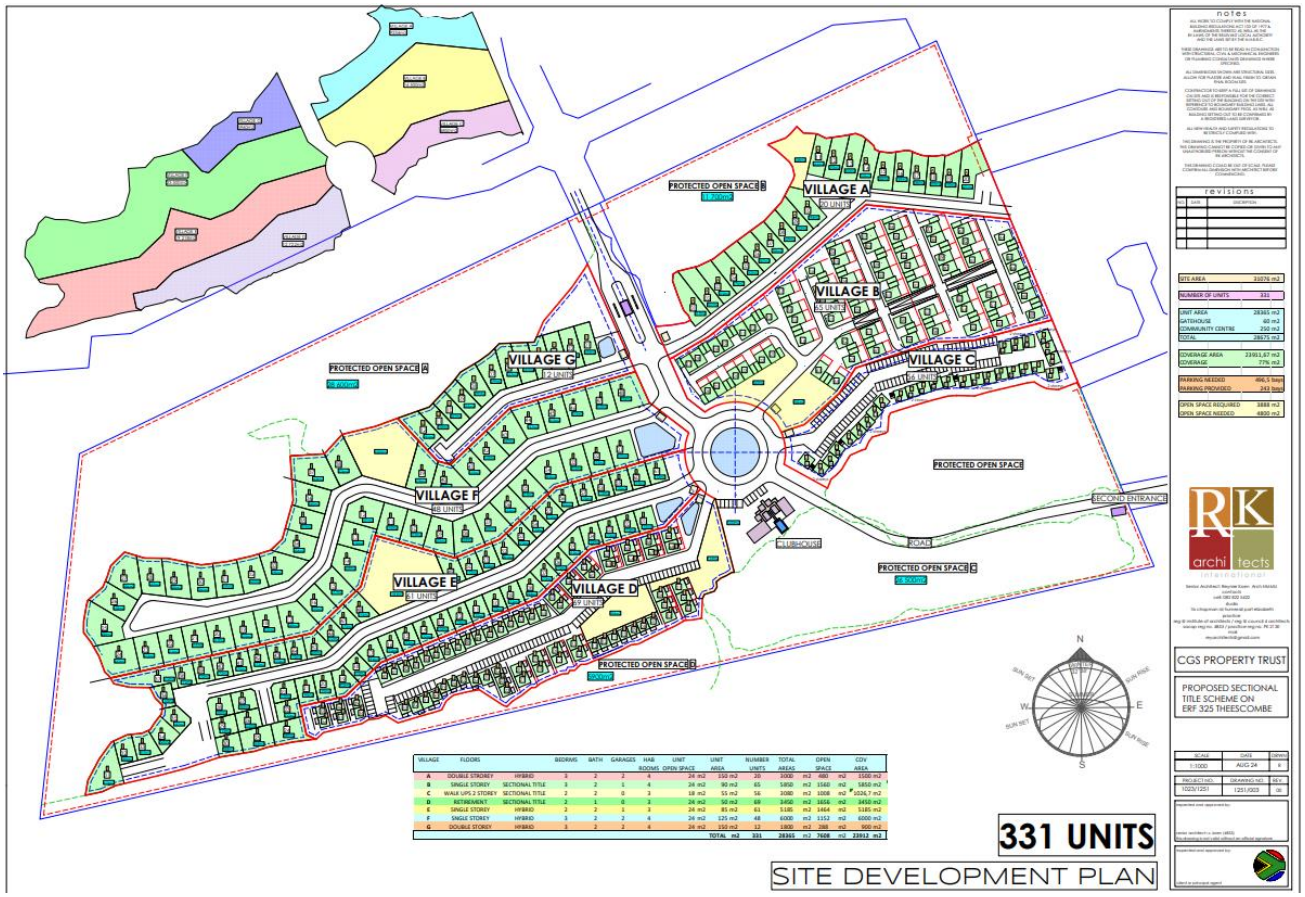

Figure 2. Site development plan for *the proposed residential development of Erf 325, Theescombe*

1.3 Receiving Environment

1.3.1 Protected Areas

The site falls within the 5km buffer of the Sardinia Bay Nature Reserve, which is a formally protected area. However, no National Parks or World Heritage Sites are within 10 km of the site. The proposed site falls outside of any National Protected Area Expansion Strategy (NPAES) or Eastern Cape Protected Area Expansion Strategy (ECPAES) focus areas.

1.3.2 Critical Biodiversity Areas

The proposed site falls within ECBCP (2007) CBA 2. Additionally, a portion of the site falls in an area defined as a Critical Biodiversity Area (CBA) and Ecosystem Support Area (ESA) 1 in terms of the Nelson Mandela Bay Municipality (NMBM) Bioregional Plan (2015).

Approximately 87,01% of the CBA area within the site will be retained as Natural no-go areas, with some (12,99%) being lost to the 6m wide security fence servitude and the development (Village F). Approximately 54,41% of the ESA within the site will be retained as Natural no-go areas, while 45,59% will be lost to the development and fence servitude. Refer to **Figure 3** and **Table 1** to better understand where and how much CBA will be affected by the proposed development.

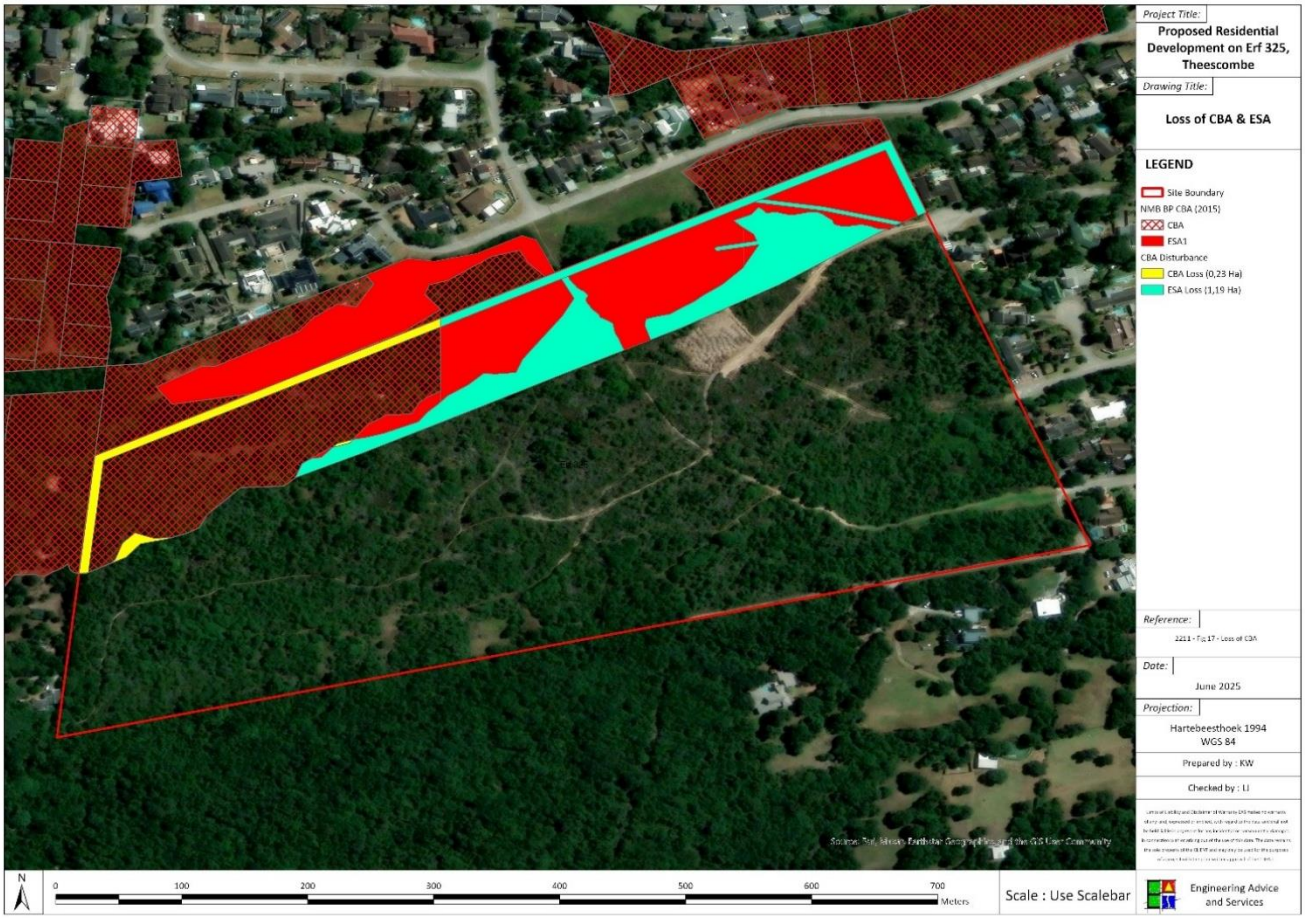

Figure 3. Estimation of the amount of CBA &ESA that will be lost

Table 1. NMBM Bioregional Plan CBA (2015) within Erf 325

Critical Biodiversity	Area (Ha)	Approx. Area loss (Ha)	Approx. Area Conserved (%)	Approx. Area loss (%)
Critical Biodiversity Areas (CBA)	1,77	0,23	87,01%	12,99%
Ecological Support Areas (ESA)	2,61	1,19	54,41%	45,59%

1.3.3 Geology & Topography

The levels on the site vary approximately between 134m and 137m above Mean Sea Level (MSL) near the western and eastern boundaries and 126m MSL near the south-eastern corner of the site. The area mainly consists of younger and older sand dunes or fills. The surface area is mainly covered with thin, silty, sand topsoil with isolated pockets of dune fynbos, grass, and predominantly Port Jackson and Rooikrans trees. The site has a natural resultant undulating topography. However, a sand quarrying operation, backfilling, and rehabilitation have resulted in a slightly flatter topography of approximately 65% of the site. The site is underlain by paelo-sand dune deposits of the Nanaga Formation. This formation consists of partially dune sand, becoming calcarenite (dune rock) in places, with calcrete in low-lying areas. The typical soil types encountered at the site can be described as fill, topsoil, Aeolium (older deposit), and aeolium (younger deposit).

The region is characterised by undulating dunes that have become stable/vegetated over time and range between 140 to 125 mASL (m Above Sea Level).

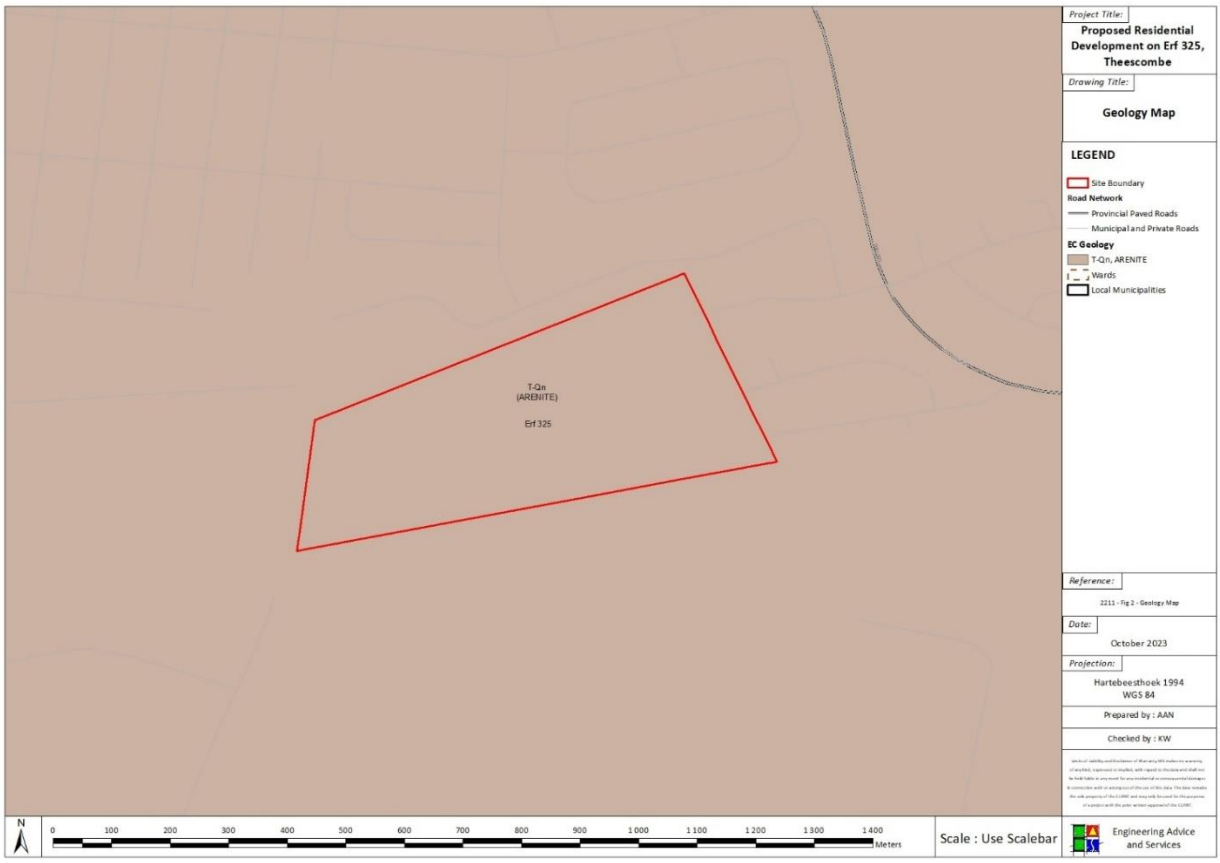

Figure 4. Geological map of the proposed site

1.3.4 Terrestrial Environment

*Information extracted from Biodiversity Specialist Report (Colloty, 2024) *

The study area spans two vegetation types defined by Mucina and Rutherford (2007), as amended in the National Vegetation Map 2012 and 2017/18 spatial information (**Figure 5**). This vegetation unit, known as Algoa Sandstone Fynbos (FFs 29), a form of Algoa Grassy Fynbos, is listed as Critically Endangered and is therefore considered a Threatened Ecosystem, as per the National Environmental Management: Biodiversity Act.

Typically, the species associated with Algoa Sandstone Fynbos are dominated by a variety of grasses, Ericas, and Proteas, and are found only within a narrow coastal belt between the Van Stadens River in the west and Summerstrand in the east, within NMBM. However, disturbance had taken place within the site in the past, which is shown by the high number of invasive plant species (**Figure 7**), illegal waste / building rubble disposal (**Figure 8**), and the presence of old building foundations or concrete slabs. None of the dominant Protea or Erica species were observed; typical of Algoa Sandstone Fynbos.

The species observed are, however, more related to dune pioneer and early successional state species, such as *Passerina rigida, Osteospermum moniliferum, Metalasia muricata, Elegia macrocarpa, Phylica littoralis, Setaria sphacelate torta, Imperata cylindrica,* and *Helichrysum aureum*. Several areas of invasive grass species in areas that were mapped incorrectly as wetlands in the National Spatial databases were also observed, and these included areas of *Stenotaphrum secundatum* (Buffalo grass) and *Cenchrus clandestinus* (Kikuyu).

Thus, in summary, no evidence of this Fynbos vegetation unit remains, and the site is either transformed due to the activities mentioned above or due to past clearing of the site based on previous development approvals that then lapsed. The site is mostly covered by the dune and or alien vegetation above, and the second habitat/vegetation unit identified within the site, namely, Sardinia Forest Thicket (**Figure 5** and **Figure 6**). This vegetation unit was previously considered Algoa Dune Strandveld and or Southern Coastal Forest, but recent work by Grobler *et al*. (2018) has seen the revision of the vegetation unit, and has it aligned with the NMBM Vegetation Map (**Figure 6**).

Sardinia Forest Thicket only occurs in a narrow coastal band no more than 5km from the coastline, between Seaview and Walmer Heights, within the NMBM. This unit thus dominates the undulating dunes, which are wind and fire-protected, and contain dense thickets of trees between 3 – 5m in height. In mature/undisturbed forest thicket patches, found mostly south of the proposed site, species observed included the following: *Azima tetracantha, Olea exasperata, Euclea racemosa, Searsia glauca, Searsia crenata, Carissa bispinosa, Cassine peragua, Cussonia thyrsiflora, Grewia occidentalis, Gymnosporia buxifolia, Gymnosporia capitata, Maytenus procumbens, Mystroxylon aethiopicum, Robsonodendron maritimum (e), Putterlickia pyracantha, Searsia pterota, Roepera morgsana*.

Species observed within the development site included the following, which included several dune forest pioneer species, which are expected near previously disturbed areas.

The full list of species observed or potentially occurring within the site can be seen in the Biodiversity Assessment Report.

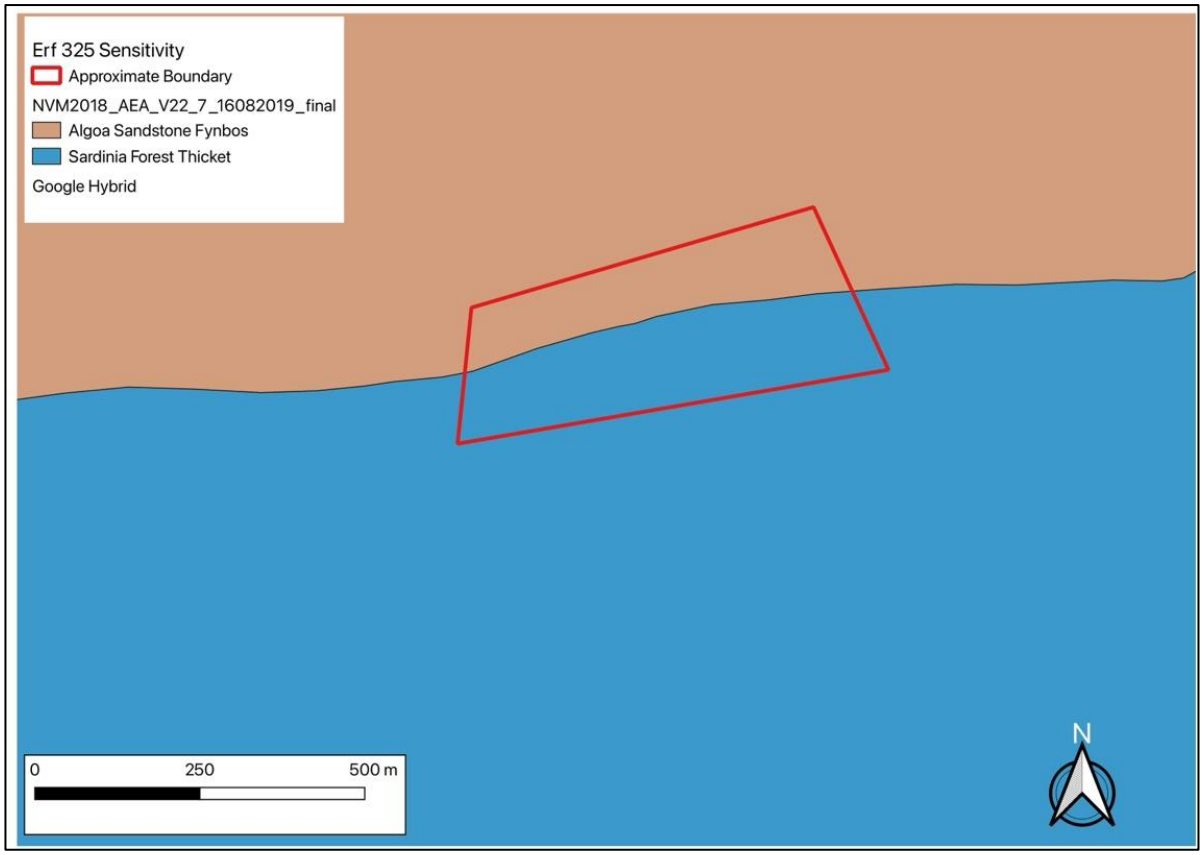

Figure 5. Vegetation South Africa VegMap as per Mucina & Rutherford (2007), revised 2024

Figure 6. NMBM Vegetation map (SRK, 2014)

Figure 7. A view of the central-western portion (left), and central-eastern (right) portion of the site dominated by invader / encroaching grass and alien species (Australian gums, Acacias, and Opuntia)

Figure 8. A regular garden waste disposal area

Erf 325, Theescombe measures approximately 17,438 Ha in extent; however, approximately 11,28 Ha will be developed, leaving 6,15 Ha as natural no-go areas. The breakdown of vegetation loss is represented in the tables below. Two vegetation units are found within the site, namely, Algoa Sandstone Fynbos (Critically Endangered) and Sardina Forest Thicket (Least Concern). These units measure approximately 6,88 Ha and 10,55 Ha respectively (refer to **Table 2**).

Table 2. Area of the vegetation types in Erf 325 Theescombe

Vegetation type	Area (Ha)	Approx. Area loss (Ha)	Approx. Area Conserved (%)	Approx. Area loss (%)
Algoa Sandstone Fynbos	6,88	3,98	42.2%	57.8%
Sardinia Forest Thicket	10,55	7,30	30.8%	69.2%

According to the Biodiversity Impact Assessment, several sensitive habitats were found within Erf 325, Theescombe, and the site sensitivity ranged from Low to Very High. The areas categorised as very high were deemed "no-go" areas according to the specialist. These are the intact habitats which be protected. The total size of the "no-go" areas inside the proposed site is 7,27 Ha.

For security reasons, it is proposed that a 6m servitude and fence line be cleared from the fencing into the site. This will help in patrolling the residential area and incorporate CCTV cameras around the premises. The perimeter fence and servitude will, however, have to be built within "no-go" areas. The perimeter fencing will amount to approximately 0,86 Ha loss of the "no-go" area.

Additionally, a few civil services, such as stormwater and sewer services, will traverse through the "no-go" areas. The total area loss will be approximately 0.09 Ha for stormwater services and 0.11 Ha for sewer services. This will amount to approximately 6,15 Ha of the "no-go" area, which will be left intact (refer to **Table 3**).

Table 3. No-go area loss due to services

Description	Approx Area (Ha)	Approx. Area loss (Ha)	Approx. Area loss (%)
No-go Area	7,27	0,86 (Perimeter fencing)	13.9
		0.09 (Stormwater services)	0.8
		0.11 (Sewer services)	0.7
Total No-Go Area	**6,15**		**15.4**

1.3.5 Aquatic Environment

The proposed project site is located within the upper catchment areas of the Baakens River (M20A) (**Figure 9**), but due to the nature of the portion of the catchment (coastal dunes), no direct connection with any watercourses, wetlands, or aquatic bodies is known to occur. Further, the project site is excluded from any National Freshwater Ecosystems Priority Atlas areas (NFEPA - Nel *et al.,* 2011), Strategic Water Resources Areas, and Wetland Clusters (**Figure 10**). The site is, however, considered part of an Ecological Support Area identified in the Eastern Cape Biodiversity Conservation Plan (2019) (**Figure 10**), but no Aquatic Critical Biodiversity Areas would be affected. The watercourse shown in **Figure 10** does not exist and is a contour modeling artefact.

Further, none of the potential wetlands as shown in the Wetland Inventory were observed (**Figure 9**). The remaining features near the site are man-made stormwater features such as the detention pond (**Figure 11**) and the watering hole, but none of these, although well outside the site, would trigger any water use license requirements or impacts.

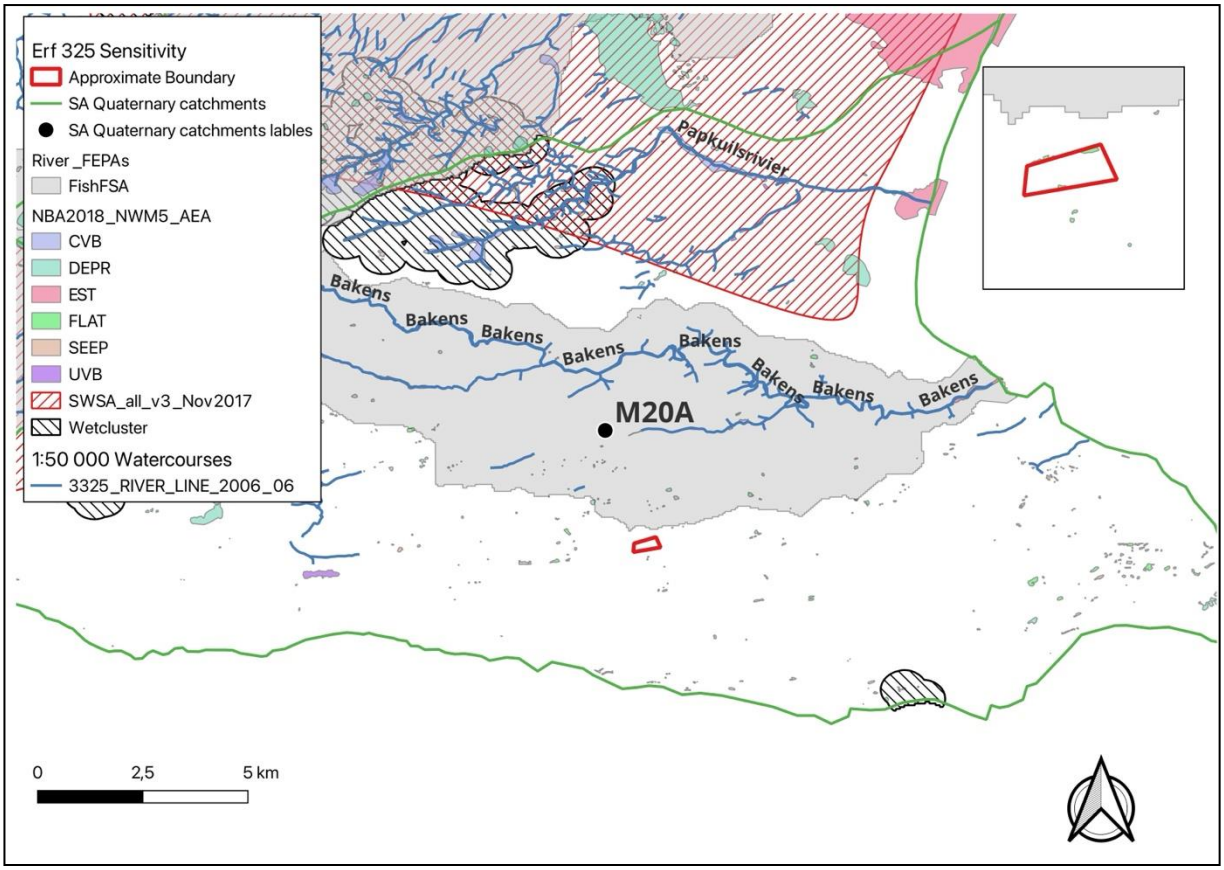

Figure 9. Watercourses and mainstem rivers known within the greater catchments as well as any known NFEPAs, SWSA and wetlands within the subquaternary catchment M20A

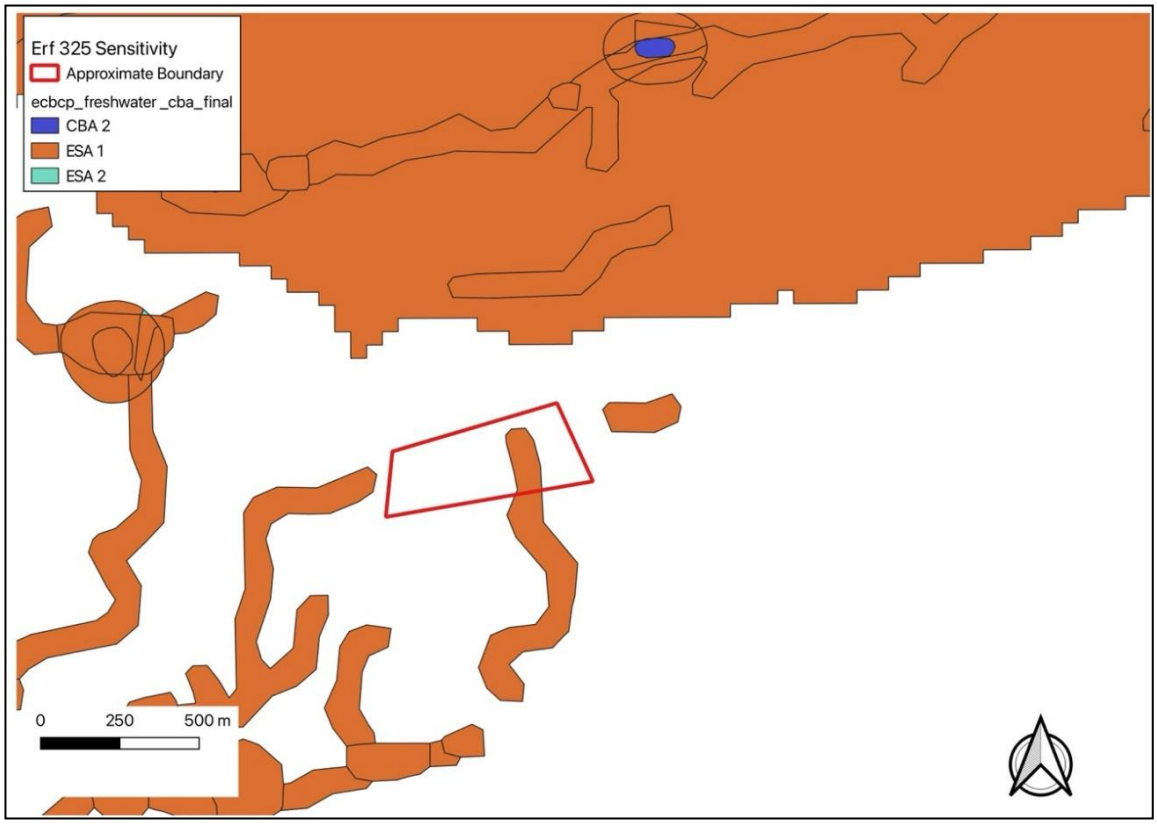

Figure 10. Results of the ECBCP 2019, for the Aquatic Environment

Figure 11. The stormwater detention pond on Blumberg Rd and north of the proposed development boundary

1.4 Civil Layouts

The preliminary layouts for the civil services proposed for the site were designed in such a way as to retain important forest habitats that were flagged by the Biodiversity Assessment specialist. These include the stormwater, sewer, water, and road services. These layouts allowed for considering the “no-go” areas, which also included a small margin around some areas that would represent the more intact dune vegetation. This then allows for a mosaic that would cater for both plant and animal species observed, allowing for the protection of these habitats (approximately 44% of the site). Further, the preliminary layouts also cater for allowing for a corridor between other local Ecological Support Areas (corridors) that surround the site. This would then support the small to medium-sized mammals that frequent the site but are also known to move throughout the Sardinia Bay Forest thickets.

Figure 12 to **Figure 14** show the different civil services and how they will affect and traverse the no-go areas. A calculation of the minimal loss of the “no-go” area as a result of these services is given in **Table 3** above.

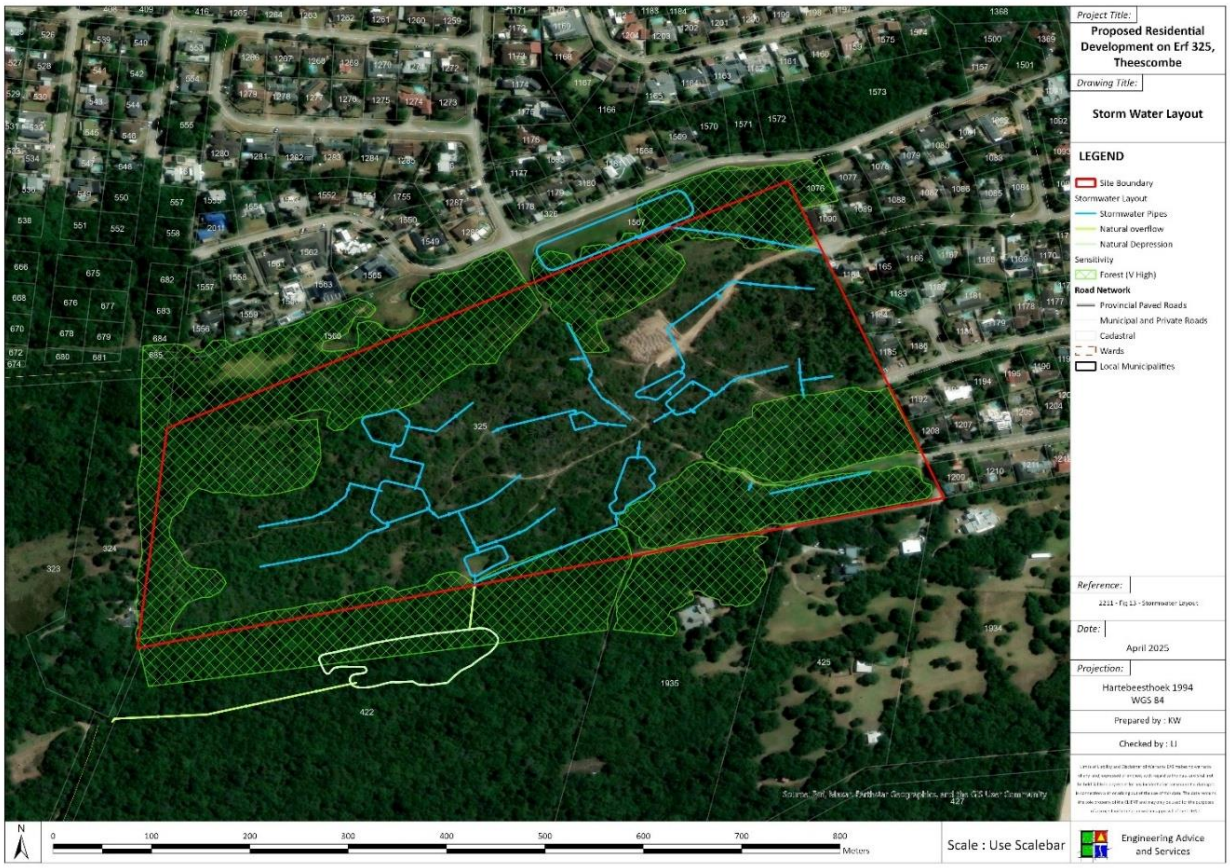

Figure 12. Stormwater layout within the no-go areas

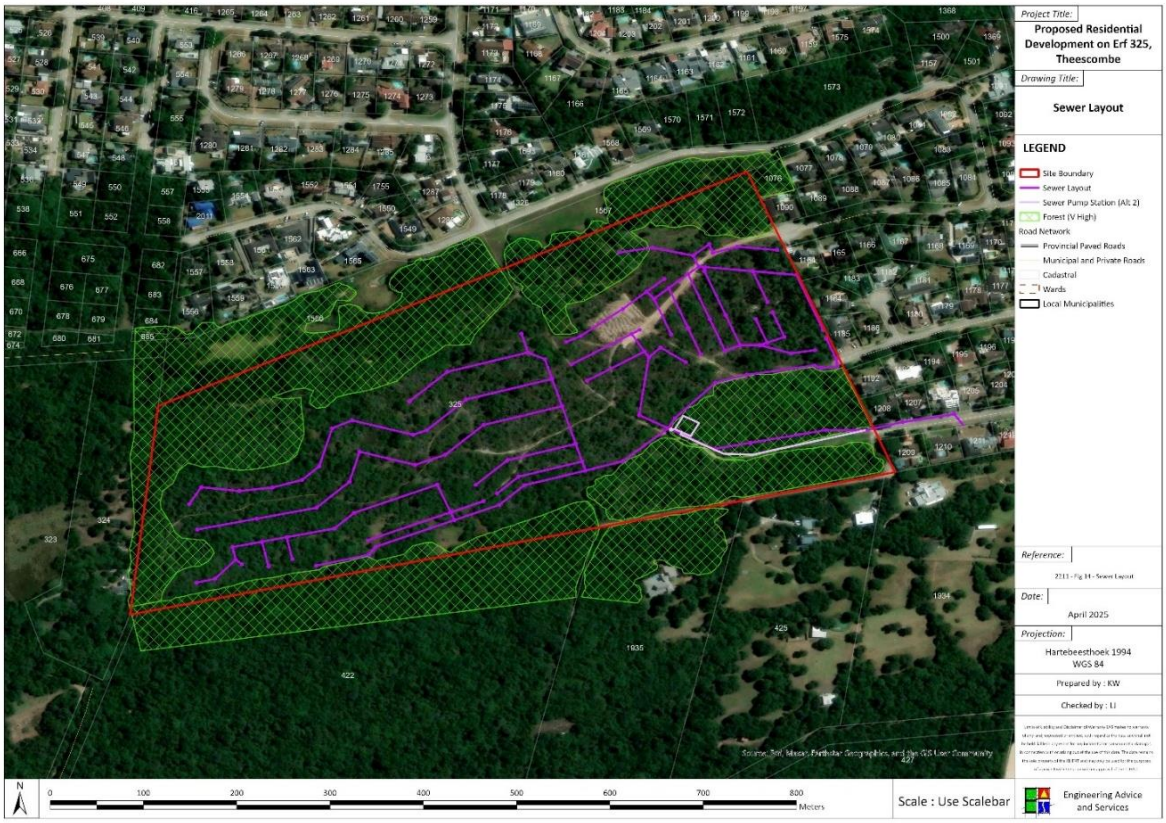

Figure 13. Sewer layout within the no-go area

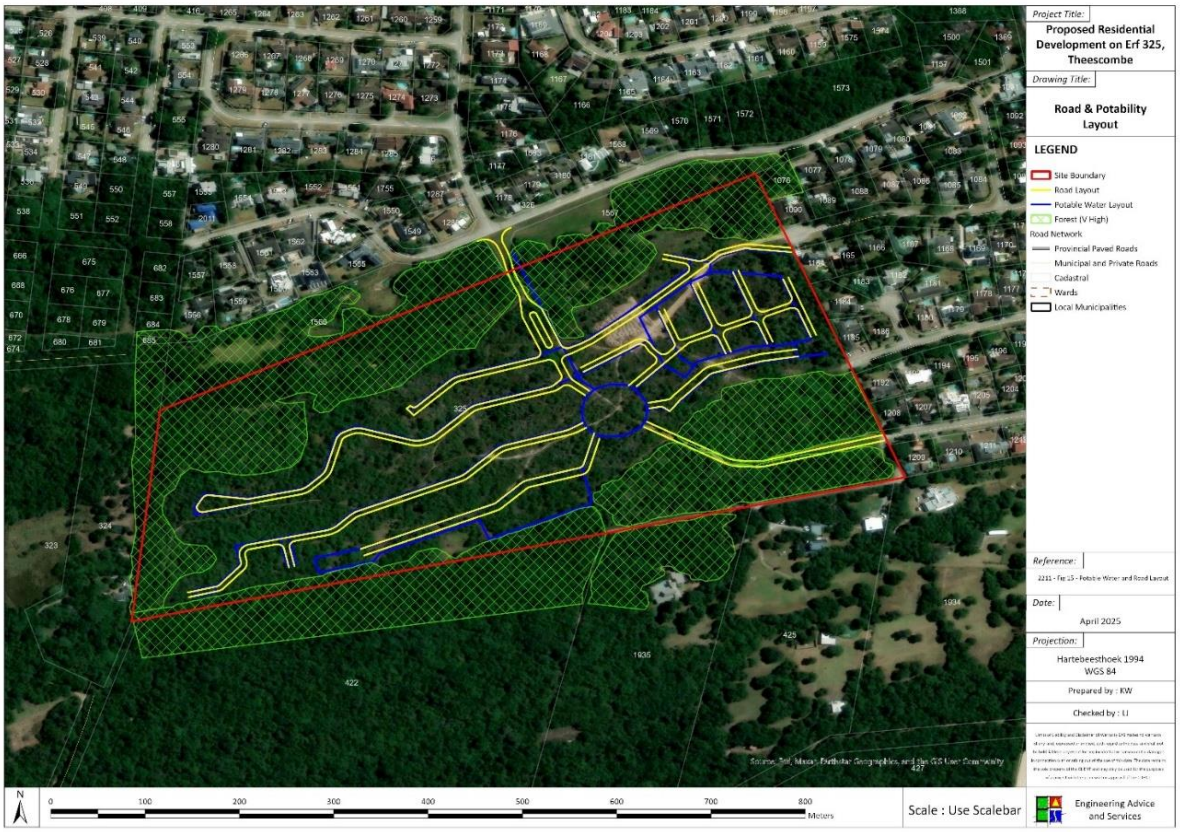

Figure 14. Potable water and road layout within the no-go area

The subheadings below are the abstracts from the preliminary investigation of bulk services provision to the site and the preliminary investigation and design of the internal roads, stormwater, sewer, and water reticulation systems intended to serve the proposed residential development.

1.4.1 Stormwater System

The minor flood discharge into the existing municipal system, as intercepted by the existing and proposed shallow dry retention ponds, shall be limited to a maximum of 1: 5-year pre-development flow. However, in an attempt to address the existing land-lock conditions at Michelangelo Avenue and near Chopin Road, and Pari Park in a responsible way, the following preliminary design proposals are recommended. Refer to **Figure 15**.

- Upgrade the existing retention Pond adjacent to Blumberg Road (surface runoff mainly from Providentia area) near the northern boundary of Erf 325, Theescombe, to retain post-development major design storm inflows up to 1 in 100-year recurrence interval instead of the normal 1 in 50-year recurrence interval for major storms.
- Design and construct the piped stormwater system, including the roads and parking on Erf 325 Theescombe to intercept and also act as stormwater channels and overland flow routes, sloping south and south-west to the stormwater attenuation/soak-away Ponds E and H. The outflow from the respective ponds will be directed south to existing natural depressions.

- Subject to the detailed design of the earthworks, roads, and stormwater system, the surface runoff intercepted from Catchment Area A and Catchment Area B shall drain to the interconnected Ponds A and Pond B, respectively. The runoff from Catchment Area C will drain to Pond C, and the surface run-off intercepted from Catchment Area D shall drain to Pond D.
- The interconnected soak-away/retention Ponds A, B, and D shall be designed to retain post-development major design storm inflows up to a 1 in 100-year recurrence interval while limiting the outflow to Pond C to equal or less than the 1 in 5-year predevelopment flow parameters. Soakaway/retention Pond E will receive the 1 in a 5-year pre-development outflow from Pond C and surface runoff inflows up to the 1:100-year recurrence interval from Catchment Area E. Soak-away Pond E will be designed to retain post-development major design storm inflows up to 1 in 100-year recurrence interval while limiting the piped outflow to the 1 in 5-year pre-development flow volumes with a maximum 450mm diameter outlet linking the proposed piped outflow from Pond E with the piped outflow from Pond H towards the existing natural depression area south of the development.
- Based on our preliminary calculations, Ponds A, B, C, D, and E shall have an effective storage capacity of 588 m^3, 371 m^3, 180 m^3, 28 m^3, and 371 m^3, respectively.
- Subject to the detailed design of the earthworks, roads, and stormwater system, the surface runoff intercepted from Catchment Area F shall drain to soakaway/detention Pond F. Pond G will receive the controlled 1 in 5-year or less outflow from Pond F, and surface runoff intercepted from Catchment Area G. Soak away/retention Pond H will receive the controlled 1 in 5-year or less outflow from Pond G and surface runoff intercepted from Catchment Area G. The discharge from Pond H will be limited to the predevelopment 1 in 5-year recurrence interval flow volumes or less with a maximum 450mm diameter outlet.
- A formal agreement with the property owner of Erf 422 Theescombe must be obtained stating that they will accept the designed Pre-development runoff from Erf 325 Theescombe, and servitude will have to be registered from Erf 325 Theescombe over Erf 422 Theescombe towards the road reserve Olive Lane.
- Based on our preliminary calculations, Ponds F, G, and H shall have an effective storage capacity of 612 m^3, 1636 m^3, and 1117 m^3 respectively.
- The existing outlet and piped stormwater from the existing pond in Blumberg Road traversing Erf 325 Theescombe to the east will have to be rerouted towards the existing 600mm diameter pipe in Michael Angelo Avenue.
- To limit mosquito problems in the future, concrete-lined low-flow channels shall be designed to convey minor design flows in the grassed pond areas.

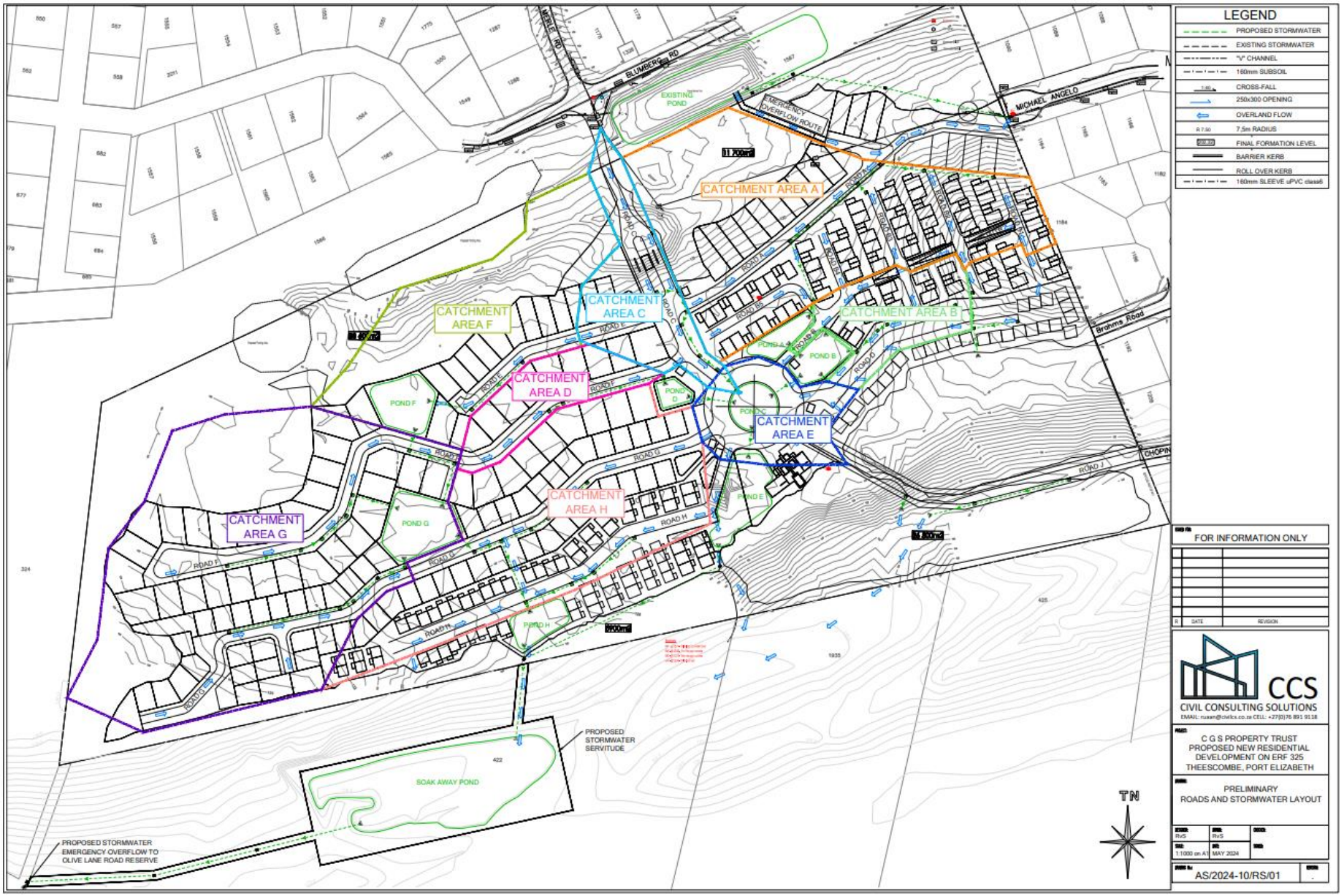

Figure 15. Preliminary roads and stormwater layout

1.4.2 Water Supply System

The supply reservoir to the proposed development will be the Lovemore Heights Reservoir with a top water level (TWL) of 234m above mean sea level (MSL) (refer to **Appendix G2**). Based on the recommended average annual daily demands from Table J.2 from the Neighbourhood Planning and Design Guide, the Annual Average Daily Demand (AADD) of the residential development under discussion has been calculated to be 157 kilolitres per day under post-development conditions and should be well within the supply capacity of the existing 10.97 megalitre Lovemore Heights reservoir as confirmed by email with Mr. N. Barnard of the Water Division of the NMBM Port Elizabeth on 21 February 2025.

The additional head loss to be created by the proposed development on Erf 325, Theescombe, can be minimised by constructing a new 160mm diameter water main from the existing 225mm diameter in Genadendal Road south to the existing 150mm diameter water main near the intersection of Glendore and Michael Angelo Road. This will improve both the reliability and pressure of the water supply to Erf 325 Theescombe and the surrounding area. The provision of water to the proposed development on Erf 325, Theescombe, Gqeberha, will be off the existing 150mm diameter in Merle Road.

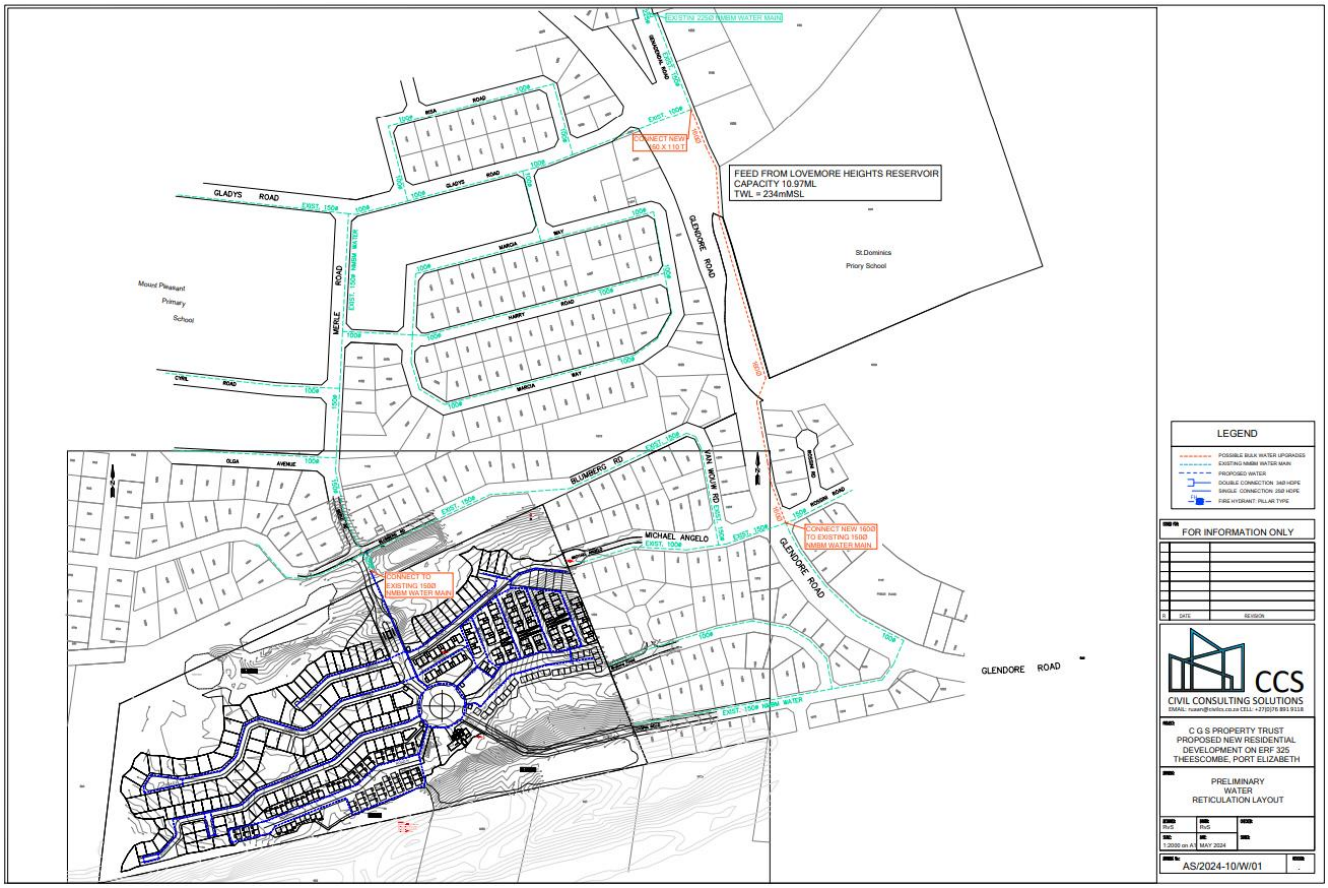

Figure 16. Preliminary water reticulation layout

According to the Municipal By Law Clause 30, General Conditions of Supply: "The granting of a supply of water by the Municipality will not constitute an undertaking by it to maintain at any time or at any point in its water supply system: -

a) An uninterrupted supply

b) A specific pressure or rate of flow in such supply; or

c) A specific standard or quality of water."

SANS 10252-1:2012, Water Supply and Drainage for Buildings, clearly states that the above must be considered where the local authority's water supply is not capable of providing sufficient pressure and rate of flow for fire installations, and storage tanks are required.

In order to accommodate the required minimum residual head pressure of 150kPa under total instantaneous peak demand of 17.01 l/s design flow and a maximum fire flow of 25 litres per second (moderate fire risk regarding denser group housing developments) as well as maximum residual head pressures under low flow conditions, the main internal reticulation should consist of a main feeder pipe of 160mm diameter and a minimum of 110mm looped PVC-U pipe Class 12 water reticulation systems for the General Residential 2 developments in accordance with SANS 966: 1998 Part 1 specifications and laid in accordance with SANS 1200 LB. The completed water reticulation will be tested under a minimum pressure of 1350kPa in accordance with SANS 1200 L.

To limit the risk of the current low-flow and/or no-flow water supply conditions of the NMBM infrastructure due to the drought, inter alia, the following precautionary measures must be implemented.

- A fire hydrant, non-return valve, and booster connection shall be installed directly after the consumer valve on the 160mm diameter connection to Erf 325 Theescombe. This safety measure can assist the NMBM Fire Department in boosting the water flow with the NMBM fire brigade in the proposed looped reticulation and fire hydrants on Erf 325, Theescombe, in case of sub-standard municipal water supply under fire conditions.

Subject to the approval of all the relevant authorities, it is also recommended that the Developer should make provision for rainwater harvesting on Erf 325, Theescombe, as far as practically possible. The said water shall be treated as advised by a specialist for drinking purposes. The homeowner/tenant shall take full accountability for the effective design, implementation, and maintenance of the individual rainwater harvesting systems on Erf 325 Theescombe. That will inter alia include the effective and safe storage, treatment, distribution, booster pump system, and use concerning the mentioned rainwater. Unless otherwise dictated by NMBM, the fire hydrants will be the pillar type, and the maximum spacing of the fire hydrants will be 180m in moderate-risk fire areas or as otherwise required by the local fire department.

1.4.3 Foul Sewer System

The effluent of the proposed residential development on consolidated Erf 325, Theescombe, will be treated by the NMBM Driftsands Waste Water Treatment Works (DWWTW). The preliminary total design Average Dry Weather Flow (ADWF) of the proposed residential development under discussion has been calculated to be 144.4kl per day. The capacity of the last-mentioned treatment works is 22 Ml per day, as confirmed with Mr. C. Bruintjies of the NMBM Sewerage Division. The DWWTW is currently treating up to 14 Ml per day.

Based on the experience of the NMBM Sewerage Division, the engineers preferred to use the more conservative Harmon's formula to determine the Peak Dry Weather Flow (PDWF) with an infiltration factor of 100% of the PDWF to calculate the

Peak Wet Weather Flow (PWWF). In accordance with their calculations, the preliminary design PWWF (100% infiltration rate) of the proposed development on Erf 325, Theescombe will be equal to 12.43l/s. The developer paid a sewer levy of R180 000.00 to NMBM on 25 July 2006 towards the upgrading of the NMBM sewerage infrastructure. This amount was based on the proposed original residential development with an ADWF of 125.25kl per day. The revised ADWF based on the latest architectural layout is calculated to be 144.4kl. A recalculated sewer levy will be payable to the NMBM, taking previous payments into account.

Considering the topography of Erf 325, Theescombe, and subject to bulk earthworks on the site, the main waterborne gravity sewers have been preliminarily designed to accommodate the peak weather design flows and will mainly consist of 160mm diameter Class 400 kPa PVC-U pipe: SANS 1601 Type 1 specification. Refer to **Figure 17**.

Due to the topography of the site, the General Residential 2 erven near the northeastern corner of the site will drain to the existing 225mm diameter NMBM sewer in Michael Angelo Avenue. The remaining General Residential 2 erven will gravitate to the existing 150mm diameter NMBM sewer in Chopin Road, Pari Park near Erf 1211, Theescombe. The longitudinal gradients of the gravity sewers will have to be designed to accommodate the peak wet weather flows as well as maintain minimum self-cleansing velocities higher than 0,7 m/s. All main internal sewers and NMBM sewer pipes and manholes must be constructed following SANS 1200 LD, SANS 1200 LB, and Municipal Standards and Specifications.

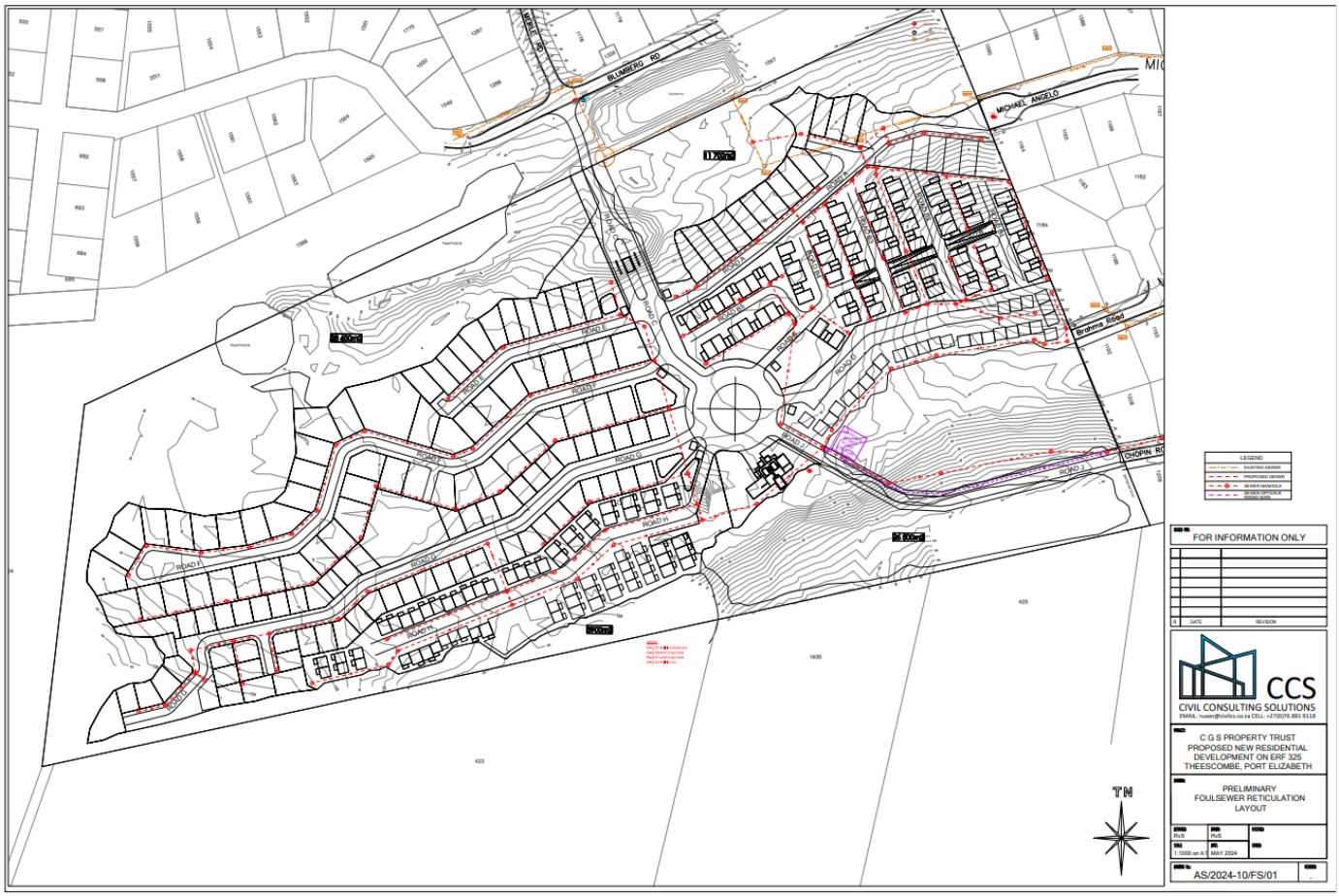

Figure 17. Preliminary foul sewer reticulation layout

1.4.4 Road (Structural)

According to the Preliminary Engineering Investigation report, access to the proposed Residential development will be off the existing public roads, Merle Road to the north, and Chopin Road to the southeastern corner of the proposed development (**Figure 18**). The structural design of the internal roads will be done in accordance with the TRH4 Specifications: Structural design of inter-urban and rural road pavements, subject to the conditions as indicated in the geotechnical report. The structural layer works of the roads have been preliminarily designed to accommodate the repetitive axle loads associated with post-development light vehicles and occasional heavier commercial vehicles.

- 150mm in-situ sandy, silty material compacted to 90% to 98% Modified American Association of State Highway Traffic Officials (MOD AASHTO) density.
- In areas where the California Bearing Ratio (CBR) of the in-situ material would be lower than 5% at 90% MOD AASHTO density (especially wet conditions), an additional layer of 200mm to 300mm crushed overburden material compacted to 92% MOD AASHTO density could be specified.
- 150mm G7 material compacted to 93% MOD AASHTO density
- 150mm G5 material compacted to 95% MOD AASHTO density
- 60mm deep interlocking 30MPa concrete paving block (class 30/2.0) complete with cement infill on 30mm Sand with an 80mm high mountable kerb on each side of the road.
- 125mm high precast Barrier kerbs at bellmouths, entrance road, and/or parking areas as dictated by applicable safety and mobility guidelines.

In certain instances, speed humps can also be designed to act as traffic calming measures as well as the mechanisms to retard and/or divert stormwater overland flow.

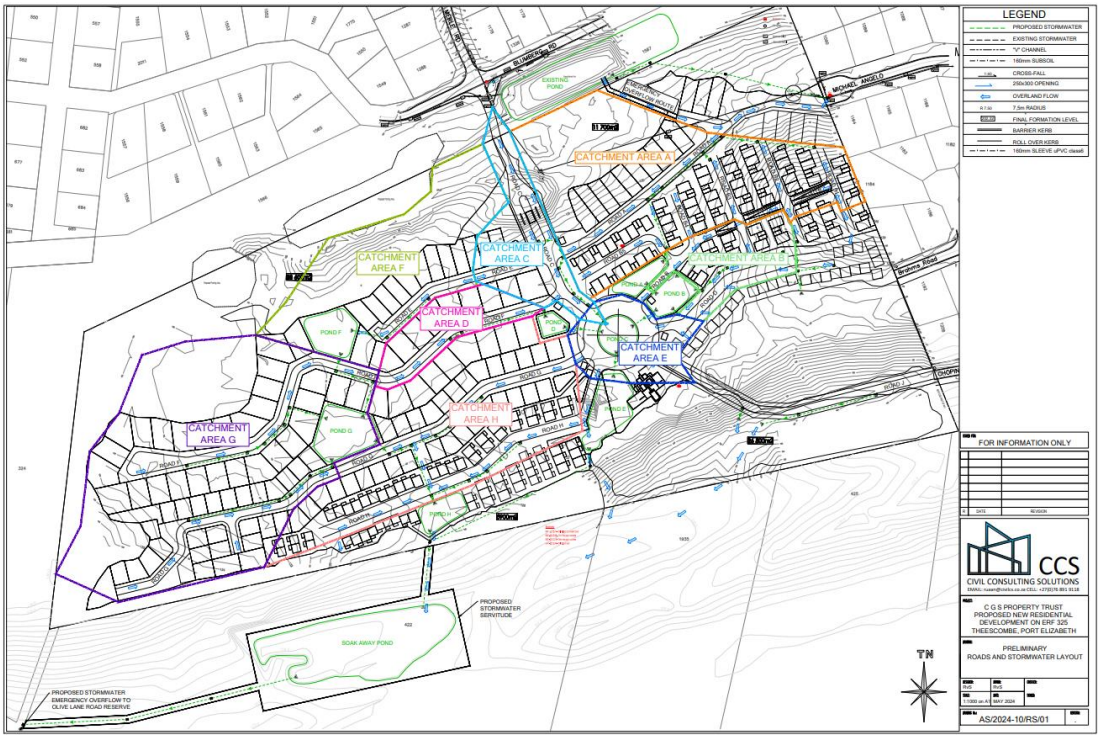

Figure 18. Preliminary roads and stormwater layout

1.5 Roads and Traffic Layout

Access Proposals

According to the Traffic Impact Assessment, access to the proposed development will be from Blumberg Road, opposite Merle Road and Chopin Road, with the access points configured as indicated on **Figure 19**.

It is recommended that the developer:

- Have access points configured with a minimum of two entering lanes and a stacking distance of a minimum of 13m (2 vehicles) for both the Blumberg Road access and the Chopin Road access.
- Installs traffic calming measures in the form of speed humps on Chopin Road as indicated on **Figure 19**.
- All costs related to the provision of the access points and traffic calming measures, including the provision of road signs and markings, are to be met by the developer.

No additional public transport facilities are required. Provision for pedestrian movement will be made on the site to access the buildings. The proposals are indicated on **Figure 19**.

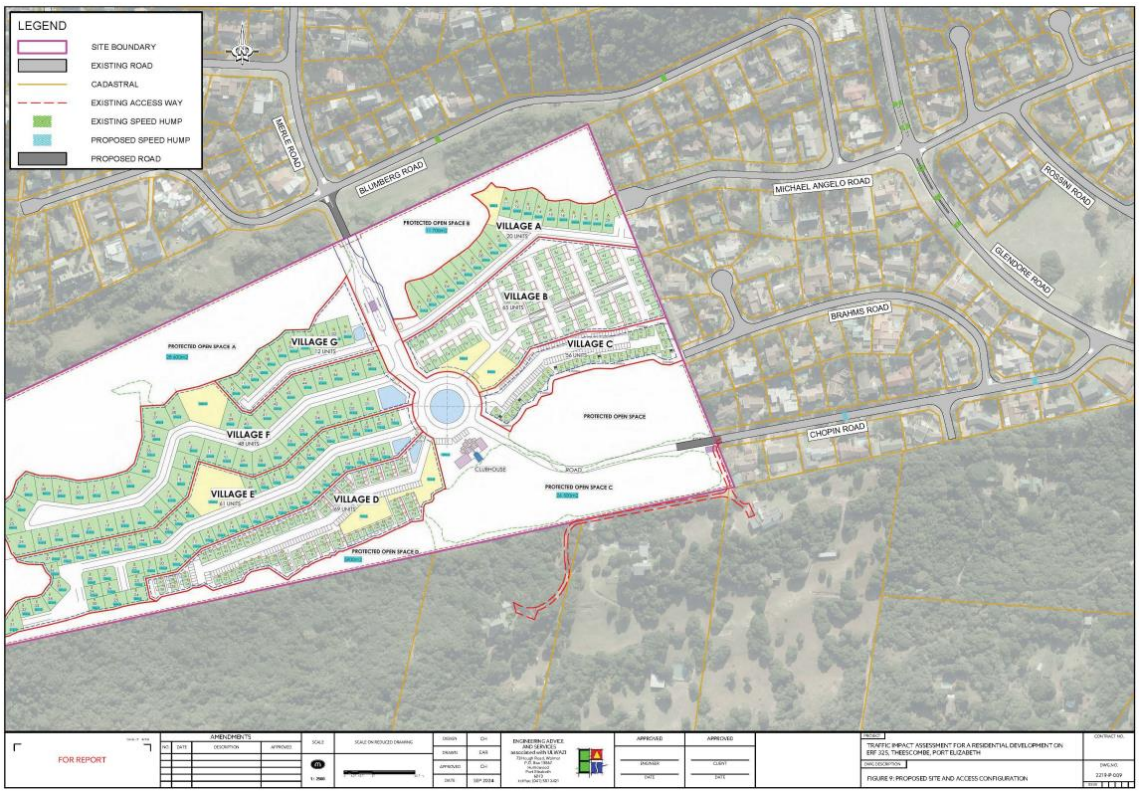

Figure 19. Proposed site and access configuration

1.6 Security

Security and connectivity are two major components that will contribute to the success and protection of the residential development. It is proposed that a 6m servitude be cleared from the fencing into the development. This will help in patrolling the residential area and incorporate CCTV cameras around the premises. A clearly defined fence not only establishes a sense of exclusivity but also instils a sense of security, allowing tenants to feel safe within their environment. It is proposed to install a palisade fence within the mesh fence. It is further recommended to install an electric fence on top of the fence to enhance security.

1.7 Current State of Site

The proposed site is located approximately 8 kilometers southwest (SW) of the city centre and adjacent to Blumberg Road in the suburb of Theescombe. The property has a gentle gradient with a low-lying slope. The site is not fenced. Glendore Road is located to the east, and Blumberg Road is to the north of the site. The site is neighboured by residential properties, small holdings, and vacant land. The site is amidst urban and suburban zones, characterised by a mixed park and residential development areas

There is a large pocket of Sardina Forest Thicket near the southern boundary of the proposed development area, and the rest of the site is also overgrown with dense vegetation consisting of grass, shrubs, and trees. There are a couple of footpaths on the property, as well as a single dirt road that appears to be used for the dumping of sand and other building rubble within the eastern section of the property. Noticeable roads in the area include the M9 to the north, Victoria Drive to the east, and Sardinia Bay Road to the south. To the north, Mount Pleasant Primary School, to the west, Craig Bertram Smith Studio is marked, to the east, The Bush Camp, with Stone Castle in the southeast. The property is also bordered by the Sardinia Bay Nature Reserve to the south and Sylvic Nature Reserve to the southwest.

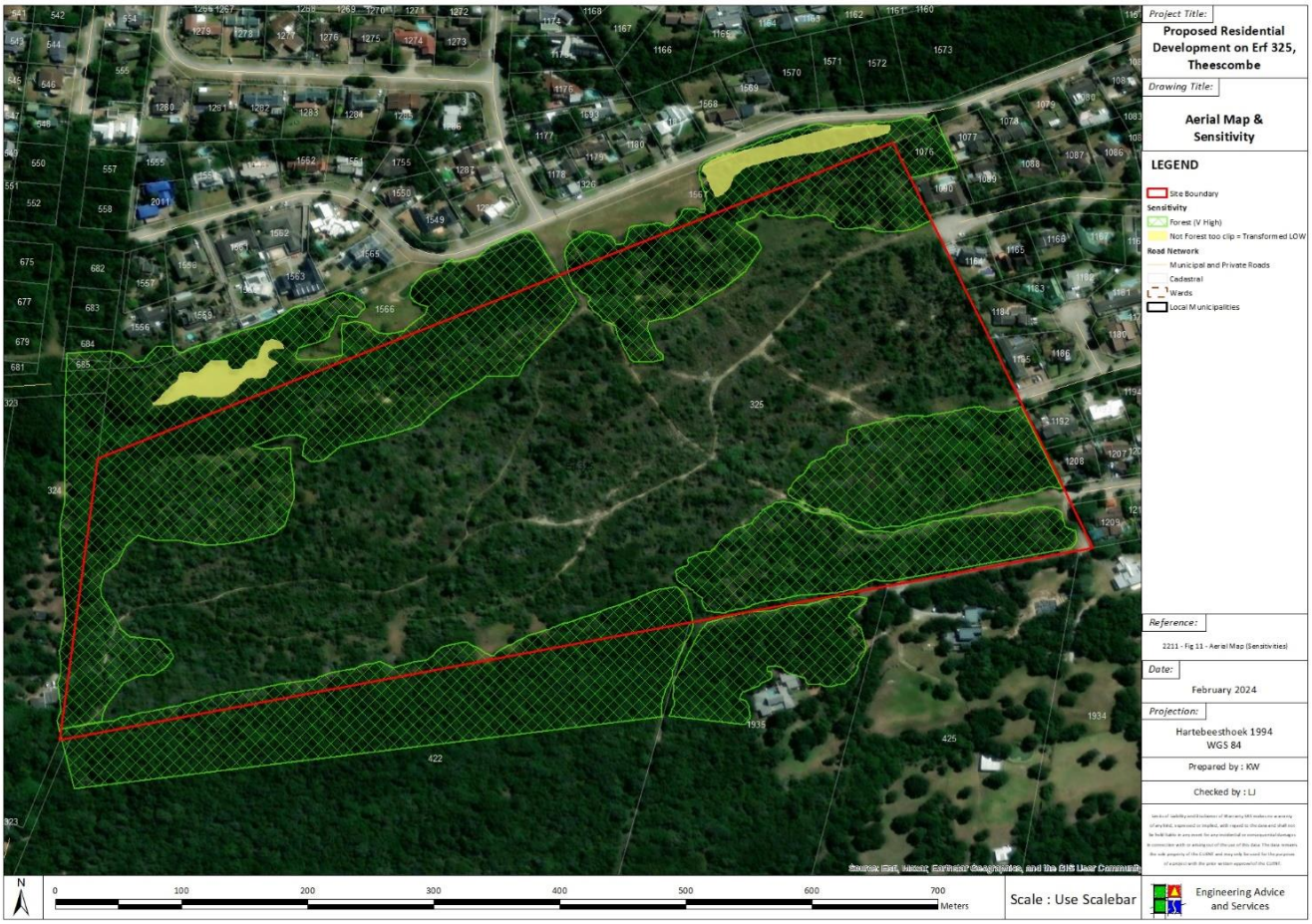

Figure 20. The delineated vegetation units within the site and the respective sensitivity ratings

1.8 Screening Tool Report

According to the screening report generated by the Online DFFE Screening Tool, the following themes' sensitivities have been identified:

Table 4. Screening Tool Report Identified Sensitivities

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme	X			
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme	X			
Defence Theme	X			
Palaeontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	x			

2 Feasible and Reasonable Alternatives

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

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

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

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

2.1 Design and layout alternatives

No technical alternatives were assessed for the project due to the design constraints; however, the sensitivity information contained in the Biodiversity Impact Assessment (Colloty, 2024) led to the development of 3 alternative layouts (**Figure 21, Figure 24** and **Figure 25**) with the final layout seeing a reduction in the overall number of units and an increase in open space areas and space around the respective units. Refer to **Appendix A** for the Site Development Plan (SDP). This is in addition to the Private Open Spaces earmarked by the "No-Go" areas, i.e., approximately 44% of the total development will remain natural vegetation.

2.1.1 Layout Alternatives

Three conceptual alternative layout options have been considered throughout the planning phase of this project. Specifically considering the number of units that will be in the development and the open space areas. A short history of the process is outlined below.

Alternative 3

The planning phase of this project was initiated at the beginning of 2024. Initially, the developers had a preferred conceptual layout proposal, which will be referred to as Alternative 3. Alternative 3 almost covers the entire site (refer to **Figure 21**). For Alternative 3, the proposal was for 412 residential units with additional provisions for a gatehouse and a community centre. The total built-up area would be 34,656 m². A total of 618 parking bays was proposed. This would include 530 bays for residential units, 103 bays for visitors, and 5 bays for paraplegic use. The open space provided would be 74,800 m². Inside the site would be seven small villages, each consisting of between 22 to 134 homes. This alternative also consisted of different floor designs, from single, walk-up, and duplex.

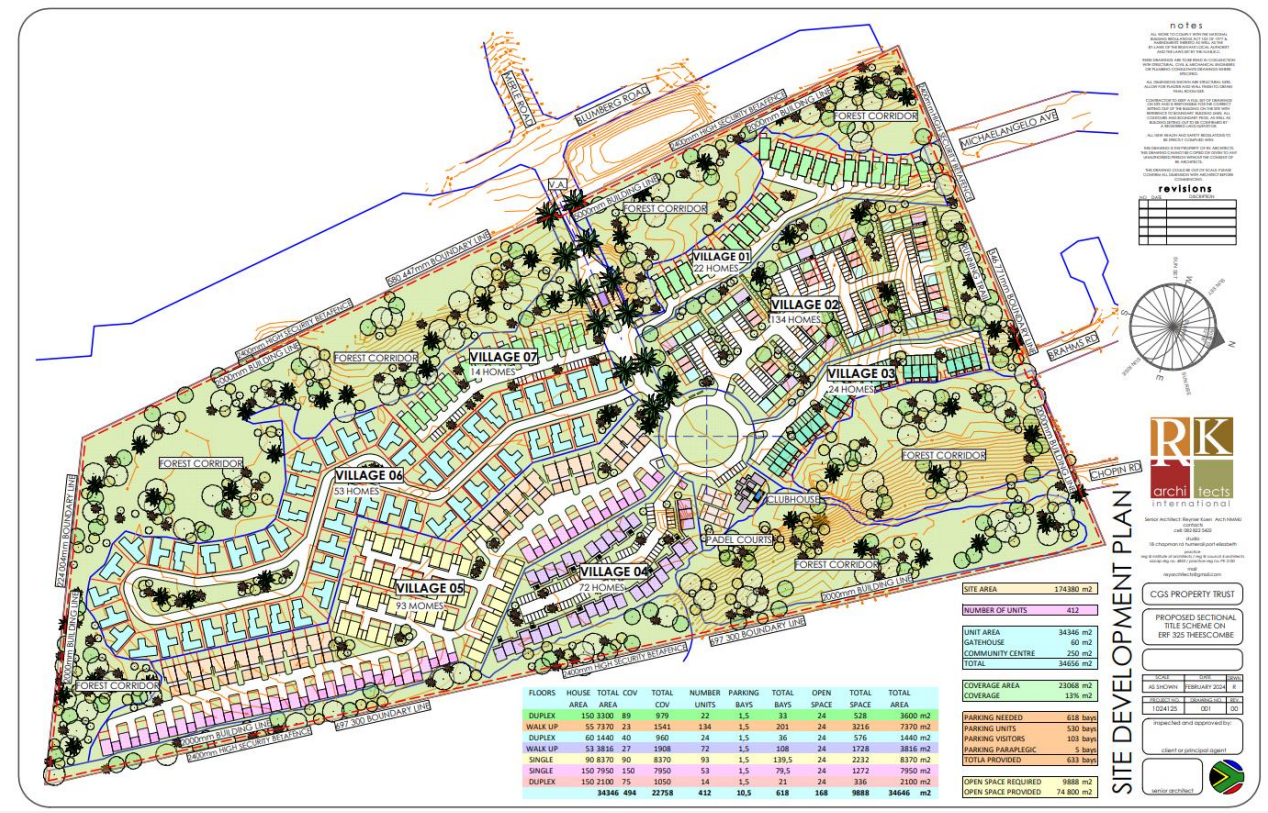

Figure 21. Alternative 3 conceptual layout

The biodiversity specialist, Mr Brian Colloty, was appointed in 2024 to facilitate a screening and sensitivity assessment of the proposed site, which included sensitivity mapping. The specialist found that several sensitive habitats were found within the proposed site, and the site sensitivity ranged from Low to Very High (**Figure 22**). The Very High sensitivity areas were thus deemed "no-go" areas. Noting that in so doing, most of the Terrestrial Critical Biodiversity Areas (**Figure 23**), which are associated with the intact habitats, will be protected. No habitat that resembles the Critically Endangered Algoa Sandstone Fynbos was found intact within the site due to past activities and the high density of alien vegetation; however, the Sardinia Forest Thicket was.

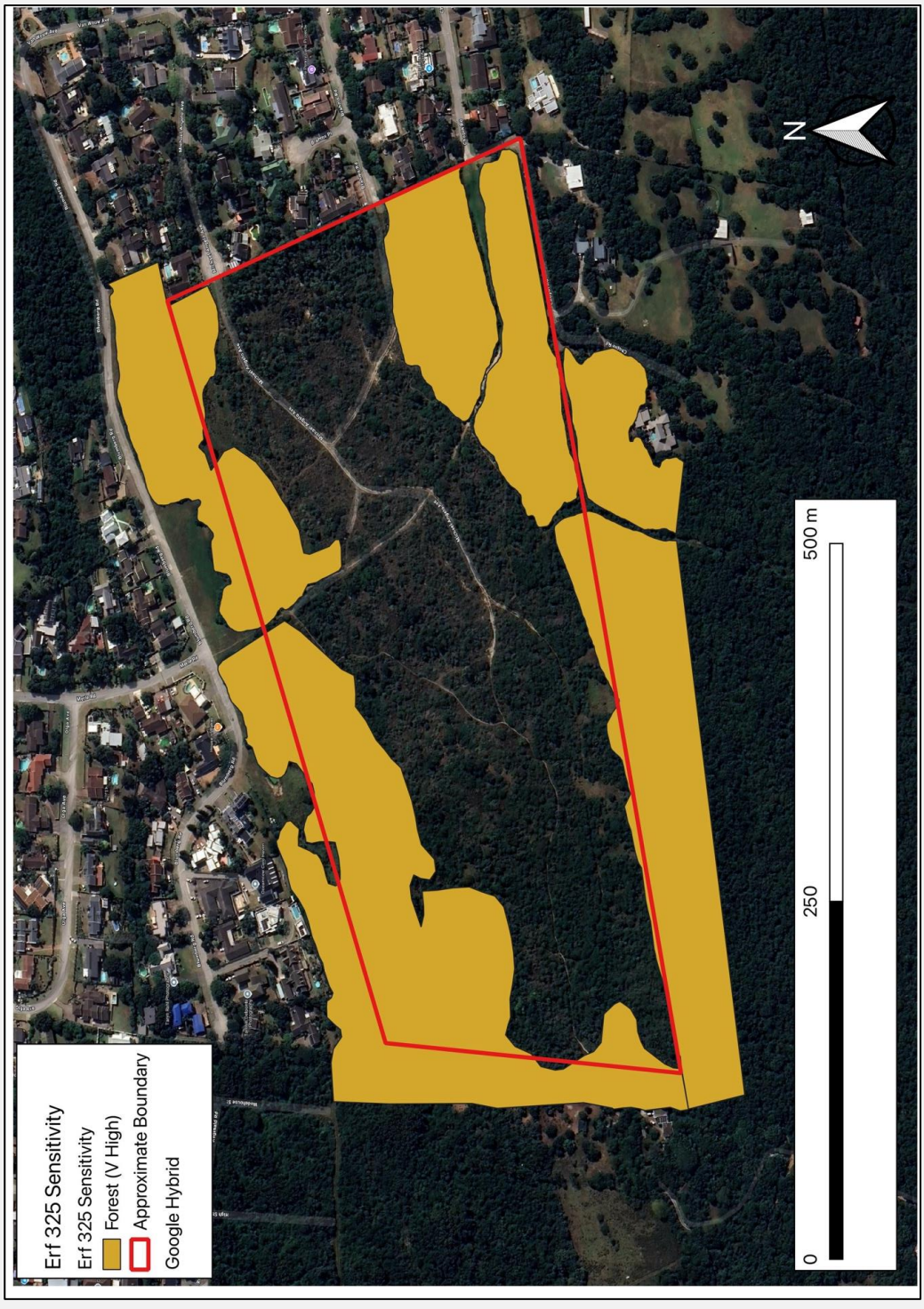

Figure 22. Site sensitivity rating where Very High / No-Go areas are shown, while the remainder of the site would be considered LOW

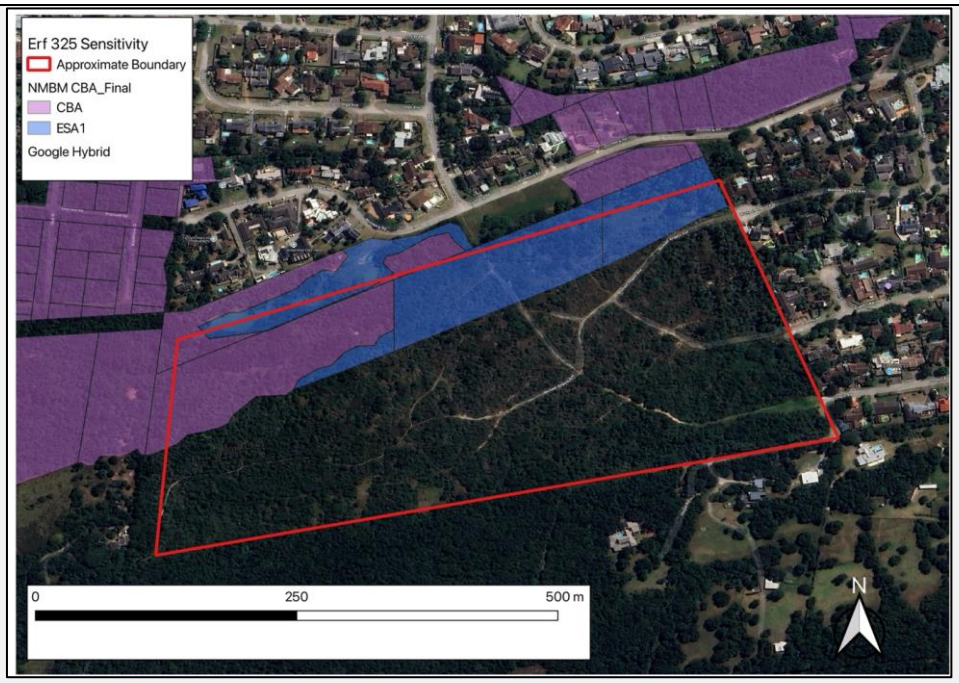

Figure 23. NMBM, 2024 CBA Terrestrial

Alternative 2

With reference to the Alternative 2 layout, the proposed number of units was reduced to 347 units (**Figure 24**). The number of small villages inside the site was reduced to six, each consisting of 12 to 69 units. This alternative consisted of different floor designs, which include single-story, double-story, and walk-ups. The total built-up area would be reduced to 29,555 m².

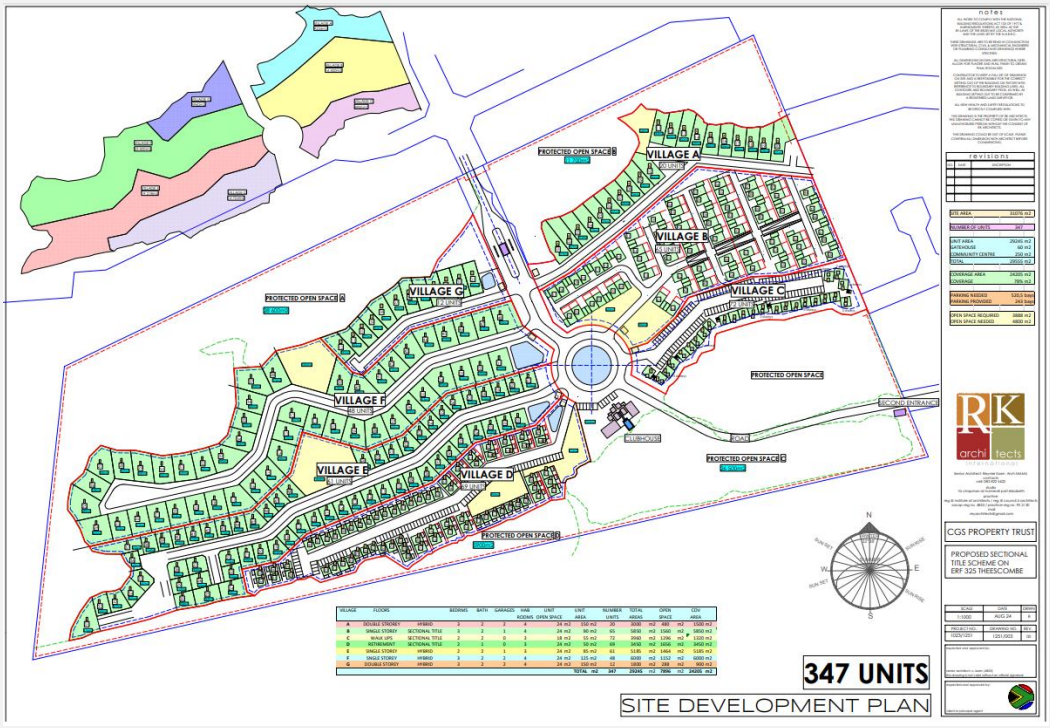

Figure 24. Alternative 2

Alternative 1 (Preferred alternative)

Regarding the Alternative 1 layout, the number of units was reduced to 331 units (**Figure 25**). This alternative consists of different floor designs, which include single-story, double-story, and walk-ups. The total built-up area would be reduced to 28 675 m².

The preferred layout was developed to provide a mechanism to retain important forest habitats, in particular. This was achieved by considering the "no-go" areas, which also included a small margin around some areas that would represent the more intact dune vegetation. This then allows for a mosaic that would cater to both plant and animal species observed. Furthermore, the preferred layout also caters for a corridor between other local Ecological Support Areas (corridors) that surround the site. This would then support the small to medium-sized mammals that frequent the site but are also known to move throughout the Sardinia Bay Forest thickets.

The consideration and investigation of different alternatives is an integral action during the assessment process, especially alternatives considering the affected environment. During the preparation of the layout plan for the intended development, the approved zoning, local and national policy guidelines natural and manmade characteristics of the site, socio-economic status of the community, availability of municipal services, as well as traffic assessment were taken into account to achieve the best use of the site from an economic perspective. The preferred alternative, **Figure 25,** will contribute to bioregional conservation, considering the implementation of open spaces in order to maintain and improve the current ecological state of the property as well as its surrounding properties.

Figure 25. Alternative 1 (Preferred Alternative)

2.1.2 Storm Water System Alternatives

Only one option is proposed for the stormwater system based on the environmental requirements and planning layouts. The preferred alternative (Option 1) proposes that the attenuation ponds be located in a small portion of the environmental "no-go" zone on the property south of Erf 325 Theescombe, as depicted in the figures below. The applicant has made contact with the landowner of Erf 422 and is aware of the proposed overflow outlet. Agreement of such is still under consideration. The proposed Attenuation Pond 2 Option 1 will utilise approximately 12% (1 512 m^2) of the "no-go" for Remainder of Portion 102.

Figure 26. Preferred alternative for the attenuation pond

a) The property on which or location where it is proposed to undertake the activity:

Erf 325, Theescombe, is located within Ward 1, Gqeberha, NMBM. The geographic coordinates of the central point of the site are 34° 0'19.68"S, 25°32'22.43"E. The proposed residential development measures approximately 17,43 ha in extent; however, approximately 11,28 Ha will be used for the development, leaving 6,15 Ha as natural no-go areas. In accordance with previous Town Planning Layouts, Erf 325 Theescombe currently has multiple zonings: Residential 1, Residential 2, Public Open Space, and Transportation 1. The developer intends to rezone the proposed property under General Residential 2 Zoning.

The site is currently vacant and largely undeveloped, with the residential township Pari Park abutting east of the site, and Mount Pleasant and Providentia north of the site. The land use next to the entrance of the site is a public place. The land use on the east and north of the site is residential. Half of the site is comprised of Sardinia Forest Thicket, while the other half is covered by Algoa Sandstone Fynbos. There are no structures on the site, and disturbance is limited to vehicle track paths and footpaths, with some illegal waste dumping observed. Surrounding land uses include residential, vacant land, public places, roads, and infrastructure.

b) The design or layout of the activity:

The types of activities considered for this property are aligned with the local envisioned spatial growth of the area, consisting of the local land use, the feasibility of a development of this sort, the state of the biodiversity on site, and other factors such as the economic value the development will add to the area. The proposed site development also coincides with the approved zoning, and thus, the layout of the infrastructure is planned accordingly.

c) The technology to be used in the activity:

No specific technological alternatives have been considered to date, as it has not yet been finally determined which technologies would be required for the development.

d) The operational aspects of the activity:

The operational aspects of the project are directly linked to the proposed site development plan and the proposed zoning of the property. The operational plan for the site supports the Sustainable Community Planning Methodology, which is a planning methodology developed and implemented in the NMBM in support of the MSDF in order to enhance the levels of sustainability and integration of developments within the city.

e) No-go Alternative (not recommended)

With regard to the No-Go alternative, the site would continue to remain unchanged and remain in its current natural condition, which would see a steady increase in the alien tree cover, and or rubble being dumped. This would continue into the long term with a Low to Moderate intensity that would impact on the local scale, and no mitigations are thus proposed other than consistent alien clearing should the site remain vacant.

3 Activity Position

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

List alternative sites if applicable.

	Latitude (S):		**Longitude (E):**	
Alternative:				
Alternative S1[1] (preferred site alternative)	-34^0	01968‘	25^0	322243‘
Alternative S2	-34^0	01968‘	25^0	322243‘
Alternative S3	-34^0	01968‘	25^0	322243‘

In the case of linear activities: N/A

Alternative:	**Latitude (S):**		**Longitude (E):**	
Alternative S1 (preferred or only route alternative)				
• Starting point of the activity	o	‘	o	‘
• Middle point of the activity	o	‘	o	‘
• End point of the activity	o	‘	o	‘

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

[1] “Alternative S..” refer to site alternatives.

4 Physical size of the activity

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

Alternative:	**Size of the activity:**
Alternative A1[2] (preferred activity alternative)	The total Erf size is 174680 m^2. Approximately 112800 m^2 will be built-up area and 61500 m^2 will be managed as open space.
Alternative A2 (if any)	The total Erf size is 174680 m^2. Approximately 112800 m^2 will be built-up area and 61500 m^2 will be managed as open space.
Alternative A3 (if any)	The total Erf size is 174680 m^2. Approximately 112800 m^2 will be built-up area and 61500 m^2 will be managed as open space.

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

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

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

[2] "Alternative A.." refer to activity, process, technology or other alternatives.

5 Site Access

Does ready access to the site exist?	**YES**	NO
If NO, what is the distance over which a new access road will be built	m	
Describe the type of access road planned:		

Access Proposal

According to the Traffic Impact Assessment, access to the proposed development will be from Blumberg Road, opposite Merle Road and Chopin Road, with the access points configured as indicated on **Figure 27**.

It is recommended that the developer:

- Have access points configured with a minimum of two entering lanes and a stacking distance of a minimum of 13m (2 vehicles) for both the Blumberg Road access and the Chopin Road access.
- Installs traffic calming measures in the form of speed humps on Chopin Road as indicated on **Figure 27**.
- All costs related to the provision of the access points and traffic calming measures, including the provision of road signs and markings, are to be met by the developer.

No additional public transport facilities are required. Provision for pedestrian movement will be made on the site to access the buildings. The proposals are indicated on **Figure 27**.

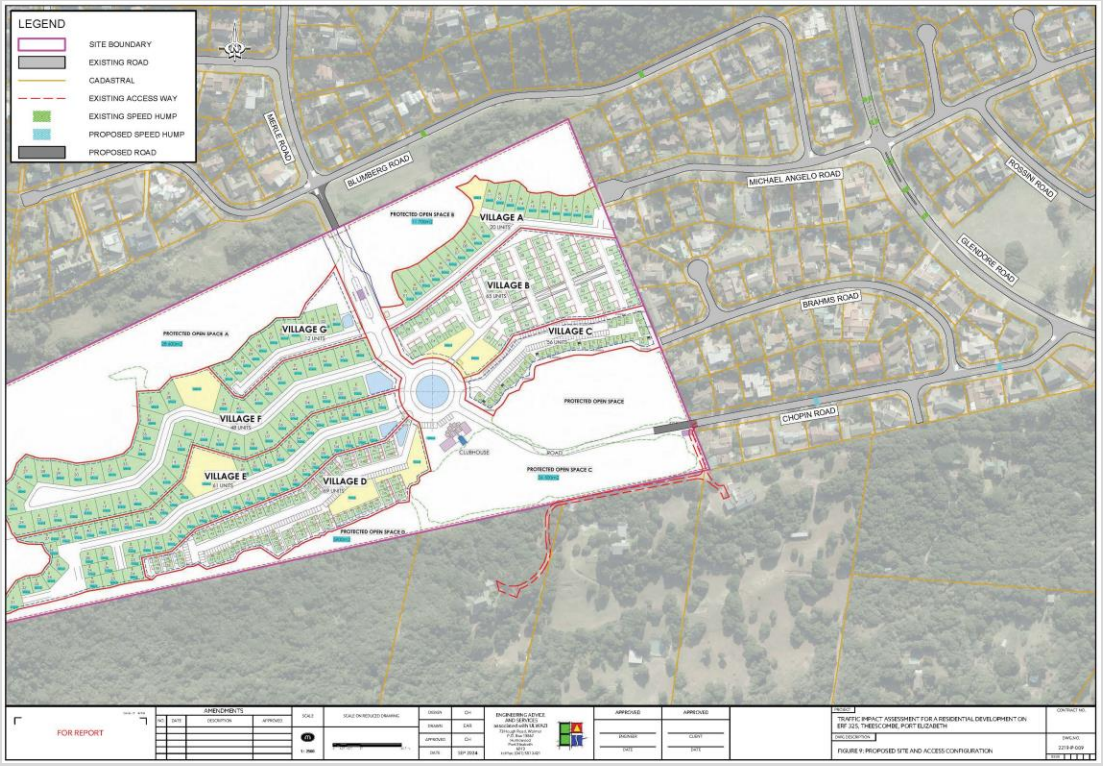

Figure 27. Proposed site and access configuration

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

According to the Traffic Impact Assessment, access to the proposed development will be from Blumberg Road and Chopin Road, with the access points configured as indicated on **Figure 27**.

6 Site or Route Plan

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

The site or route plans must indicate the following:

6.1 the scale of the plan which must be at least a scale of 1:500;

6.2 the property boundaries and numbers of all the properties within 50 metres of the site;

6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;

Refer to the Land Use Map (Appendix A, Appendix G3, and G4)

6.4 the exact position of each element of the application as well as any other structures on the site;

Refer to (Preliminary) Facility Illustrations (Appendix C)

6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure, and telecommunication infrastructure;

6.6 all trees and shrubs taller than 1.8 metres;

6.7 walls and fencing, including details of the height and construction material;

The site will be fenced with a palisade fence as recommended by the biodiversity specialist (Refer to the Security section).

6.8 servitudes indicating the purpose of the servitude;

It is proposed that a 6m servitude be cleared from the fencing into the development. This will help in patrolling the residential area and incorporate CCTV cameras around the premises. Refer to (Preliminary) Facility Illustrations (Appendix C).

6.9 sensitive environmental elements within 100 metres of the site or sites, including (but not limited thereto):

- rivers;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or invested with alien species);

Refer to maps (Appendix A)

6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and

6.11 the positions from where photographs of the site were taken.

7 Site Photographs

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

8 Facility Illustration

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

9 Activity Motivation

(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R320 000 000	
What is the expected yearly income that will be generated by or as a result of the activity?	R40 000 000	
Will the activity contribute to service infrastructure?	**YES**	NO
Is the activity a public amenity?	YES	**NO**
How many new employment opportunities will be created in the development phase of the activity?	40	
What is the expected value of the employment opportunities during the development phase?	R64 000 000	
What percentage of this will accrue to previously disadvantaged individuals?	10%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	10	
What is the expected current value of the employment opportunities during the first 10 years?	R64 000 000	
What percentage of this will accrue to previously disadvantaged individuals?	10%	

(b) Need and desirability of the activity

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

The proposed residential development site is Erf 325, Theescombe, located within Ward 1, Gqeberha, Nelson Mandela Bay Municipality, Eastern Cape. The proposed project intends to develop a residential development in the western suburbs, which will be accessible through the connection of public transport facilities and linkage to the greater metropolitan area through major transportation routes. The proposed site is situated in a suburban area of Port Elizabeth with Pari Park residential suburb to the west of the site, and Mount Pleasant and Providentia north of the site. The area is known for its peaceful surroundings and proximity to essential amenities such as schools, shopping centres such as Moffett on Main Lifestyle Centre and Walmer Park Shopping Centre, healthcare facilities, and recreational areas. Access to major transport routes and proximity to the city centre are through the M9, M12, and M7.

The applicant intends to develop 331 residential units with additional provisions for a gatehouse and a community center. The development will consist of houses with different floor arrangements, such as double-story, walk-up, and single-floor houses. The development will have seven small villages, each consisting of between 12 to 69 homes. Having a community centre in the area will greatly enhance the appeal of the development by providing a space for social gatherings, events, and possibly amenities like fitness facilities or meeting rooms. The division of residential units into smaller villages can create a sense of community within each cluster, potentially fostering closer relationships among residents. The surrounding suburban areas are known for their community atmosphere, making this proposed development an attractive option for families and individuals seeking a quieter, more residential environment compared to the hustle and bustle of urban areas. The neighbourhood often fosters a sense of community spirit and safety. The development will have open space of approximately 4800 m², which is highly desirable as it allows for recreational activities, greenery, and a sense of openness within the community.

In conclusion, the combination of well-planned residential units, ample open space, necessary facilities like parking, a community centre, and the different villages concept contributes to the desirability and functionality of the development. These factors cater to both the practical needs and the quality-of-life aspects that residents would value.

This section on need and desirability is compiled in accordance with the requirements of the Guideline of Need & Desirability (DEA, 2017) published in terms of Section 24J of NEMA. The guidelines indicates that the following main subjects are addressed when assessing the need and desirability of a project:

- aligning the project with relevant planning and legislation policies
- ensuring ecologically sustainable development and use of natural resources
- promotion of justifiable economic and social development

As per the DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs;" In order to properly interpret the EIA Regulations' requirement to consider "need and desirability", it is necessary to turn to the principles contained in NEMA, which serve as a guide for the interpretation, administration and implementation of NEMA and the EIA Regulations. With regard to the issue of "need", it is important to note that this "need" is not the same as the "general purpose and requirements"10 of the activity. While the "general purpose and requirements" of the activity might to some extent relate to the specific requirements, intentions and reasons that the applicant has for proposing the specific activity, the "need" relates to the interests and needs of the broader public. In this regard, the NEMA principles specifically inter alia require that environmental management must:

- "place people and their needs at the forefront of its concern" and equitably serve their interests;
- "be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option;
- pursue environmental justice "so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person";
- ensure that decisions take "into account the interests, needs and values of all interested and affected parties"; and
- ensure that the environment is "held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage".

"SECURING ECOLOGICALLY SUSTAINABLE DEVELOPMENT AND USE OF NATURAL RESOURCES"

1. How will this development (and its separate elements/aspects) impact the ecological integrity of the area?

1.1 How were the following ecological integrity considerations taken into account?:

1.1.1 Threatened Ecosystems,

1.1.2 Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,

1.1.3 Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"),

1.1.4 Conservation targets,

1.1.5 Ecological drivers of the ecosystem,

1.1.6 Environmental Management Framework,

1.1.7 Spatial Development Framework, and

1.1.8 Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).

Ecological Integrity

According to the preliminary SDP, the development will comprise 331 residential units with additional provisions for a gatehouse, a community centre, and parking bays. The site falls in an area that contains vegetation types such as Sardinia Forest Thicket (Least Concern) and Algoa Sandstone Fynbos (Critically Endangered). The Algoa Sandstone Fynbos is recognized as a threatened terrestrial ecosystem in South Africa, listed on the Revised National List of Threatened Terrestrial Ecosystems (2022). The Algoa Sandstone Fynbos is narrowly distributed with high rates of habitat loss in the past 28 years (1990- 2018), placing the ecosystem type at risk of collapse. The conservation target for this vegetation type is 23%. More than 50% is transformed by the cultivation, urban sprawl of the Nelson Mandela Metropolitan Area. Ensuring that the SDP aligns with conservation targets set by national or regional conservation strategies to protect key species and habitats.

The NMBM Bioregional Plan Vegetation Map indicates that the site comprises Bushy Park Indian Ocean Forest, which has a conservation status of Critically Endangered, and Sardinia Bay Forest Thicket, which has a conservation status of Vulnerable. The proposed site falls within ECBCP (2007) CBA 2. Additionally, a portion of the site falls in an area defined as a Critical Biodiversity Area (CBA) and Ecosystem Support Area (ESA) 1 in terms of the Nelson Mandela Bay Municipality (NMBM) Bioregional Plan (2015).

Approximately 87,01% of the CBA area within the site will be retained as Natural no-go areas, with some (12,99%) being lost to the 6m wide security fence servitude and development (Village F). Approximately 54,41% of the ESA within the site will be retained as Natural no-go areas, while 45,59% will be lost to the development and fence servitude. Identifying and protecting CBAs and ESAs within or near the development site is crucial to maintaining biodiversity. This includes considering corridors for wildlife movement and habitat connectivity. Implementing an Environmental Management Framework (EMF) that outlines specific measures to mitigate impacts on biodiversity and ecosystems. This framework would include monitoring programs, habitat restoration plans, and pollution control measures.

Adhering to global environmental responsibilities, such as protection of RAMSAR sites (if applicable), addressing climate change impacts through sustainable design and green infrastructure, and ensuring compliance with international agreements and conventions related to biodiversity conservation.

1.2 How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

The anticipated total built-up area will inevitably lead to some disturbance of the Algoa Sandstone Fynbos ecosystem, particularly in areas where vegetation clearing and landscaping are necessary, even though these areas have been screened and no longer represent intact Algoa Sandstone Fynbos. This will affect the overall biological diversity in the area. The clearing of vegetation and excavation necessary for construction will directly disturb habitats and potentially fragment the landscape, disrupting natural ecological processes. To mitigate these negative impacts, several measures have been

explored. Firstly, during the planning stages, efforts were made to minimize impacts by carefully designing the layout to avoid critical habitats and sensitive areas identified through thorough environmental assessments. Buffer zones around sensitive habitats were planned to mitigate direct impacts during construction, aiming to preserve as much of the natural vegetation as possible.

In cases where complete avoidance of negative impacts is not feasible, measures to minimize and remediate the impacts are considered. This includes implementing vegetation restoration programs post-construction to rehabilitate disturbed areas with native plant species characteristic of the Algoa Sandstone Fynbos. Additionally, sustainable drainage systems (SuDS) will be integrated to manage stormwater runoff effectively, reducing soil erosion and maintaining water quality. These efforts are crucial in preserving the ecological integrity of the site and ensuring that biodiversity loss is mitigated to the greatest extent possible. To enhance positive impacts, the development will incorporate green infrastructure such as the open space and forest corridors, running trails and gardens, which not only enhance aesthetic value but also provide habitat for local flora and fauna. The forest corridors will be designed to facilitate species movement and promote ecological connectivity within and beyond the development boundaries.

In conclusion, while the development on Erf 325, Theescombe will unavoidably affect local ecosystems and biological diversity, proactive planning and implementation of mitigation measures can help minimize these impacts. By adhering to environmental management frameworks, engaging stakeholders, and monitoring outcomes, the development aims to balance human needs with ecological sustainability, ensuring that the area's natural resources and biodiversity are conserved for future generations.

1.3 How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

The proposed development has the potential to pollute and degrade the biophysical environment through various Construction Phase and Operational Phase activities. Construction Phase activities such as clearing vegetation, excavation, and the installation of infrastructure can lead to soil erosion. Furthermore, increased impervious surfaces like roads and rooftops can exacerbate stormwater runoff, potentially carrying pollutants such as sediment, nutrients, and chemicals into nearby waterways, impacting aquatic ecosystems. Additionally, noise and air pollution from construction machinery and increased vehicle traffic during the Construction Phase can disturb local wildlife and degrade air quality in the area.

Avoidance and Minimisation Measures:

Measures that can be explored to avoid these negative impacts includes environmental assessments that are conducted during the planning stages. For the proposed site, these assessments include but are not limited to the Terrestrial Biodiversity Impact Assessment. Making reference to the preliminary SDP, efforts are made to design the site layout and construction methods in ways that minimize disturbance to natural habitats and sensitive areas. Best practices in erosion and sediment control will be explored, including the use of erosion blankets, silt fences, and bio-retention basins to manage stormwater

runoff. Construction scheduling and noise mitigation measures are considered to minimise disruptions to local fauna and nearby residents.

Where impacts could not be entirely avoided, measures were explored to minimise and remediate these effects. This includes implementing comprehensive sediment and erosion control plans throughout the construction phase to reduce soil disturbance and sediment runoff. Sustainable construction practices, such as incorporating green building materials and energy-efficient design, are explored to minimise the development's carbon footprint and resource consumption. Additionally, post-construction monitoring programs will be established to assess compliance with the environmental management plan, air quality, and habitat conditions, allowing for adaptive management strategies to address any unforeseen impacts promptly.

In terms of enhancing positive impacts, the development plans include measures to promote environmental sustainability and community resilience. This includes integrating green infrastructure, such as using 0,48 Ha as open space and native landscaping to enhance biodiversity and reduce stormwater runoff. Community spaces and recreational amenities will be designed to foster a sense of community and connection with nature, promoting a healthier and more sustainable living environment.

In conclusion, while the development on Erf 325, Theescombe will unavoidably have some environmental impacts, proactive planning and implementation of mitigation measures can help minimise these effects. By adhering to environmental regulations, engaging stakeholders, and adopting sustainable practices, the development aims to protect and enhance the biophysical environment while meeting the needs of residents and the broader community.

1.4 What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?

The proposed development will generate various types of waste throughout its construction and operational phases.

Construction Waste

During the construction phase, construction activities such as site preparation, building construction, and infrastructure installation will produce significant amounts of construction and demolition waste, including concrete, bricks, wood, metal, and packaging materials.

Operation Waste

Operational waste from residential units, communal facilities, and landscaping maintenance will also contribute to waste generation over time. These ongoing operational activities may produce green waste and other materials.

Avoidance and Minimisation Measures:

To mitigate the generation of waste, efforts will be made during the planning stages to explore measures aimed at waste avoidance. This includes choosing building design and material selection to minimise waste generation from the outset. Strategies such as using modular construction techniques, pre-fabricated components, and lean construction principles will be considered to reduce the amount of construction and demolition waste generated during construction. Additionally, suppliers will be encouraged to use minimal packaging and to provide materials in bulk to reduce packaging waste. This will help minimise over-ordering of construction materials, reducing excess waste generated during the construction phase.

Minimise, reuse, and recycle on-site materials

Where waste generation cannot be entirely avoided, measures will be taken to minimise, reuse, and recycle the waste produced on-site during the construction phase. On-site segregation of waste streams, such as concrete and timber, for recycling, will be planned to divert reusable materials away from landfill. Construction waste management plans will be developed to ensure that recyclable materials are separated, processed, and reused wherever feasible within the development or redirected to appropriate recycling facilities. Reclaimed materials, such as crushed concrete for road base or landscaping, will be considered for reuse within the project to minimize the demand for virgin materials. Exploration of opportunities to reuse on-site materials, such as incorporating excavated soil for landscaping or utilising recycled materials from existing structures.

Safely treat and/or dispose of unavoidable waste

A licensed landfill site close to the proposed development site will be used for safely treating and disposing of unavoidable waste. The development plans will include provisions for proper waste handling and disposal practices. Hazardous materials, such as paints, solvents, and asbestos-containing materials, will be managed according to regulatory guidelines to ensure safe handling, storage, and disposal by licensed contractors in a neighbouring licensed hazardous waste landfill site. Non-recyclable waste will be disposed of at licensed waste disposal facilities, with careful consideration given to waste transportation methods to minimise environmental impact.

1.5 How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

The site has been classified as having a low Archaeological and Cultural Heritage sensitivity theme by the DFFE online screening tool. A specialist has been appointed to undertaken an Archaeological Impact Assessment which will assess whether any evidence of archaeological and cultural heritage remains or other categories of heritage resources are found on-site.

1.6 How will this development use and/or impact non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?

Not directly applicable to the proposed project.

1.7 How will this development use and/or impact renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What

measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts?

1.7.1 Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e., de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)

1.7.2 Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e., what are the opportunity costs of using these resources this the proposed development alternative?)

1.7.3 Do the proposed location, type, and scale of development promote a reduced dependency on resources?

Not directly applicable to the proposed project.

1.8 How was a risk-averse and cautious approach applied in terms of ecological impacts?

1.8.1 What are the limits of current knowledge (note: the gaps, uncertainties, and assumptions must be clearly stated)?

1.8.2 What is the level of risk associated with the limits of current knowledge?

1.8.3 Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?

The proposed development will inevitably lead to some disturbance of the Algoa Sandstone Fynbos ecosystem, particularly in areas where vegetation clearing and landscaping are necessary, even though these areas have been screened and no longer represent intact Algoa Sandstone Fynbos. This will affect the overall biological diversity in the area. The clearing of vegetation and excavation necessary for construction will directly disturb habitats and potentially fragment the landscape, disrupting natural ecological processes. In addressing these ecological impacts, a risk-averse and cautious approach will be applied throughout the planning and development process of Erf 325, Theescombe. By prioritising precautionary measures, comprehensive assessments, and adaptive management strategies, the development will aim to responsibly manage ecological risks and contribute to sustainable development practices that balance environmental protection with societal needs.

1.9 How will the ecological impacts resulting from this development impact people's environmental rights in terms following

1.9.1 Negative impacts: e.g., access to resources, opportunity costs, loss of amenity (e.g., open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage, and remedy negative impacts?

1.9.2 Positive impacts: e.g., improved access to resources, improved amenities, improved air or water quality, etc. What measures were taken to enhance positive impacts?

The development can potentially impact people's environmental rights through various positive and negative impacts:

Positive Impacts:

Positive impacts include the creation of new community amenities like parks and recreational spaces, which contribute to improved quality of life for residents. Sustainable design practices such as green infrastructure and energy-efficient building technologies will be implemented to enhance air and water quality and promote resource efficiency. Community engagement initiatives further enhance positive impacts by involving residents in decision-making processes and ensuring that new amenities and environmental improvements align with community needs and preferences. By balancing proactive mitigation measures with efforts to capitalize on positive outcomes, the development aims to achieve a net benefit for environmental rights, fostering a resilient and sustainable community environment on Erf 325, Theescombe.

Negative Impacts:

Negative impacts include the potential disruption of local resources, such as water and vegetation, which could affect access and availability for neighbouring communities and wildlife. Additionally, there may be concerns about opportunity costs associated with the loss of natural amenities and ecosystem services, as well as potential nuisances like noise, dust, and altered visual landscapes during construction phases. Measures to address these negative impacts are considered. These measures include initial site planning aimed at minimising disturbance, and robust management plans for controlling construction-related nuisances and protecting air and water quality through effective stormwater management. These strategies will be complemented by ongoing monitoring and adaptive management approaches to promptly address any unforeseen impacts, ensuring that residents' health and environmental rights are safeguarded throughout the development process.

1.10 Describe the linkages and dependencies between human wellbeing, livelihoods, and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socioeconomic impacts (e.g., on livelihoods, loss of heritage sites, opportunity costs, etc.)?

The impacts associated with the proposed development are addressed in the impact assessment section with recommended mitigation measures during the Construction Phase and Operational Phase.

1.11 Based on all of the above, how will this development positively or negatively impact ecological integrity objectives/targets/considerations of the area?

The development will impact ecological integrity, objectives, targets, and considerations of the area in both positive and negative ways.

Negative Impacts:

- Habitat Fragmentation: The clearing of vegetation and construction of residential units and infrastructure will fragment habitats, potentially disrupting ecological corridors and species movements.

- Loss of Biodiversity: The development will inevitably lead to some disturbance of the Algoa Sandstone Fynbos ecosystem, leading to the disturbance of natural habitats and ecosystems and local biodiversity loss.
- Ecosystem Services: Changing the land use and hydrology could reduce ecosystem services provided by natural habitats, such as water filtration, pollination, and carbon sequestration.
- Soil and Water Quality: Construction activities may contribute to soil erosion, sedimentation of water bodies, and potential contamination of water resources through runoff.

Positive Impacts:

- Habitat Restoration and Enhancement: Mitigation measures that will be employed, such as habitat restoration and creation of green spaces, will enhance ecological resilience and support biodiversity recovery over time.
- Sustainable Design Practices: The implementation of green infrastructure, energy-efficient buildings, and sustainable water management practices can improve overall environmental quality and reduce the ecological footprint.
- Community Engagement: active involvement of residents in conservation efforts and stewardship programs can create an awareness of local ecosystems and encourage sustainable behaviours.
- Enhanced Monitoring and Adaptive Management: Ongoing monitoring of environmental indicators and adaptive management strategies can ensure that negative impacts are minimized and that ecological integrity objectives are continuously evaluated and adjusted as needed.

While the development on Erf 325, Theescombe, inevitably poses challenges to ecological integrity, proactive measures and strategic planning can mitigate negative impacts and promote positive outcomes. By integrating sustainable practices, engaging stakeholders, and adhering to environmental management frameworks, the development aims to strike a balance between meeting residential needs and preserving the ecological health and biodiversity of the area.

1.12 Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the “best practicable environmental option” in terms of ecological considerations?

In selecting the "best practicable environmental option" for the development on Erf 325, Theescombe, with a focus on securing ecological integrity and a healthy biophysical environment, a comprehensive evaluation of alternatives is very important. This process involved assessing various elements of the development and their potential impacts, considering ecological considerations at every step.

Assessment of Alternatives:

Site Selection and Layout:

Alternative sites and layouts will be evaluated to minimise disturbance to sensitive habitats, biodiversity hotspots, and ecological corridors. Consideration was given to preserving existing vegetation by protecting the forest corridors and running trails. Consideration is also given to minimising habitat fragmentation, and maintaining connectivity within the landscape.

Construction Methods and Materials:

Different construction methods and materials will be compared to reduce environmental footprint, including options for sustainable building materials with lower embodied energy and environmental impact.

Infrastructure and Utilities:

Alternatives for infrastructure design and utility installations will be assessed to minimise soil disturbance, habitat loss, and impacts on hydrology. Sustainable stormwater management systems, such as green infrastructure and bio-retention basins, will be explored to mitigate runoff and improve water quality.

Community Facilities and Amenities:

Options for community facilities and amenities is reviewed to enhance environmental quality and promote sustainable living practices. Incorporating green spaces, parks, and recreational areas aimed at preserving or enhancing biodiversity and ecosystem services were prioritized.

By systematically evaluating alternatives and prioritizing ecological considerations throughout the planning and decision-making process, the development on Erf 325, Theescombe will select the "best practicable environmental option" that minimises ecological impacts while promoting sustainable development. This approach not only seeks to secure ecological integrity and a healthy biophysical environment but also aims to foster a resilient community that values and conserves natural resources for future generations.

1.13 Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?

Refer to the impact assessment section.

2. "PROMOTING JUSTIFIABLE ECONOMIC AND SOCIAL DEVELOPMENT"

2.1 What is the socio-economic context of the area, based on, amongst other considerations, the following considerations:

2.1.1 The IDP (and its sector plans' vision, objectives, strategies, indicators, and targets) and any other strategic plans, frameworks of policies applicable to the area,

2.1.2 Spatial priorities and desired spatial patterns (e.g., need for integration of segregated communities, need to upgrade informal settlements, need for densification, etc.),

2.1.3 Spatial characteristics (e.g., existing land uses, planned land uses, cultural landscapes, etc.), and

2.1.4 Municipal Economic Development Strategy ("LED Strategy").

The socio-economic context of the area surrounding Erf 325, Theescombe, is shaped by various strategic plans, policies, and spatial priorities aimed at guiding development and improving the quality of life within the Nelson Mandela Bay Municipality, Eastern Cape.

IDP and Sector Plans:

The Integrated Development Plan (IDP) of the Nelson Mandela Bay Municipality sets out the vision, objectives, strategies, indicators, and targets for sustainable development. It identifies key priorities such as infrastructure development, housing

provision, economic growth, social services, and environmental sustainability. Sector plans within the IDP focus on specific areas such as housing, transport, health, education, and community development, aligning efforts to address socio-economic disparities and promote inclusive growth.

Spatial Priorities and Patterns:

Spatial priorities in the area include the integration of segregated communities, upgrading informal settlements, and promoting densification to optimize land use. The municipality aims to achieve spatial transformation by enhancing connectivity, improving access to services and amenities, and promoting mixed-use developments that support economic opportunities and social cohesion.

Spatial Characteristics:

Existing land uses in the vicinity of Erf 325, Theescombe include residential areas, vacant land, public spaces, and natural landscapes. Planned land uses typically prioritise residential expansion in response to population growth and housing demand, while preserving cultural landscapes and environmentally sensitive areas achieved through sustainable development. The area's spatial characteristics reflect a mix of suburban development, green spaces, and infrastructure networks that support urban living.

Municipal Economic Development Strategy (LED Strategy):

The Municipal Economic Development Strategy (LED Strategy) focuses on enhancing economic opportunities, job creation, and entrepreneurship. It identifies key sectors for investment and growth, including tourism, manufacturing, agriculture, and services. The strategy aims to leverage the municipality's natural and cultural assets, infrastructure advantages, and strategic location to stimulate economic development and improve livelihoods.

The socio-economic context of the area surrounding Erf 325, Theescombe is guided by strategic plans and policies that prioritize sustainable development, socio-economic inclusion, and spatial transformation. The IDP and sector plans provide a framework for addressing community needs, improving infrastructure, and enhancing service delivery. Spatial priorities emphasize integration, upgrading of informal settlements, and efficient land use planning. The LED Strategy aims to bolster economic growth through targeted investments and sectoral development, fostering a vibrant and resilient community environment within Nelson Mandela Bay Municipality.

2.2 Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?

2.2.1 Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?

2.3 How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?

2.4 Will the development result in equitable (intra- and inter-generational) impact distribution, in the short and long-term? Will the impact be socially and economically sustainable in the short- and long-term?

2.5 In terms of location, describe how the placement of the proposed development will:

2.5.1 result in the creation of residential and employment opportunities in close proximity to or integrated with each other,

2.5.2 reduce the need for transport of people and goods,

2.5.3 result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms of public transport),

2.5.4 compliment other uses in the area,

2.5.5 be in line with the planning for the area,

2.5.6 for urban-related development, make use of underutilised land available with the urban edge,

2.5.7 optimise the use of existing resources and infrastructure,

2.5.8 opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),

2.5.9 discourage "urban sprawl" and contributes to compaction/densification,

2.5.10 contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,

2.5.11 encourage environmentally sustainable land development practices and processes,

2.5.12 take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),

2.5.13 the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),

2.5.14 impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and

2.5.15 in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?

2.6 How was a risk-averse and cautious approach applied in terms of socio-economic impacts?

2.6.1 What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?

2.6.2 What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?

2.6.3 Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?

2.7 How will the socio-economic impacts resulting from this development impact people's environmental rights in terms following:

2.7.1 Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?

2.7.2 Positive impacts. What measures were taken to enhance positive impacts?

2.8 Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.).

2.9 What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?

2.10 What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?

2.11 What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?

2.12 What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?

The development on Erf 325, Theescombe is poised to generate significant socio-economic impacts that align with the socio-economic objectives of the Nelson Mandela Bay Municipality, particularly in relation to local economic development (LED) initiatives and skills development programs.

Socio-economic Impacts of the Development:

Job Creation and Economic Stimulus:

- Construction Phase: The development will create employment opportunities during the construction phase, including jobs in construction, engineering, and related trades. Local contractors and labourers are likely to benefit, contributing to income generation and economic activity in the area.
- Operational Phase: Upon completion, the development will require ongoing maintenance, management, and service provision, further supporting local employment and business opportunities.

Housing Supply and Demand:

- The addition of 331 residential units will help address housing demand within the municipality, contributing to improved housing availability and potentially reducing pressure on the existing housing market. This can support socio-economic stability by providing residents with secure housing options.

Local Economic Development (LED):

- The development is expected to complement LED initiatives by attracting investment, enhancing property values, and creating demand for local goods and services. It may stimulate growth in sectors such as retail, hospitality, and construction-related industries, thereby diversifying the local economy.
- Opportunities for local businesses to supply goods and services to the development, such as building materials, landscaping services, and utilities, can bolster economic linkages and support small and medium-sized enterprises (SMEs).

Skills Development and Capacity Building:

- The construction phase offers opportunities for skills development through training programs for local workers, promoting employment skills in construction, project management, and environmental management.
- Collaboration with local educational institutions and vocational training centres can enhance skills development initiatives, ensuring that local residents benefit from long-term employment prospects and career advancement.

Complementarity with Local Socio-economic Initiatives:

- The development aligns with the Nelson Mandela Bay Municipality's LED initiatives by fostering economic growth, job creation, and infrastructure development. It contributes to the municipality's efforts to enhance economic resilience, attract investment, and improve the quality of life for residents.
- Skills development programs integrated into the development process can strengthen the local workforce, aligning with broader objectives of enhancing human capital and promoting sustainable socio-economic development.

In conclusion, the development on Erf 325, Theescombe is expected to have positive socio-economic impacts by creating jobs, increasing housing supply, supporting local businesses, and enhancing skills development opportunities. These outcomes are aligned with the socio-economic objectives of the Nelson Mandela Bay Municipality, contributing to economic growth, community well-being, and sustainable development in the region.

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

The development on Erf 325, Theescombe is expected to bring several benefits to society in general:

Improved Housing Availability:

By adding 331 residential units, the development addresses housing demand within the municipality, potentially reducing housing shortages and improving housing affordability for residents.

Job Creation and Economic Stimulus:

During the construction phase and subsequent operational phases, the development will create jobs in construction, engineering, maintenance, and service sectors. This employment contributes to local economic growth, boosts household incomes, and stimulates business activity.

Community Infrastructure and Amenities:

The inclusion of community facilities such as parks, recreational areas, and potentially a community center enhances the quality of life for residents. These amenities promote social interaction, health, and well-being within the community.

Local Economic Development:

The development supports local economic development by attracting investment, enhancing property values, and creating opportunities for local businesses to provide goods and services. This economic activity can diversify the local economy and contribute to sustainable growth.

Skills Development:

Training programs and employment opportunities associated with the development contribute to skills development among local workers. This strengthens the local workforce, improves employability, and supports career advancement.

Environmental Considerations:

Incorporating sustainable building practices, green spaces, and efficient resource management promotes environmental stewardship. These practices contribute to healthier ecosystems and a more resilient built environment.

Overall, the development on Erf 325, Theescombe is expected to generate positive socio-economic impacts that benefit society at large by enhancing living conditions, supporting economic activity, fostering community well-being, and promoting environmental sustainability.

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

The development on Erf 325, Theescombe, is anticipated to bring several specific benefits to the local communities where it will be located:

Improved Housing Options:

The addition of 331 residential units will provide local residents with expanded housing choices, potentially offering affordable housing solutions that meet diverse needs and preferences within the community.

Job Creation and Employment:

During the construction phase, local residents will have opportunities for employment in various roles such as construction workers, tradespeople, and support staff. This influx of jobs can contribute to household incomes and economic stability within the community.

Enhanced Local Economy:

The development is expected to stimulate economic activity by attracting businesses and services that cater to the new residents. Local shops, restaurants, and service providers may benefit from increased demand, thereby supporting entrepreneurship and local economic growth.

Community Infrastructure:

The provision of community facilities and amenities, such as parks, recreational areas, and potentially a community center, will enhance the overall quality of life for residents. These amenities promote social interaction, health, and well-being within the neighborhood.

Skills Development:

Training programs and apprenticeships associated with the development can enhance the skills and employability of local residents. This supports capacity building within the community and prepares individuals for future employment opportunities.

Social Cohesion and Community Integration:

The development's design, which includes pedestrian-friendly pathways, green spaces, and communal gathering areas, fosters a sense of community and social cohesion among residents. This can strengthen neighborhood bonds and promote a supportive local environment.

Property Values and Investment:

The development may lead to increased property values in the surrounding area, benefiting homeowners and encouraging further investment in local real estate. This can contribute to long-term economic stability and asset growth for local property owners.

In summary, the development on Erf 325, Theescombe is expected to directly benefit the local communities by providing improved housing options, creating job opportunities, stimulating economic growth, enhancing community infrastructure, fostering skills development, promoting social cohesion, and potentially increasing property values. These benefits aim to enhance the overall well-being and livability of the neighborhoods within the vicinity of the development.

10 Applicable legislation, policies and/or guidelines

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

Title of legislation, policy or guideline:	Administering authority:	Date:
GNR 327: Listing Notice 1 (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.	Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)	07 April 2017
GNR 324: Listing Notice 3 (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. (a) Eastern Cape i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; ii. Within critical biodiversity areas identified in bioregional plans;		
National Heritage Resources Act 25 of 1999 ***Not applicable***	South African Heritage Resources Agency	1999
National Water Act No 36 of 1998 (*21*) ***Not applicable***	Department of Water and Sanitation	1998
Eastern Cape Nature and Environmental Conservation Ordinance 19 of 1974 and Provincial Nature Conservation Ordinance 19 of 1974 ***Not applicable***	Department of Economic Development, Environmental Affairs and Tourism (DEDEAT)	1974
National Forests Act 84 of 1998 with Amendments ***Not applicable***	Department of Agriculture, Forestry and Fisheries	1998
Subdivision of Agricultural land Act, 1970 ***Not applicable***	Department of Agriculture, Forestry and Fisheries	1970
The Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA)	Nelson Mandela Bay Municipality	2013

GUIDELINES:	
Guideline for the Review of Specialist Input in the EIA Process (June 2005)	This guideline was considered to assist in ensuring efficient and effective, quality specialist involvement. The guidelines assisted in creating a more efficient process, specifically considering planning, motivations, and reviewing specialist documents.
Guideline for Environmental Management Plans (June 2005)	This guideline was consulted to ensure the Environmental Management Programme is sufficient and addresses all requirements.
Guideline on Alternatives (March 2013)	This guideline assisted in the process of considering different possible alternatives for the proposed project, as well as which information would be required in order to process the outcome of the alternatives considered regarding sustainability in terms of the social, economic, and ecological needs of the public.
Guideline on Generic Terms of Reference for EAPs and Project Schedules (March 2013)	This guideline was consulted during the determination of the project terms of reference and development of the project schedule, as well as the correctness and accuracy thereof, ensuring as much information would be included as necessary. This assisted in ensuring that timeframes would be complied with and all necessary information would be gathered in a timely manner by applying good time management measures.
Guideline for determining the scope of specialist involvement in EIA processes (June 2005)	This guideline was also considered to assist in ensuring efficient and effective, quality specialist involvement. The guidelines assisted in creating a more efficient process, specifically considering planning, motivations, and reviewing specialist documents.
Guideline for involving visual and aesthetic specialists in the EIA process, June 2005	This guideline was consulted in determining whether a visual and aesthetic specialist would be necessary to assess any related impacts in this field, as well as considering alternatives and recommendations for this aspect.
DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs	This guideline was considered during the thought process and the compilation of the need and desirability section in the report. It assisted in maintaining methods of best practice on how to meet the conclusive requirements as set out by legislation.

11 Waste, Effluent, Emission, and Noise Management

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	**YES**	NO
If yes, what estimated quantity will be produced per month?	12 – 19 m^3	

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

Waste skips/bins will be provided by the appointed contractor(s) throughout the construction site. Separate skips/bins made available for road construction debris. All waste bins/skips should be taken to the construction camp at the end of each working day, and the bins should be clearly identified as the points of waste disposal. Solid waste that is unsuitable for re-use for construction will be transported and disposed of at the nearest registered landfill site.

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

The construction waste will be disposed of at the nearest registered waste disposal facility (Arlington Landfill Site).

Will the activity produce solid waste during its operational phase?	**YES**	NO
If yes, what estimated quantity will be produced per month?	232 m^3/ month	

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

Domestic and household waste consists mainly of foodstuffs, garden waste, old clothing, and packaging materials such as glass, paper, cardboard, and plastics. It is recommended that a refuse yard be constructed where all waste will be collected and stored before it is collected by a suitable service provider (NMBM) who will dispose of the waste at an approved and registered waste disposal facility.

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

It is assumed that refuse will be collected by the NMBM and disposed of at a registered waste disposal site.

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

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	YES	**NO**

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

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	**NO**

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

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	**NO**
If yes, what estimated quantity will be produced per month?	**144.4kl/ day**	
Will the activity produce any effluent that will be treated and/or disposed of on-site?	YES	**NO**

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

The effluent of the proposed residential development on consolidated Erf 325, Theescombe, will be treated by the NMBM Driftsands Waste Water Treatment Works (DWWTW). The preliminary total design Average Dry Weather Flow (ADWF) of the proposed Residential development under discussion has been calculated to be 144.4kl per day. The capacity of the last-mentioned treatment works is 22 Ml per day. As confirmed with Mr. C. Bruintjies of the NMBM Sewerage Division. The DWWTW is currently treating up to 14 Ml per day.

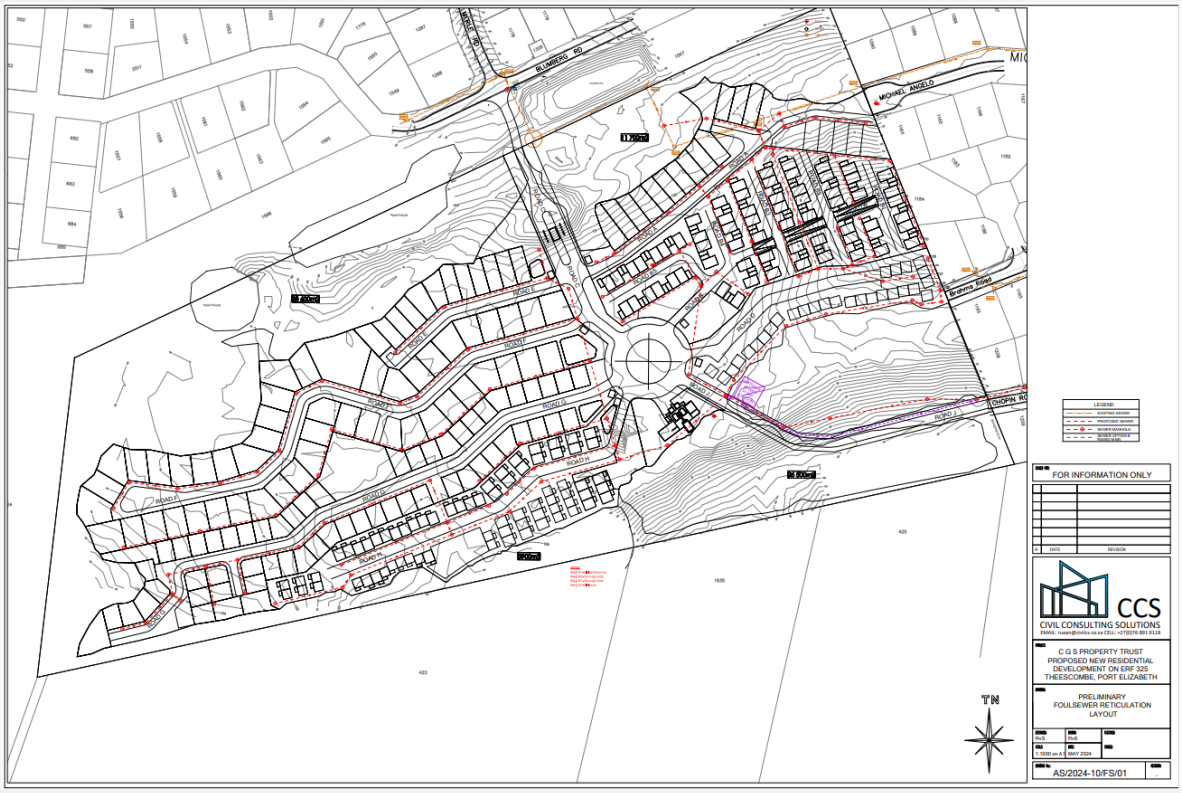

Figure 28. Preliminary foul sewer reticulation layout

Will the activity produce effluent that will be treated and/or disposed of at another facility?	**YES**	NO

If yes, provide the particulars of the facility:

Facility name:	NMBM Driftsands Waste Water Treatment Works (DWWTW)		
Contact person:	Mr Barry Martin – Senior Director for Water and Sanitation Cindy Bailey (Secretary)		
Postal address:	P.O. Box 7		
Postal code:	6011		
Telephone:	041 506 5435	Cell:	N/A
E-mail:	Cbailey@mandelametro.gov.za bmartin@mandelametro.gov.za	Fax:	N/A

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

No wastewater will be reused on site. However, it is recommended that the Developer make provision for rainwater harvesting on Erf 325, Theescombe through Jojo tanks. The harvested water shall be used for drinking purposes. The effluent of the proposed residential development will be treated at the Driftsands Waste Water Treatment Works. It is the engineer's opinion that the existing WWTW will be able to handle the additional post-development effluent generated by the proposed residential development.

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	**YES**	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	**NO**

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

Construction phase operations will generate emissions comprised of dust and exhaust fumes from construction vehicles. The emissions will be temporary in nature and do not necessitate the application for a Scoping & EIA.

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

An Air Quality Emissions Licence will not be required for this activity. The dust liberation and emissions will be limited during the construction phase. Most of the dust liberation will be due to excavations and the movement of construction vehicles. Mitigation measures are provided in **Section D** of this report and are carried through in the EMPr.

11(d) Generation of noise

Will the activity generate noise?	**YES**	NO
If yes, is it controlled by any legislation of any sphere of government?	**YES**	NO

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

Construction phase operations will generate noise. Construction working hours are limited to 07.00 – 17.00 Monday–Friday and 08.00 – 17.00 on Saturdays as per the regulated working timeframes. No work is to occur on Sundays or Public Holidays. The noise generated will be temporary in nature and does not necessitate the application for a Scoping & EIA.

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

The proposed activity will generate noise during the construction phase when heavy plant and machinery will be operating on site. Disturbance to neighbouring landowners will be kept as low as possible. The applicant will be required to adhere to applicable noise limits during construction. Mitigation measures for noise are provided in **Section D** of this report and are carried through to the EMPr.

Noise during the operation phase will be limited to normal road traffic noise and movement of larger vehicles.

12 Water Use

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

municipal	water board	groundwater	river, stream, dam or lake	other	the activity will not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

	N/A	
Does the activity require a water use permit from the Department of Water Affairs?	**YES**	NO

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

13 Energy Efficiency

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

It is advised that construction materials should be transported at the same time, where possible, and waste material collection should be done simultaneously with other activities in order to reduce fuel consumption. All SANS 10-400 XA Regulations will be adhered to, therefore conforming to legislation.

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

Energy

No specific technological alternatives have been considered to date, as it has not yet been finally determined which technologies will be utilised for the development. Energy-efficiency bulbs and an effort to use solar power will likely be incorporated into the final design aspects of the units.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

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

   Section C Copy No. (e.g. A): **N/A**

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

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

YES	NO

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

All specialist reports must be contained in Appendix D.

14 Gradient of the Site

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

15 Location in Landscape

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

2.1 Ridgeline

2.2 Plateau

2.3 Side slope of hill/mountain

2.4 Closed valley

2.5 Open valley

2.6 Plain

2.7 Undulating plain / low hills

2.8 Dune

2.9 Seafront

16 Groundwater, Soil and Geological stability of the site

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

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	**YES**	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	**NO**	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	**NO**	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	**NO**	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	**NO**	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	**NO**	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	NO	YES	NO
An area sensitive to erosion	YES	**NO**	YES	NO	YES	NO

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

17 Groundcover

Indicate the types of groundcover present on the site:

4.1 Natural veld – good condition [E]

4.2 Natural veld – scattered aliens [E]

4.3 Natural veld with heavy alien infestation [E]

4.4 Veld dominated by alien species [E]

4.5 Gardens

4.6 Sport field

4.7 Cultivated land

4.8 Paved surface

4.9 Building or other structure

4.10 Bare soil

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

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

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

17.1 Terrestrial Biodiversity Assessment

*Information extracted from Specialist Report (Colloty, 2024)

The study area spans two vegetation types defined by Mucina and Rutherford (2007), as amended in the National Vegetation Map 2012 and 2017/18 spatial information (**Figure 29**). This vegetation unit, known as Algoa Sandstone Fynbos (FFs 29), a form of Algoa Grassy Fynbos, is listed as Critically Endangered and is therefore considered a Threatened Ecosystem, as per the National Environmental Management: Biodiversity Act.

Typically, the species associated with Algoa Sandstone Fynbos are dominated by a variety of grasses, Ericas, and Proteas, and are only located within a narrow coastal belt between the Van Stadens River in the West and Summerstrand in the East, within NMBM. However, disturbance had taken place within the site in the past, evidenced by the high number of invasive plant species (**Figure 31**) listed above, illegal waste / building rubble disposal (**Figure 32**), and the presence of old building foundations or concrete slabs. None of the dominant Protea or Erica species were observed; typical of Algoa Sandstone Fynbos were observed.

The species observed are, however, more related to dune pioneer and early successional state species, such as *Passerina rigida, Osteospermum moniliferum, Metalasia muricata, Elegia macrocarpa, Phylica littoralis, Setaria sphacelate torta, Imperata cylindrica* and *Helichrysum aureum*. Several areas of invasive grass species in areas that were mapped incorrectly as wetlands in the National Spatial databases were also observed, and these included areas of *Stenotaphrum secundatum* (Buffalo grass) and *Cenchrus clandestinus* (Kikuyu).

Thus, in summary, no evidence of this Fynbos vegetation unit remains, and the site is thus either transformed due to the activities mentioned above or due to past clearing of the site based on previous development approvals that then lapsed. The site is mostly covered by the dune and or alien vegetation above and the second habitat/vegetation unit identified within the site, namely, Sardinia Forest Thicket (**Figure 29** and **Figure 30**). This vegetation unit was previously considered Algoa Dune Strandveld and or Southern Coastal Forest, but recent work by Grobler *et al*., (2018) has seen the revision of the vegetation unit, and has it aligned with the NMBM Vegetation Map (**Figure 30**).

Sardinia Forest Thicket only occurs in a narrow coastal band no more than 5km from the coastline, between Seaview and Walmer Heights, within the NMBM. This unit thus dominates the undulating dunes, which are wind and fire-protected, and contain dense thickets of trees between 3 – 5m in height. In mature/undisturbed forest thicket patches, found mostly south of the proposed site, species observed included the following: *Azima tetracantha, Olea exasperata, Euclea racemosa, Searsia glauca, Searsia crenata, Carissa bispinosa, Cassine peragua, Cussonia thyrsiflora, Grewia occidentalis, Gymnosporia buxifolia, Gymnosporia capitata, Maytenus procumbens, Mystroxylon aethiopicum, Robsonodendron maritimum (e), Putterlickia pyracantha, Searsia pterota, Roepera morgsana.*

Species observed within the development site included the following, which included several dune forest pioneer species, which are expected near previously disturbed areas.

Table 5. Important indigenous plant species observed within the study area

Plant taxa	
Tecoma stans	*Searsia lucida scoparia*
Vachellia karroo	*Scutia myrtina*
Grewia occidentalis	*Rapanea gilliana*
Rhamnus prinoides	*Putterlickia pyracantha*
Pittosporum viridiflorum	*Carissa bispinosa bispinosa*
Scadoxus puniceus	*Azima tetracantha*
Ficus burkei	*Colpoon compressum*
Pterocelastrus tricuspidatus	*Rhoicissus tridentata tridentata*
Euclea racemosa	*Phylica litoralis*
Mystroxylon aethiopicum aethiopicum	*Setaria sphacelata torta*
Vepris lanceolata	*Imperata cylindrica*
Loxostylis alata	*Tarchonanthus littoralis*
Crassula multicava multicava	*Agathosma stenopetala*
Clausena anisata	*Euclea racemosa racemosa*
Canthium inerme	*Adenocline acuta*
Crotalaria capensis	*Zanthoxylum capense*
Abutilon sonneratianum	*Sideroxylon inerme inerme*
Silene undulata undulata	*Allophylus decipiens*
Rhoiacarpos capensis	*Searsia crenata*
Lamium amplexicaule	*Searsia glauca*
Olea exasperata	*Searsia laevigata laevigata*

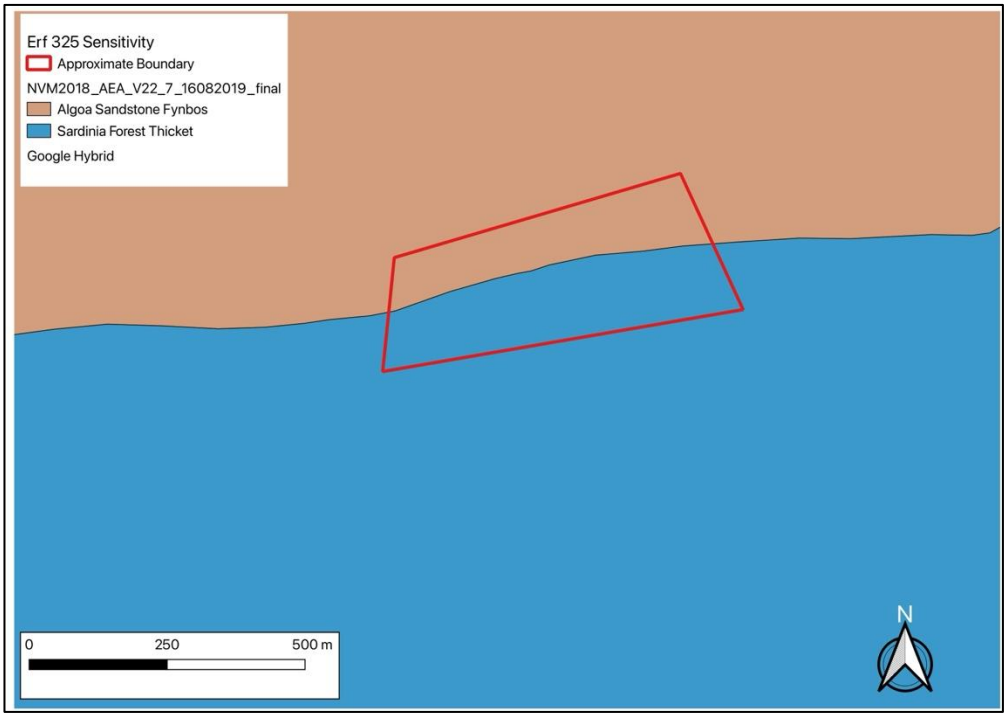

Figure 29. Vegetation South Africa VegMap as per Mucina & Rutherford (2007) revised 2024

Figure 30. NMBM Vegetation map (SRK, 2014)

Figure 31. A view of the central-western portion (left), and central-eastern (right) portion of the site dominated by invader / encroaching grass and alien species (Australian gums, Acacias, and Opuntia)

Figure 32. A regular garden waste disposal area

18 Land use character of the surrounding area

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

5.1 Natural area

5.2 Low density residential

5.3 Medium density residential

5.4 High density residential

5.5 Informal residential

5.6 Retail commercial & warehousing

5.7 Light industrial

5.8 Medium industrial [AN]

5.9 Heavy industrial [AN]

5.10 Power station

5.11 Office/consulting room

5.12 Military or police base/station/compound

5.13 Spoil heap or slimes dam[A]

5.14 Quarry, sand or borrow pit

5.15 Dam or reservoir

5.16 Hospital/medical centre

5.17 School

5.18 Tertiary education facility

5.19 Church

5.20 Old age home

5.21 Sewage treatment plant[A]

5.22 Train station or shunting yard [N]

5.23 Railway line [N]

5.24 Major Road (4 lanes or more) [N]

5.25 Airport [N]

5.26 Harbour

5.27 Sport facilities

5.28 Golf course

5.29 Polo fields

5.30 Filling station [H]

5.31 Landfill or waste treatment site

5.32 Plantation

5.33 Agriculture

5.34 River, stream or wetland

5.35 Nature conservation area

5.36 Mountain, koppie or ridge

5.37 Museum

5.38 Historical building

5.39 Protected Area

5.40 Graveyard

5.41 Archaeological site

5.42 Other land uses (describe)

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

N/A

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

If YES, specify and explain:

N/A

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

If YES, specify and explain:

N/A

19 Cultural/Historical Features

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	YES	**NO**
Archaeological or palaeontological sites, on or close (within 20m) to the site?	**No**	
If YES, explain:	**N/A**	

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

Briefly explain the findings of the specialist:

A Phase 1 Archaeological Impact Assessment was conducted by Mr. Kobus Reichert on behalf of Eastern Cape Heritage Consultants cc.

<u>The Phase 1 Archaeological Impact Assessment by Eastern Cape Heritage Consultants:</u>

Confirmed that no archaeological sites/materials were observed within or in close proximity to the study area. In general, the area for the proposed development appears to be of low archaeological sensitivity, and it is unlikely that any archaeological remains of significance will be found in situ or exposed during these activities. It must, however, be taken into account that the proposed development is located close to areas where archaeological material has been recorded in the past and where Phase 2 mitigation was required. Archaeological sites/materials may therefore be covered by dune sand and vegetation and may only be exposed during the development. There are no known graves or historical buildings on the proposed site.

Recommendations and Mitigations

The main impact on possible archaeological sites/remains will be the physical disturbance of the material and its context. Should such material be exposed then work must cease in the immediate area and it must be reported to the archaeologist at the Albany Museum in Makhanda (Grahamstown) (Tel: 046 622 2312) or to the Eastern Cape Provincial Heritage Resources Authority (Tel.: 043 492 1370), so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to remove/collect such material (See Appendix B for a list of possible archaeological sites that maybe found in the area). The developer must finance the costs should additional investigations be required. It is further recommended that:

1. Construction managers/foreman should be informed before clearing/construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

	2. An archaeologist/heritage practitioner should conduct a walkthrough of the proposed development area after vegetation clearing before the start of any construction activities. An archaeologist must also monitor all levelling and trenching activities that form part of the development. 3. An archaeologist must monitor all levelling and trenching activities that form part of the development. 4. Should the remains of build structures that are older than 60 years or concentrations of historical material be uncovered after vegetation clearing or during the construction phase, a historian/heritage practitioner must be appointed to evaluate the find and to determine if a destruction permit needs to be obtained from the Eastern Cape Heritage Resources Authority (ECPHRA) in terms of Section 34 of the National Heritage Resources Act, No. 25 of 1999. 5. If any dense concentrations of historical dump material are exposed during the development, work must stop immediately and be reported to the appointed historian (who will determine if a collecting strategy is required) or to the Eastern Cape Provincial Heritage Resources Authority (043 492 1370). Refer to **Appendix D4** for specialist reports.	
Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**

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

SECTION C: PUBLIC PARTICIPATION

20 Advertisement

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

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—

(i) the site where the activity to which the application relates is or is to be undertaken; and

(ii) any alternative site mentioned in the application;

Included in **Appendix E**.

(b) giving written notice to—

(i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;

(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;

(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;

(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;

(v) the municipality which has jurisdiction in the area;

(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and

(vii) any other party as required by the competent authority;

Proof of notification of landowners and occupiers of the surrounding properties is included in **Appendix E**.

(c) placing an advertisement in—

(i) one local newspaper; or

(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

A newspaper notice was placed in The Herald on **09 July 2024** (Attached in **Appendix E**).

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—

(i) illiteracy;

(ii) disability; or

(iii) any other disadvantage.

21 Content of Advertisements and Notices

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and

(b) state—

(i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;

(ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental

authorisation;

(iii) the nature and location of the activity to which the application relates;

(iv) where further information on the application or activity can be obtained; and

(iv) the manner in which and the person to whom representations in respect of the application may be made.

22 Placement of Advertisements and Notices

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

Advertisements and notices must make provision for all alternatives.

23 Determination of Appropriate Measures

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

24 Comments and Response Report

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

25 Authority Participation

Authorities are key interested and affected parties in each application, and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and environmental sections of the local authority must be informed of the application at least 30 (thirty) calendar days before the submission of the application.

Table 6. List of authorities and I&APs informed

NAME	OCCUPATION/AFFILIATION	TELEPHONE NUMBER|POSTAL ADDRESS/ RESIDENTIAL ADDRESS	EMAIL ADDRESS
LANDOWNERS, CLIENTS & ASSOCIATES			
Mr Aldo Gregorio Scribant	CGS Property Trust	**041 484 7211** P.O. Box 2179, North End, 6056, Gqeberha	aldos@scribantepe.co.za
GOVERNMENT I&AP's			
Andries Struwig (Assistant Director)	Eastern Cape Department: Economic Development, Environmental Affairs & Tourism (DEDEAT)	**041 508 5808** Private Bag X5001, Greenacres, Port Elizabeth, 6057	Andries.Struwig@dedea.gov.za
Jeff Govender (Regional Director)		**041 508 5800** Private Bag X5001, Greenacres, Port Elizabeth, 6057	dayalan.govender@dedea.gov.za
Case Officer (TBC)			
Monde Manga	EC Department of Transport	Private Bag X 0023, Bhisho, 5605, Eastern Cape	Monde.Manga@ectransport.gov.za
Mr M C Mafani	Dept of Transport (ECDoT)		mzi.mafani@ectransport.gov.za
Ayanda MaMncwabe Mama	Eastern Cape Provincial Heritage Resources Authority (ECPHRA)		amncwabe@gmail.com

NAME	OCCUPATION/AFFILIATION	TELEPHONE NUMBER|POSTAL ADDRESS/ RESIDENTIAL ADDRESS	EMAIL ADDRESS
Adv. Lungisa Malgas (Chief Executive Office)	South African Heritage Resources Agency (SAHRA)	**021 462 4502** P.O. Box 4637, Cape Town, 8000	lmalgas@sahra.org.za
Bahlekile Keikelame	Department of Rural Development and Land Reform (DRDLR)	**082 377 8295/** **043 700 7000**	Bahlekile.keikelame@drdlr.gov.za
Siphokazi Ndudane		**(0) 40602 5006/7** 10th Floor Dukumbana Building Independence Avenue BHISHO, 5606	Siphokazi.Ndudane@drdar.gov.za
Ms Thabile Mehlomakhulu	Eastern Cape Department: Rural Development & Land Reform	**043 700 7030** P.O. Box 1958, East London, 5200	thabile.mehlomakhulu@drdlr.gov.za
Babalwa Layini	Department of Forestry, Fisheries & Environment (DFFE)	**0637504427** Private Bag X12998, Centrahil, Port Elizabeth, 6006	babalwaL@dffe.gov.za
Nomantombazana Gazi		**041 407 4003** Private Bag X12998, Centrahil, Port Elizabeth, 6006	nomantombazanaG@dffe.gov.za
Mzukisi Maneli	Department: Water & Sanitation (DWS)	**041 501 0740** Private Bag X6041, Port Elizabeth 6000	manelim@dws.gov.za
Portia Makhanya: Chief Director	Department: Water & Sanitation (DWS)	**043) 604 5400** Private Bag X7485 KING WILLIAM'S TOWN 5600	MakhanyaP@dws.gov.za
Ms. Londeka Jilimane	Eastern Cape Parks and & Tourism Agency (ECPTA)		Londeka.Jilimane@ecpta.co.za
HOD Thandolwethu L. Manda	Eastern Cape Dept of Roads and Public Works (DRPW)	**060 9600 473/040 602 4244** Qhasana Building, Independence Ave 5605, Bhisho, Eastern Cape, Privare Bag X0022	Thandolwethu.Manda@ecdpw.gov.za hod.office@ecdpw.gov.za
MS. Itumeleng Felicity Ranyele	NMBM - Roads and Transport	**041 505 4420 /** **082 303 5664** Room 309, 3rd Floor, Noninzi Luzipho Building, Central, Port Elizabeth, 6001	itumelengranyele@gmail.com / jsampson@mandelametro.gov.za
Mkhuseli John Jack	NMBM - Economic Development Tourism and Agriculture	**084 490 4179**	idspe@iafrica.com
John Mervyn Mitchell	NMBM - Infrastructure and Engineering	**084 742 7014**	stagmitchell@gmail.com
Buyiswa Deliwe	NMBM - Manager: Environmental Health (Air & Noise Pollution)		bhumani@mandelametro.gov.za
Joram Mkosana	NMBM - Director Environmental Management		jmkosana@mandelametro.gov.za
Pamela Howes	NMBM - Secretary: Environmental Management	**041 506 5464** 15th Floor, Lilian Diedericks Building 196-200 Govan Mbeki Avenue, Central Port Elizabeth, 6000	phowes@mandelametro.gov.za

NAME	OCCUPATION/AFFILIATION	TELEPHONE NUMBER|POSTAL ADDRESS/ RESIDENTIAL ADDRESS	EMAIL ADDRESS
Andre de Ridder	NMBM - Senior Director: Fire & Emergency Services	**041 585 2311** 1st Floor, South End Fire Station South End, Port Elizabeth, 6001	aderidde@mandelametro.gov.za
Mthulisi Msimanga	NMBM – Director: Land Use and Management	**041 506 1095** 3rd Floor, Lillian Diedericks Building (Brister House), Central Port Elizabeth, 6000	mmsimanga@mandelametro.gov.za
Schalk Potgieter	NMBM - Strategic Planning		spotgiet@mandelametro.gov.za
Noxolo Nqwazi	NMBM - Chief Operating Officer - Acting City Manager	**041 506 3209** City Hall, 1st Floor, Market Square , 32 Govan Mbeki Avenue, Port Elizabeth, 6001	cm@mandelametro.gov.za
Maryka du Plessis	NMBM - Secretary to Director: Integrated Development Plan	**041 505 4530** Ground Floor, Noninzi Luzipho Building Central, Port Elizabeth, 6001	idpoffice@mandelametro.gov.za
Jill Miller	NMBM – Environmental Management		jmiller@mandelametro.gov.za
Joram Mkosana	NMBM – Environmental Management		jmkosana@mandelametro.gov.za
Nyasha Chamburuka	NMBM – Town Planning		nchamburuka@mandelametro.gov.za
Allister Jordan	NMBM – Acting Director Properties and Planning	**041 506 3498**	ajordan@mandelametro.gov.za
Dries van der Westhuizen	NMBM Ward 1 Councillor	Office: **041 5831 732/9** Whatsapp: **081 3900 329**	ward1@mandelametro.gov.za
REGISTERED I&APS			
Dr Stephen Holness			
Samantha Schewitz			
Prof Pierre Pistorius			
Ms Frances Taylor			
Owethu Pantshwa			
Samantha Schewitz			
Donne Gouws			
Michael Scanlen			
Elene Laas			
Tony Bosch			
BSSF Monty – Atlas Security			
Cheryl Botha			
Mark William Botha			
Murray Versfeld			
Matthew Versfeld			
Darren George			
Bernhard Schulz			
Fanus Gerber			
Steve Kirkup			
Kym Kirkup			
Rosanne Smith			
Mary-Jane Garde-van Heerden			

NAME	OCCUPATION/AFFILIATION	TELEPHONE NUMBER|POSTAL ADDRESS/ RESIDENTIAL ADDRESS	EMAIL ADDRESS
Chris Garde-van Heerden			
Grant Smith			
Browyn Smith			
Garreth Smith			
Iris Ferreira			
Aj Ferreira			
Charles Holing			
Frank van der Burg			
Janine Palm			
Bitton Franscois			
Jordaan Franscois			
Amanda Esterhuyse			
Dave McIntosh			
Ilona McIntosh			
Lilian Estelle Roodt			
Mel Darlow			
Russell Darlow			
Cobus Joubert			
Derek Soutter			
Linda Soutter			
Dale Bentz			
Dean Muller			
Clive Wulfon			
Sebastian Pillay			
Ross Zietsma			
Michelle Caputo			
Cynthia Streicher			
Ursula Griffin			
Sharon Luckman			
Andrew Luckman			
NEIGHBOURING LANDOWNERS			
Karin Henderson			
Jan Du Plessis			
Dr Janet Cherry and Ken Pinchuck			
Peter Crowther			
Rev. Roland Watson and Ruth Watson			
Dr Stephen Holness			
Bastiaan Wiegand and Mrs Jackie Syphus			
Neville Bentz			
Terence Doyle			
Cindy Swart			
IAPs FROM PREVIOUS APPLICATIONS			
Carol-Anne Cash			
Esterhuyse Amanda			
David Ascher			
Dr Winter Deo			
Prof Raubenheimer Deon			

NAME	OCCUPATION/AFFILIATION	TELEPHONE NUMBER|POSTAL ADDRESS/ RESIDENTIAL ADDRESS	EMAIL ADDRESS
Gerhard and Renata van der Merwe			
Eddie Dyason			
Mrs Newman Elsabe and Mr. David Fisher			
Enrico Venter			
Fanus Gerber			
Fiona Whitby			
Gary Perrin			
Jane Frauenstein			
Justin Longmore			
Karin Henderson			
Leon de Beer			
Mark Botha			
Mike Nowick			
Neil Bisseker			
Noelene Greeff			
Peter Crowther			
Grieb Roy			
Rev. Roland Watson and Ruth Watson			
Rolf Kickhofe			
Ross and Hannie Spearing			
Dr Shaleen Els			
Shelly Desmond			
Dr Stephen Holness			
Terence Doyle			
Tony White			
Trevor & Pat Compton			
Morgan Griffiths			
Bill Sanderson			
Mrs Jane McCartney and Mr Chris McCartney			
South End Kwik Spar			
Bill Sanderson			
Joubert, Bradley John J			
Brendan McGrath			
Ishbel Birch and Craig Birch			
Deon Slabbert			
Jeanette-Mari du Plessis and Evert du Plessis			
Mr Gerber Fanus			
Fiona Whitby			
George Bowen			
Warren Guy			
Bastiaan Wiegand and Mrs Jackie Syphus			

NAME	OCCUPATION/AFFILIATION	TELEPHONE NUMBER|POSTAL ADDRESS/ RESIDENTIAL ADDRESS	EMAIL ADDRESS
Jan Du Plessis			
Dr Janet Cherry and Ken Pinchuck			
Michelle and Kobus			
Malcom Wait			
Niel Bisseker			
Neill Erickson			
Neville Bentz			
Mrs Noelene Greeff			
Roger Stephen			
Roy Grieb			
Terence Doyle			
Tony White			

Table 7. List of authorities from whom comments have been received

Date of comment	Received from:	Comment:	Response:	Date of Response:
10/07/2024	Andries Struwig – DEDEAT	Indicated that the property being applied for had an Environmental Authorisation that lapsed. Enquired why this information was not included in the background document attached, and why there is a new process being followed to obtain an Environmental Authorisation from the Department. Suggested a pre-application meeting to discuss the matter prior to submitting an application to the Department.	A new Basic Assessment process independent of any previous processes that were facilitated for the site, all information pertaining to the previous applications and the history of authorisations will be divulged in the Basic Assessment report, which will also be subject to a 30-day public participation process. Accepted the invitation for a pre-application meeting.	10/07/2024
10/07/2024	Andries Struwig – DEDEAT	Indicated the importance of stating clearly that there was an Authorisation issued previously that has lapsed, which is the reason for the new application process. The previous application solicited quite a number of strong opinions/objections from I&AP's and it is important to make sure that everyone is on the same page and that there is a common understanding as to the reason for the new application.	Agreed and amended the letter and sent out a second email.	10/07/2024
10/07/2024	Cllr Dries van der Westhuizen – Ward 1 NMBM	Acknowledged receipt of the correspondence.		
10/07/2024	Cllr Dries van der Westhuizen – Ward 1 NMBM	Acknowledged receipt of the amended Background Information document and will discard the original document.		
19/06/2025	Charmaine Struwig – DEDEAT	Confirmed receipt of the email. Requested amendments on Appendix 4, 5, 12, 14, and 19.	Sent an email with an amended Application form for the proposed project and attached a cover letter. Subsequently, requested a confirmation receipt.	04/07/2025
04/07/2025	Charmaine Struwig – DEDEAT	Acknowledged receipt of the amended Application form and allocated a Provincial reference number for the application.		

26 Consultation with Other Stakeholders

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

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

Has any comment been received from stakeholders?	**YES**	NO

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

PRE-APPLICATION IAP REGISTRATION COMMENTS

*aim of the pre-application registration period is to ensure all IAP's are registered to enable all potentially affected persons to have access to draft BAR to comment comprehensively once the draft BAR has been consulted.

Table 8. List of I&APs from whom comments have been received

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
10/07/2024	Owethu Pantshwa	Asked to be updated on the project's progress. Registered as an I&AP.	Registered as an I&AP	10/07/2024	
10/07/2024	Cllr Dries van der Westhuizen – Ward 1 NMBM	Acknowledged receipt of the correspondence.			
10/07/2024	Cllr Dries van der Westhuizen – Ward 1 NMBM	Acknowledged receipt of the amended Background Information document and will discard the original document.			
10/07/2024	Stephen Holness – Research Associate at Nelson Mandela University	Registered as an interested and affected party. Requested a site plan as soon as it is available. Wanted to confirm whether: • The access from Blumberg Rd only will be for both the estate operation and construction. I would like confirmation that there will not be heavy vehicle or pedestrian access via the other roads. • That the fencing and access control will be installed at an early stage to avoid security and disturbance issues due to formal or informal access to the site via points other than the Blumberg Rd access.	Registered as an IAP. Details have been added to the IAP database, and will be notified as more information becomes available for the project, specifically when the draft BAR is available for public review. • It was confirmed that access for both construction and operation will only be allowed from Blumberg Road; no heavy vehicle access to the site will be allowed from any other roads. • Once the site has been cleared and levels obtained, the property will be enclosed which will include security access to and from the site. One of the objectives of this is to ensure security and controlled access which will help to ensure the safety of all residents in the area as well.	10/07/2024	• According to the TIA published in November 2024, access to the proposed development can be obtained from Blumberg Road opposite Merle Road and Chopin Road (refer to the Recommendations section of the TIA on page 24). Reference is to the proposed access route in Section 5 of the BAR. • Refer to Section 1.8 (Security) of the BAR.
11/07/2024	Frances Taylor	States that their property borders and overlooks the proposed development area. Asked to be registered as an I&AP	Registered as an I&AP	11/07/2024	

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
11/07/2024	Pierre Pistorius	Asked to be registered as an I&AP	Registered as an I&AP	11/07/2024	
12/07/2024	Samantha Schewitz	Asked to be registered as an I&AP	Registered as an I&AP	12/07/2024	
26/07/2024	Donne Gouws	Registered as an interested and affected party. • Enquired whether the residential development proposed will be low-cost housing, e.g. Walmer Links or more upmarket like Salbury Park?	Registered as an I&AP. • Confirmed that the project is not a low-cost housing development and that the proposal will fit in well with the surrounding aesthetic of the neighbourhood. Once the draft BAR is available, the SDP and a clear project description will detail the development proposal and the types of houses the estate will hold. I hope this answers your question for now. You will be notified as soon as the draft BAR is available for public review.	26/07/2024	Refer to Final Comments section of the SEIA, page 39.
22/07/2024	Michael Scanlen	• Concerned about the impact of this project to the area (environmental and traffic), as currently during the impact assessment phase, I often hear chainsaws as the bush is being cleaned out, so concerned that the process might not be followed correctly. • As stated above, I hear the chainsaws going in the bush clearing out the area while the assessment to the environment is supposed to be carried out, and I am very concerned about the impact it will have to traffic in this area if the entrance is in Blumberg and not in Michaelangelo	Please refer to the attached pre-application notification email. Please let me know if you would like to register as an Interested and Affected Party.	23/07/2024	• Refer to Section 8 (page 42) of the Biodiversity Report. This section covers the conclusion and recommendations made by the specialist with regard to the impact the project will have on the environment. • Refer to page 24 of the TIA published in November 2024.
2024/08/06	Elene Laas	Registered as an I&AP	Registered	2024/08/27	
2024/08/06	Tony Bosch	Registered as an I&AP	Registered	2024/08/27	
2024/08/06	BSSF Monty – Atlas Security	Registered as an I&AP	Registered	2024/08/27	
2024/08/08	Cheryl Botha	Registered as an I&AP Raised concerns regarding: • increased traffic,	Registered. Acknowledged receipt of email and attachments. Comments will be reviewed and addressed, and a response will be provided in due course.	2024/08/15	• Concerns relating to increased traffic are addressed on page 24 of the TIA published in November 2024.

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
		• noise, • impact on the natural environment we all love, • water supply issues, • sewerage is already a problem, • property value, • security			• Concerns relating to noise and, natural environment are addressed in the Impact Evaluation section of the draft BAR. • Concerns regarding the impact of the proposed project on the foul sewer system are addressed in Section 1.6.3 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Refer to Section 1.8 (Security) of the BAR.
08/08/2024	Murray Versfeld	Asked to be registered as an I&AP	Registered as an I&AP	2024/08/15	
08/08/2024	Matthew Versfeld	Asked to be registered as an I&AP Raised concerns regarding: • road infrastructure • water/ electricity infrastructure, • development won't fit in with the surrounding neighbourhood • property value in the area, • impact on the wildlife • security • noise and pollution	Registered as an I&AP	2024/08/15	• Concerns relating to road infrastructure are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to noise, pollution, and fauna are addressed in the Impact Evaluation section of the draft BAR (Section 29). • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR. • Refer to Section 1.8 (Security) of the BAR.

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
08/08/2024	Mark Jackson	Asked to be registered as an I&AP	Registered as an I&AP	2024/08/15	
08/08/2024	Noelene Greeff	Registered as an I&AP. Raised concerns with regards to the noise and increased traffic the project will bring, and the water and sewage problems.	Registered. Acknowledged receipt of email and attachments. Comments will be reviewed and addressed, and a response will be provided in due course.	2024/08/15	• Concerns relating to increased traffic are addressed on page 24 of the TIA published in November 2024. • Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR.
08/08/2024	Darren George	Registered as an I&AP. Sent a letter to the Municipal Council A community meeting was held on 6/09/2024. The following concerns were raised: • The destruction of natural habitats, forcing the removal of wildlife. • Increased traffic and noise pollution, which will undoubtedly compromise the safety and tranquility of our streets, preventing children from playing outside as they do now. • The potential for environmental harm, particularly the impact on the critically endangered Bushy Park Indian Forest and the vulnerable Sardinia Bay Forest Thicket, as highlighted in the supporting Bioregional Plan. • The lack of a detailed Site Development Plan being shared with the community leaves us in the dark about the specifics of this project.	Registered. The approval for this development was obtained by the owner in 2020, and an extension was given for the rights by the Council until 2025. This means the owner is fully within his rights to develop this property at any time, as he has obtained the rights. He will submit a Site Development Plan to the council, who will assess it for layout purposes, and this will then be walked to the service divisions by the client for them to comment. Thereafter, the client will be given the SDP approval letter and plan, and then building plans can be submitted. These rights were in place already at the time you purchased your property.	2024/08/15	• Refer to the Biodiversity Impact Assessment, which provides a summary of the terrestrial (plant and animal) baseline information regarding the proposed development. • Concerns relating to increased traffic are addressed on page 24 of the TIA published in November 2024. • Refer to Appendix A of the draft BAR regarding the final Site Development Plan for the project. • Refer to the Engineering Report regarding civil services associated with the project. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
		• Significant concerns regarding the handling of essential services, including water supply, water reticulation, sewerage, substations, stormwater management, subsoil issues, waste management, and refuse storage, which could attract rodents and other pests. • The impact on municipal roads and traffic control further exacerbating the strain on our already limited infrastructure.			
09/08/2024	Bernhard Schulz	Registered as an I&AP. Raised concerns regarding: • The density of the proposed project • road infrastructure • water/ electricity infrastructure, • development won't fit in with the surrounding neighbourhood • property value in the area,	Registered. Acknowledged receipt of email and attachments. Comments will be reviewed and addressed, and a response will be provided in due course.	2024/08/15	• Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Refer to the Engineering Report regarding civil services associated with the project.
09/08/2024	Fanus Gerber	Registered as an I&AP. Raised concerns with: • the development not complement the surrounding properties (low-cost high density) • environmental impacts • infrastructure problems	Registered. Acknowledged receipt of email. Comments were sent to the town planner.	2024/08/15	• Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29). • Refer to the Engineering Report regarding civil services associated with the project.

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
11/08/2024	Steve Kirkup	Registered as an I&AP. Raised concerns that the project: • Disrupt all existing residents • Increased traffic levels • noise pollution • Air pollution • Deterioration of road surfaces • Damage to existing environmental eco-systems, such as birds and wild animals • complete disruption of the existing community and their peaceful lifestyles, • eventual increase in road traffic, • present water infrastructure is barely adequate, can't overload.	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.	2024/08/15	• Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Refer to the Engineering Report regarding the different civil services associated with the project. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39.
11/08/2024	Kym Kirkup	Registered as an I&AP.	Registered.	2024/08/15	
11/08/2024	Rosanne Smith	Registered as an I&AP. Concerned about the massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
		residents due to loss of natural environment and the cramped design of the housing.			
11/08/2024	Mary-Jane Garde-van Heerden	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
11/08/2024	Chris Garde-van Heerden	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.

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		residents due to loss of natural environment and the cramped design of the housing.			
11/08/2024	Grant Smith	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
11/08/2024	Garreth Smith	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.

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		residents due to loss of natural environment and the cramped design of the housing.			
11/08/2024	Browny Smith	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
11/08/2024	Iris Ferreira	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.

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		residents due to loss of natural environment and the cramped design of the housing.			
11/08/2024	AJ	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.	2024/08/15	• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
11/08/2024	Charles Holing	Registered as an I&AP. Concerned about: • current sewage system being overtaxed already • the current of the proposed black water purification system sewage system that already overtaxed • increased lad on current roads (traffic infrastructure) • impact on the ambiance of areas/s • environmental impact	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.	2024/08/15	• Refer to the Engineering Report regarding the different civil services associated with the project. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report.

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11/08/2024	Frank van der Burg	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.		• Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report.
11/08/2024	Janine Palm	Registered as an I&AP. Pointed out that the already stressed infrastructure must be developed first before starting with the development.	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.		• Refer to the Engineering Report regarding the different civil services associated with the project and Section 1.6 of the draft BAR.
11/08/2024	Bitton Franscois	Registered as an I&AP. Objected to the development due to the direct impact on their property value and views.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.		• Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39.
11/08/2024	Jordaan Franscois	Registered as an I&AP. Objected to the development due to the direct impact on their property value and views.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.		• Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39.
11/08/2024	Amanda Esterhuyse	Registered as an I&AP. Raised concerns regarding: • The endangerment of wildlife. • The decrease in property value as the development is a low-cost housing	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.		• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the

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		project, and the major influx of traffic that we will experience. • Possible increase the criminal interest in the area as they will be open and vulnerable with the property to greenery ratio being seriously impeded. • Issues with non-working streetlights • Possible increase in accidents with an additional ± 500 vehicles using the roads.			Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
11/08/2024	Dave McIntosh	Registered as an I&AP.	Registered		
11/08/2024	Ilona McIntosh	Registered as an I&AP.	Registered		
12/08/2024	L. Estelle Roodt.	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.		• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
12/08/2024	Mel Darlow.	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay	Registered. Comments will be reviewed and addressed and a response will be provided in due course.		• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the

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		Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.			Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
12/08/2024	Russell Darlow.	Registered as an I&AP. Concerned about massive loss of wildlife and green belt in a critical biodiversity area. Endangered species in Sardinia Bay Conservancy affected. 17 hectares of displaced wildlife, birds of prey, monkeys, spiders, and trees that are home to them. Decline in neighborhood aesthetic appeal, tranquility, and desirability. Impact on property values - due to the loss of green space, the appeal of existing properties is diminished. Increased traffic and noise pollution, loss of the current peaceful environment where children play. Social wellness of new and existing residents due to loss of natural environment and the cramped design of the housing.	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.		• Concerns relating to the environmental impacts of the proposed project are addressed in the Impact Evaluation section of the draft BAR (Section 29) and in the Biodiversity Impact Assessment Report. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to road infrastructure and traffic are addressed on pages 23 and 24 of the TIA published in November 2024.
12/08/2024	Mark William Botha	Registered as an I&AP. Raised concerns: • increased traffic, • noise, • impact on the natural environment we all love,	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.		• Concerns relating to road infrastructure are addressed on pages 23 and 24 of the TIA published in November 2024.

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
		• water supply issues, • sewerage is already a problem, • property value, • security Suggested the following studies be conducted • EIA Study • Traffic Impact Assessment • Social Impact Assessment			• Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to noise, pollution, and fauna are addressed in the Impact Evaluation section of the draft BAR (Section 29). • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR. • Refer to Section 1.8 (Security) of the BAR.
12/08/2024	Cobus Joubert	Registered as an I&AP. Raised concerns with regard to: • Potential for increased traffic and noise pollution. • The development of the green belt into housing will bring increased traffic and noise pollution, which could make the area less desirable for current and future residents. • This decrease in quality of life could lead to a decline in housing demand and subsequently, property values. Impact on local infrastructure and services. • The new development could strain local infrastructure and services, such as roads, schools, and public utilities, leading to a decrease in the quality of life.	Registered. Comments will be reviewed and addressed and a response will be provided in due course.		• Concerns relating to road infrastructure are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to noise, pollution, and fauna are addressed in the Impact Evaluation section of the draft BAR (Section 29). • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR.

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		• This strain could make their area less attractive to potential buyers, thereby reducing property values in the surrounding neighborhoods.			• Refer to Section 1.8 (Security) of the BAR.
12/08/2024	Derek Soutter	Registered as an I&AP. • Pointed out that the proposed development will double the number of houses in the area. • The existing roads and traffic systems are not capable of handling such a high influx of properties,	Registered. Comments will be reviewed and addressed, and a response will be provided in due course.		• Concerns relating to road infrastructure are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR.
12/08/2024	Linda Soutters	Registered as an I&AP.	Registered		
12/08/2024	Jennifer Harris	Registered as an I&AP.	Registered		
12/08/2024	Neville Bentz	Registered as an I&AP. Raised potential issues relating to: • Impact of increased traffic; • services, especially water supply and sewage; • building density; • location of multi-story buildings relative to existing Pari Park homes.	Registered		• Concerns relating to road infrastructure are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to noise, pollution, and fauna are addressed in the

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
					Impact Evaluation section of the draft BAR (Section 29). • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR. • Refer to Section 1.8 (Security) of the BAR.
12/08/2024	Dale Bentz	Registered as an I&AP.	Registered		
12/08/2024	Dean Muller	Registered as an I&AP.	Registered		
12/08/2024	Clive Wulfon	Registered as an I&AP.	Registered		
12/08/2024	Sebastian Pillay	Registered as an I&AP. Raised concerns with: • The impact of the development on animal and plant life. • Impact of excess traffic and major security issues. • Property values are in jeopardy and loss of sea views. • Over Over-saturated and local real estate. Protection of existing homeowners' investment in the area.	Registered		• Concerns relating to road infrastructure are addressed on pages 23 and 24 of the TIA published in November 2024. • Concerns relating to water infrastructure are addressed in Section 1.6.2 of the draft BAR. • Concerns relating to property value are addressed in the Final Comments section of the SEIA, page 39. • Concerns relating to noise, pollution, and fauna are addressed in the Impact Evaluation section of the draft BAR (Section 29). • Concerns regarding the impact of the proposed project on the Foul sewer system are addressed in Section 1.6.3 of the draft BAR. • Refer to Section 1.8 (Security) of the BAR.
12/08/2024	Ross Zietsma	Registered as an I&AP.	Registered		
15/08/2024	Michelle Caputo	Registered as an I&AP.	Registered		
15/08/2024	Cynthia Streicher	Registered as an I&AP.	Registered		

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
15/08/2024	Ursula Griffin	Registered as an I&AP.	Registered		
16/08/2024	Sharon Luckman	Registered as an I&AP. Requested that Chopin Road be marked on the plan. I was always under the impression that Chopin Road would extend as I have a second gate on the property for access when this does happen. I currently have a servitude across the adjoining properties. I thus need to know if Chopin will extend to be a municipal road with future access directly to my property or if Scribante has purchased the whole property.	Registered. Please note that the due dates for registration and comments are a formality and have to be indicated as per the NEMA requirements, however, I run my public participation processes throughout the lifetime of the projects I work on to ensure no one is left out and that we have a transparent and inclusive (and thus productive) public participation process. Please feel free to send me any and all IAP registration requests or comments, regardless of the date. The only dates that are important to follow are the due dates for comment on the draft Basic Assessment Report (BAR). This will only happen at a later stage in the project. It is important to ensure comments are submitted prior to the due date for comment, because we only have a certain amount of time to submit the reports to the competent authority and thus have to ensure we address comments within the designated timeframes. I will emphasize the importance of those due dates once the draft BAR is made available to the public for review and comment.		Refer to page 22 of the Traffic Impact Assessment report, which entails the access configuration for the proposed site where Chopin Road is included.
16/08/2024	Andrew Luckman	Registered as an I&AP.	Registered		
13/11/2024	Cindy Swart	Registered as an I&AP. Expressed her frustration of not being aware of the upcoming development.	Registered. Public participation is open throughout the project process, and we are only in the pre-application phase of this project regarding the environmental application in terms of the NEMA EIA Regulations. Feel free to complete the comment and IAP registration form attached in Letter 1 and send it back to me. Kindly note that the majority of comments (i.e., comments relevant to the project EIA process) and		

Date of Comment	Received from:	Comment:	Response:	Date of Response:	Reference
			concerns will be addressed in the draft Basic Assessment Report and that all registered IAP's will be notified once this report becomes available for public review.		

SECTION D: IMPACT ASSESSMENT

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

27 Issues raised by interested and affected parties

List the main issues raised by interested and affected parties.

Table 9. Issues raised by I&APs

Land use	Crime	Traffic	Noise	General disturbance	Stormwater	Property values
Farming area, not commercial	Crime will escalate	Traffic will increase	Noise will be an issue			
The area is semi-agricultural and residential, do not want commercial business						
Agricultural area, do not want industrial development				Farm animals will be disturbed		
Agricultural area, do not want commercial development	Crime will escalate	potential damage to roads by large trucks and the road safety of cyclists, runners	Noise will cause issues	disturbance to local ecology	A large hardstand area will create massive runoff	
Not good for the community	Crime will escalate	The roads will worsen				
	Crime will escalate	The roads will be affected		development is not to advantage of community		
development will change the integrity and landscape of the farming community	Crime will escalate	Roads and infrastructure will be placed under duress	noise issues	disruptions to farm life and community		Negative impacts on property values
		traffic increase, specifically heavy-duty vehicles and safety of other road users		Changes to aesthetic and light pollution		

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

The above issues were raised during the pre-application consultation period and have been included in the impact assessment and specialist studies.

Comprehensive responses are to be provided to IAPs during draft BAR commenting period.

28 Impacts that may result from the planning and design, Construction, Operational, Decommissioning, and Closure phases, as well as Proposed Management of identified Impacts and Proposed Mitigation Measures

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

All potential environmental, socio-economic, and heritage impacts are considered, which could occur as a result of the proposed project activities, which include all phases of the proposed project (planning, construction & operational phases – no decommissioning and/or closure is applicable). The impacts that are identified could have a positive or negative effect and are rated intrinsically. The evaluation process regarding the impacts and their ratings are done according to the following sequence:

1) is to identify all potential impacts,
2) identification and consideration of mitigation measures by implementing the use of "mitigation hierarchy" which is a framework for managing the risks and potential negative impacts of development projects when considering the potential environmental, socio-economic, and heritage impacts. Preventative measures are considered first and remediation measures considered last. Offsets are a last resort consideration for possible remediation measures,
3) Reviewing the significance of the identified impact before as well as after the implementation of mitigative measures, and lastly
4) Consolidation of the impacts.

Resources used to identify the potential environmental, socio-economic and heritage impacts associated with the proposed project activities include the following:

- Professional judgement and field observations,
- Desktop study,
- Spatial tools,
- Specialist studies and reports as well as open communication with specialists,
- Making use of available Biodiversity plans,
- Spatial Development Frameworks available covering the proposed project area,
- The public participation process and comments from I&AP's,
- Google Maps,
- The online DEA Screening tool,
- Considering environmental planning guidelines,
- Screening Report,

- The study of relevant scientific and professional literature,

29 Impact Evaluation

The methodology implemented in the assessment of impacts for this project is developed to meet the requirements of the EIA Regulations (2014), as amended and Guidelines 3 to 5 which were published in support of the 2006 EIA Regulations. The EIA Guideline and Information Document Series (March, 2013) published in terms of Section 24J of NEMA by the Western Cape Department of Environmental Affairs & Development Planning are also consulted. For both, specific to this section Guideline 5 – Assessment of Alternatives and Impacts (DEAT,2006) and Part 5 – Guideline on Alternatives (DEA&DP, 2013). As per the abovementioned guidelines the following are considered:

- The **nature** of the impact. Description of the impact (positive, negative, direct, indirect, or cumulative);
- The **magnitude** of the impact (severe, moderate, low);
- The **extent** and location of the impact in terms of the area covered, volume distribution, etc. (site specific, local, regional, national);
- **Phase** during which the impact will occur (construction, operation and/or decommissioning);
- The **duration** of the impact (short term, long term, intermittent or permanent – which could be described as continuous in terms of the life of the operations of the activities);
- The extent to which the impact can be **reversed** or not (reversible, partly reversible, irreversible);
- The **probability** of the impact actually occurring (unlikely, probable, highly probable, definite).
- The **significance** of the impact (very low, low, medium, medium-high, high)

Once the impacts are identified and predicted, the identification and consideration of mitigation measures by implementing the use of "mitigation hierarchy", which is a framework for managing the risks and potential negative impacts of development projects when considering the potential environmental, socio-economic, and heritage impacts, is implemented. Preventative measures are considered first and remediation measures considered last. Offsets are a last resort consideration for possible remediation measures.

After concluding the possible mitigation measures, the significance of the impact on a local, regional or global level is evaluated. The evaluation of the significance of impacts distinguishes between the impact rating before mitigation (significance before) is implemented/considered and the significance rating after (significance after) the recommended mitigation measures are considered.

Impacts of **very low significance** are impacts which have been identified as a framework, even though these impacts might have little to no effect on the surrounding environment, it is still important they be considered. This should indicate that due diligence was practiced during the impact assessment process.

Impacts rated as **low significance**, are impacts where the project activities will result in short-term changes to the biophysical, socio-economic, and/or cultural heritage environment. The impacts will mostly be restricted to the immediate

environment of the project activities and should recover to their natural state within a shorter period of time (usually 0 – 5 years).

Impacts of **medium significance** will mostly result in a moderate short to medium-term change in the biophysical, socio-economic, and/or cultural heritage environment. The results of these impacts could reach a wider area which could be experienced at a regional level. Some minor indirect impacts could arise from the project activities and the system might be able to recover to a certain extent, but it is unlikely that recovery will be a full recovery to its natural or original state. The recovery period will take place over a longer period of time (5 – 15 years).

Impacts with a **high significance** rating are impacts where the activities will have major long-term effects on the biophysical, socio-economic, and/or cultural heritage environment and will result in effects experienced at a larger regional, national or international level (although extent does not always account for the significance rating, especially impacts with a local extent, but could still be rated high negative). Secondary, cumulative and/or indirect impacts will most likely be associated with the proposed project activities. It is possible for the system to recover over a period of longer than 15 years, but it is unlikely that the recovery will be in its natural or original state. The impacts are considered long-term and will result in changes to the lifestyle of the affected population.

The identified environmental impacts associated with the proposed service station and related facilities are described and evaluated below relative to the no-go option. Impacts are arranged by environmental themes to ensure that all aspects of the environment have undergone scrutiny and no potential impacts thus mitigation measures, are left out. For the sake of brevity, the impacts to both alternatives are not assessed as the sites are very much the same and the impacts would thus be the same. , Where no impacts have been identified for a specific theme, it is still listed. These themes include the following:

- Biodiversity
- Soil
- Surface Water & Groundwater
- Stormwater
- Geology
- Waste
- Visual
- Air Quality
- Noise
- Health& Safety
- Archaeological & Palaeontological
- Traffic Impacts
- Socio-Economic & Cultural

29.1 Construction Phase Impacts

29.1.1 Terrestrial Biodiversity

Potential impact and risk:	**Loss of vegetation units that could contain particular species/habitats**	
Nature of impact:	**Indirect Negative Impact** During construction, vegetation clearing for development will be required. However, the proposed site will only impact areas that are currently disturbed, previously transformed, dense alien vegetation, or contain illegal dumping. The proposed layout thus makes use of the areas, which have seen a great deal of disturbance in the past.	
	Without mitigation	**With mitigation**
Intensity	High	Medium
Extent and duration of impact:	Site-specific, long-term	Site-specific, medium-term
Magnitude of impact or risk:	Very high	Low
Probability of occurrence:	Probable	Possible
Significance	Very high -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- It is recommended that the development option discussed in this assessment, the Preferred option, be selected, which will avoid any residual impacts on sensitive habitats. - All temporary works areas (laydowns and camps) can only be placed in previously disturbed areas within the site, and this includes any temporary access roads or storage areas. - Alien vegetation management must be initiated at the beginning of the construction period and must extend into any remaining areas into the operation phase. - It is recommended as best practice to conduct a search and rescue programme for any listed or protected plants species, although this consideration was not used to reduce the potential impact ratings. Any plants removed could easily be relocated into areas that will need rehabilitation post-construction or relocated to nearby conservation areas. - The revegetation of any temporary sites as well as any previously degraded areas, must begin from the onset of the project, with the involvement of a botanist to assist with the revegetation specifications. - Regeneration of alien vegetation must be monitored once all areas have been cleared, forming part of a long-term alien vegetation management plan.	
Cumulative impact post mitigation:	Additional loss of sensitive vegetation/habitats related to other projects, most of which have or could result in additional clearing of fynbos/grassland mosaics, is unlikely due to the nature of the project site i.e. surrounding site is already well-established residential areas or form part of a conservancy that projects additional development of the forest thicket components	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Low -	Low -

Potential impact and risk:	Loss of habitat containing protected species or Species of Special Concern	
Nature of impact:	**Indirect Negative Impact** During construction, vegetation clearing for development will be required. However, the layout was revised to avoid any sensitive habitats, as indicated in this assessment.	
	Without mitigation	**With mitigation**
Intensity	Very Low	Medium
Extent and duration of impact:	Local, long-term	Site-specific, medium-term
Magnitude of impact or risk:	High	Low
Probability of occurrence:	Probable	Possible
Significance	Low -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- It is recommended that the development option discussed in this assessment, the Preferred option, be selected, which will avoid any residual impacts on sensitive habitats. - All temporary works areas (laydowns and camps) can only be placed in previously disturbed areas within the site, and this includes any temporary access roads or storage areas. - Alien vegetation management must be initiated at the beginning of the construction period and must extend into any remaining areas into the operation phase on Erf 325, Theescombe. - It is recommended as best practice to conduct a search and rescue programme for any listed or protected plant species, although this consideration was not used to reduce the potential impact ratings. Any plants removed could easily be relocated to areas that will need rehabilitation post-construction. - The revegetation of any temporary sites, as well as any previously degraded areas, must begin from the onset of the project, with the involvement of a botanist to assist with the revegetation specifications. - Regeneration of alien vegetation must be monitored once all areas have been cleared, forming part of a long-term alien vegetation management plan	
Cumulative impact post mitigation:	Additional loss of sensitive vegetation/habitats related to other projects, most of which have or could result in additional clearing of thicket/forest mosaics, is unlikely due to the nature of the project site i.e. surrounding site are already well establish residential areas or form part of a conservancy that projects additional development of the forest thicket components.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Low -	Low -

Potential impact and risk:	Loss of any critical corridors and connected habitats that are linked to any conservation plans or critical biodiversity spatial plans
Nature of impact:	**Indirect Negative Impact** During construction, some flora and more important fauna will be disturbed, while the operational phase fences could pose an obstruction to the movement of small to medium mammals in particular. Birds, insects, and reptiles are impacted to a lesser degree due to being mobile (birds & insects) or in the case of reptiles have small ranges. Although the proposed layout will avoid any sensitive habitats and allow for suitably sized habitats for the less mobile species observed, any significant boundary fences could pose a risk to the movement of small to medium-sized mammals.

	Without mitigation	With mitigation
Intensity	Very low	Medium
Extent and duration of impact:	Local, Long-term	Local, medium-term
Magnitude of impact or risk:	Low	Low
Probability of occurrence:	Possible	Possible
Significance	Low -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- It is recommended that the development option discussed in this assessment, the Preferred option, be selected, which will avoid any residual impacts on sensitive habitats. - All temporary works areas (laydowns and camps) can only be placed in previously disturbed areas within the site, and this includes any temporary access roads or storage areas. - Alien vegetation management must be initiated at the beginning of the construction period and must extend into any remaining areas into the operation phase on Erf 325, Theescombe. - It is recommended as best practice to conduct a search and rescue programme for any listed or protected plant species, although this consideration was not used to reduce the potential impact ratings. Any plants removed could easily be relocated to areas that will need rehabilitation post-construction. - During construction, any movement of personnel and plant/machinery will result in the displacement of the larger mammals, but due consideration must be given to the small buck and or reptiles, for example. Solid fencing or steel mesh fencing is thus not advocated, but due to safety concerns, may not be feasible. It, however, recommended that the provision of movement must be allowed. This could be allowed for using small areas of palisade fencing (1.0 x 0.5m) within the mesh fencing, even if just small areas, and 50 – 100m intervals for these areas. These areas could then be monitored using security cameras, should safety remain a concern. - All roadways must allow for "mountable kerbing" to allow for the movement of reptiles, insects, and small mammals - Appropriate signage must be installed during the construction and operational phases to remind traffic of the presence of wildlife. No construction should be allowed at night. - The revegetation of any temporary sites as well as any previously degraded areas, must begin from the onset of the project, with the involvement of a botanist to assist with the revegetation specifications. - Regeneration of alien vegetation must be monitored once all areas have been cleared, forming part of a long-term alien vegetation management plan.	
Cumulative impact post mitigation:	Additional loss of sensitive vegetation/habitats related to other projects, most of which have or could result in additional clearing of thicket/forest mosaics, is unlikely due to the nature of the project site i.e. surrounding sites are already well-established residential areas or form part of a conservancy that projects additional development of the forest thicket components.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Low -	Low -

Potential impact and risk:	The potential spread of alien vegetation	
Nature of impact:	**Indirect Negative Impact** Several Alien Invasive Species were found present on the site and include the following species • *Pinus spp* (Pine trees) • *Eucalyptus spp* (Blue / Red Gums) • *Agave sisalana* (Sisal plant / Agave) • *Acacia mearnsii* (Black Wattle) • *Acacia cyclops* (Rooikrans) • *Acacia longifolia* (Longleaf wattle) • *Foeniculum vulgare* (Fennel) • *Cyperus rotundus subsp rotundus* (Nut grass) • *Pennisetum clandestinum (Kikuyu)* • *Solanum maurtianum (Bugweed)* • *Argemone Mexicana (Mexican poppy)* • *Cestrum laevigatum* (Inkberry) • *Opuntia ficus-indica* (Prickly-pear) • *Tropaeolum majus* (Nasturtium) • *Ricinus communis* (Castor-oil plant) • *Melia azedarach* (Syringa) During construction, vegetation clearing for development will be required. This disturbance then allows for the alien species to colonise the soils, if left unmanaged.	
	Without mitigation	**With mitigation**
Intensity	High	Medium
Extent and duration of impact:	Regional, long-term	Local, medium-term
Magnitude of impact or risk:	Very high	Low
Probability of occurrence:	Probable	Possible
Significance	Very high -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- All temporary works areas (laydowns and camps) can only be placed in previously disturbed areas within the site, and this includes any temporary access roads or storage areas. - Alien vegetation management must be initiated at the beginning of the construction period and must extend into any remaining areas into the operation phase. - The revegetation of any temporary sites as well as any previously degraded areas, must begin from the onset of the project, with the involvement of a botanist to assist with the revegetation specifications. - Regeneration of alien vegetation must be monitored once all areas have been cleared, forming part of a long-term alien vegetation management plan.	
Cumulative impact post mitigation:	Additional loss of sensitive vegetation/habitats related to other projects, most of which have or could result in additional clearing of thicket/forest mosaics, is unlikely due to the nature of the project site i.e. surrounding sites are already well establish residential areas or form part of a conservancy that projects additional development of the forest thicket components.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

29.1.2 Aquatic Biodiversity

Potential impact and risk:	**Changes to the hydrological regime and increased potential for erosion**	
Nature of impact:	**Indirect Negative Impact** Increased runoff volumes, especially with high velocities, not only increase the potential for erosion but also change the regional hydrology, i.e., flows are redirected. However, this site has no direct connection with water courses or drainage features, so the probability of this impact is low, but the cognisance of proper stormwater management, as well as rain capture systems for water use, must be implemented.	
	Without mitigation	**With mitigation**
Intensity	Very low	Medium
Extent and duration of impact:	Local, Long-term	Local, medium-term
Magnitude of impact or risk:	Low	Low
Probability of occurrence:	Probable	Possible
Significance	Low -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- The preferred option is recommended as all aquatic systems have been avoided. - A construction and operational stormwater management plan must be developed post-EA, detailing the structures and actions that must be installed to prevent the increase of surface water flows directly into any natural systems. - Effective stormwater management must include measures to slow, spread, and deplete the energy of concentrated flows through effective stabilisation (gabions and Reno mattresses) and the re-vegetation of any disturbed areas - Rain harvesting is also advocated. - Stormwater systems must be inspected on an annual basis to ensure they are functional. - Any concentrated runoff and or erosion where observed must be rectified with the appropriate stormwater management measures, e.g., gabions, reno mattresses, or energy dissipators.	
Cumulative impact post mitigation:	Additional loss of sensitive vegetation /habitats related to other projects, most of which have or could result in additional clearing of thicket/forest mosaics, is unlikely due to the nature of the project site i.e. surrounding sites are already well establish residential areas or form part of a conservancy that projects additional development of the forest thicket components, however proper management of any stormwater must take place, and in relation to the current allowable capacity of the surrounding areas.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

Potential impact and risk:	**Changes to the water quality**
Nature of impact:	**Indirect Negative Impact** During both preconstruction, construction, and operational activities, chemical pollutants (hydrocarbons from equipment and vehicles, cleaning fluids, cement powder, wet cement, shutter oil, etc.) associated with site-clearing machinery and construction activities, as well as maintenance activities, could be washed downslope. It is also proposed that aircraft refilling will take place, so

	spills during these operations or from the storage facility could also take place. However, this is improbable due to the lack of any surface water connectivity related to the impact of important downstream areas.	
	Without mitigation	**With mitigation**
Intensity	very low	Very low
Extent and duration of impact:	Local, Long-term	Local, medium-term
Magnitude of impact or risk:	Low	Low
Probability of occurrence:	Probable	Possible
Significance	Low -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- All construction/operational materials, including fuels and oil, should be stored in demarcated areas that are contained within berms/bunds to avoid the spread of any contamination. - Washing and cleaning of equipment should also be conducted in berms or bunds, in order to trap any cement and prevent excessive soil erosion. Mechanical plant and bowsers must not be refuelled or serviced within or directly adjacent to any channel. - Chemical storage containers must be regularly inspected so that any leaks are detected early; - Littering and contamination of water sources during construction must be prevented by effective construction camp management. - Emergency plans must be in place in case of spillages onto road surfaces in both the construction and operational phases; - No stockpiling should take place within a watercourse, wetland, or buffer, and all stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and surrounded by bunds; - The revegetation of any temporary sites, as well as any previously degraded areas, must begin from the onset of the project, with the involvement of a botanist to assist with the revegetation specifications - Stormwater systems must be inspected on an annual basis to ensure they are functional. - Any concentrated runoff and or erosion where observed must be rectified with the appropriate stormwater management measures, e.g., gabions, reno mattresses, or energy dissipators	
Cumulative impact post mitigation:	Additional loss of sensitive vegetation/habitats related to other projects, most of which have or could result in the additional clearing of thicket/forest mosaics, is unlikely due to the nature of the project site i.e. surrounding sites are already well-established residential areas or form part of a conservancy that projects additional development of the forest thicket components, however proper management of any stormwater must take place, and in relation to the current allowable capacity of the surrounding areas.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

29.1.3 Soil

Potential impact and risk:	**Susceptibility of soil erosion**	
Nature of impact:	**Indirect Negative Impact** Removal of flora leaves the soil susceptible to soil erosion, should intense rainfall/wind occur.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	Local, long-term	Site-specific, medium-term
Magnitude of impact or risk:	High	Low
Probability of occurrence:	Probable	Possible
Significance	High -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Soil should not be stockpiled for long periods of time. - Suitable measures must be implemented in areas that are susceptible to erosion, including but not limited to gabions and runoff diversion berms (if necessary). - Bare soil areas must be vegetated and a suitable cover crop planted once construction is completed. - If establishment of development does not occur soon after preparation of the site, a suitable cover crop to be established as a temporary measure. - Stockpiled material should be covered when stockpiling will be for extended periods during the construction phase. - Barriers should be erected along the site boundaries, such as a board fence or sediment fence, or a similar barrier, which can control air currents and windblown soil to avoid disturbance to motorists on adjacent roads.	
Cumulative impact post mitigation:	Potential effects on soil fertility.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

29.1.4 Geology

Potential impact and risk:	**Palaeontology impact on the proposed residential development on Erf 325, Theescombe**	
Nature of impact:	**Indirect Negative Impact** Direct impact on the underlying geological formations who has the potential to contain fossils is likely. During construction, the development activities will entail excavations into the superficial sediment cover (e.g., soil) or even into the underlying bedrock. Excavations for foundations, underground cabling, and access roads in areas with underlying geological formations can negatively impact the bedrock. These activities may displace, destroy, or seal in fossil resources, making them unavailable for research.	
	Without mitigation	**With mitigation**
Intensity	Medium	Very low
Extent and duration of impact:	Local, Long-term	Local, long-term
Magnitude of impact or risk:	High	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Medium	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- The ECO and supervisors must be aware of potential fossils during excavation. - Report significant findings to authorities and involve a paleontologist for assessment	
Cumulative impact post mitigation:	N/A	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

29.1.5 Traffic Impacts

Potential impact and risk:	**Increased traffic**	
Nature of impact:	**Indirect Negative Impact** During the construction phase of the proposed development, construction vehicles will be utilising the existing road network. This may result in the impeding of traffic.	
	Without mitigation	**With mitigation**
Intensity	Medium	Very low
Extent and duration of impact:	Local, Long-term	Local, long-term
Magnitude of impact or risk:	High	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Medium	

Degree to which impact can be mitigated	High	
Proposed mitigation:	- Large construction vehicles must not be permitted to utilize public roads during peak hours. - Clear road signage and traffic control personnel if required. - Careful planning by the Contractor of the delivery of material to the site, to minimise the number of vehicles accessing the site. - Barriers should be erected along the site boundaries such as a board fence, wind fence, sediment fence, or similar barrier which can control air currents and windblown soil to avoid disturbance to motorists on adjacent roads. - Measures to accommodate pedestrians should be in place and continually enforced. - Traffic calming measures should be in place along approaching roads	
Cumulative impact post mitigation:	The increased traffic can cause damage to roads and can negatively affect the well-being of the local community. Increased traffic flow from construction plant can cause increased air pollution and dust.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

29.1.6 Waste

Potential impact and risk:	**Accumulation of construction waste on-site**	
Nature of impact:	**Indirect Negative Impact** Waste generated during the construction phase of the project could cause pollution to surrounding areas if proper waste management is not implemented.	
	Without mitigation	**With mitigation**
Intensity	Medium	Very low
Extent and duration of impact:	Local, Long-term	Local, short-term
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Certain construction material can be re-used on site where required or disposed of at an appropriately licensed waste disposal facility. - Cleared vegetation can be chipped and incorporated into the topsoil rather than burned or disposed of. - Provision of waste bins for general and hazardous waste. - Any waste that may be produced during the site preparation phase must be disposed of at an appropriately licensed waste disposal facility (Arlington). - A register to be maintained for waste disposed of at waste facilities. - No waste is to be stockpiled on site. - Adequate capped litter bins should be provided at the site for waste generated by labourers; these should be emptied on a regular basis and waste disposed of at an appropriately licensed waste disposal facility. - Recycling of domestic waste is encouraged.	

	- Suitable portable sanitation facilities should be provided and maintained for the labourers during the development. - All hazardous substances must be stored on impervious surfaces in a designated bunded area, able to contain 110% of the total volume of materials stored. - The bunded areas should be inspected on a regular basis in order to be maintained correctly. - Storage areas should only be accessible by authorised persons. - Ensure provision of ablution facilities for site staff.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

29.1.7 Visual

Potential impact and risk:	**Visual intrusion**	
Nature of impact:	**Indirect Negative Impact** The proposed development will implement vegetation clearing of large areas on the site, which will cause changes to the character of the area. A construction site is generally not visually attractive. The accumulation of waste on site also contributes to the visual impact.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	Local, Long-term	Local, short-term
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Site camp should be strategically placed. It is suggested that the site camp be located on the alternative site which was part of the Makro facility site camp, should it be feasible. - Any lighting used on site should be downlights and only for security purposes. - Site camp should be kept neat and clean as much as possible. - Stockpiles should be kept neat and all waste should be cleared on a daily basis. - Building guidelines should be followed correctly and the site should be closed off from the public eye. - All areas not to be disturbed should be clearly marked off as no-go zones.	
Cumulative impact post mitigation:	The clearing of vegetation during construction can alter the natural landscape, temporarily changing the visual character of the area. This may be particularly noticeable if mature trees or distinctive vegetation are removed.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	High -	Low -

29.1.8 Noise

Potential impact and risk:	**Noise disturbance**	
Nature of impact:	**Indirect Negative Impact** During the construction phase of the project, noise generated from various activities such as excavation, machinery operation, demolition, and construction activities can have significant impacts on the surrounding environment and nearby residents. These noise impacts can lead to annoyance, disturbance, and potential health effects if not adequately managed.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	Local, Long-term	Local, short-term
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Select construction machinery and equipment with lower noise emissions and utilize noise-reducing technologies, such as mufflers, sound enclosures, and vibration dampeners, to mitigate noise at the source. - Schedule noisy construction activities during periods of lower sensitivity, such as weekdays during daytime hours, and avoid or minimize noisy activities during evenings, weekends, and holidays to reduce disturbance to nearby residents. - Where construction is scheduled for extent beyond the normal working hours, the surrounding residents should be notified in writing through the CLO and SF. - Erect temporary noise barriers and enclosures around noisy equipment and construction areas to contain and attenuate noise propagation. Use sound-absorbing materials such as acoustic panels or barriers to reduce noise transmission. - Construction activities should be maintained during the normal working hours (08h00-17h00).	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

29.1.9 Air quality

Potential impact and risk:	**Dust generation**	
Nature of impact:	**Direct Negative Impact** Construction vehicles will be travelling within the site areas transporting materials that may lead to dust generation. Unconsolidated bare soil will be present during site preparation and levelling. The soil will be prone to wind erosion with the associated generation of dust and windblown sand during high wind velocities. Dust generation on construction sites is not entirely avoidable and is one of the expected negatives during the construction phase of a project, however, it is imminent to indicate that mitigation measures should be implemented as thoroughly as possible in order to avoid extensive disturbances to neighbouring residents.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	Local, medium-term	Local, short-term
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Develop a comprehensive dust control plan tailored to the specific conditions of the construction site. This plan should outline strategies and measures to mitigate dust emissions effectively. - Regularly water unpaved surfaces, construction access roads, and storage areas to minimize dust generation. The application of water helps to suppress airborne particles by increasing moisture content. - Use environmentally friendly soil stabilizers to control dust by binding soil particles together. This helps to prevent soil erosion and reduce the potential for airborne dust. - Establish temporary vegetative cover, such as mulch or straw, on exposed soil areas to prevent soil erosion and reduce dust emissions. This cover can be applied in phases as construction progresses. - Install temporary windbreaks, such as silt fences or construction fabric, to reduce the impact of wind on dust dispersion. These barriers can be strategically placed to shield sensitive areas from airborne dust. - Implement and enforce speed limits for construction vehicles within the site to minimize the disturbance and dust generated by fast-moving vehicles. - Consider enclosing construction activities within temporary structures or barriers to minimize the dispersion of dust beyond the immediate construction site. - Pave construction access roads to reduce the generation of dust. This can also enhance the overall durability of the roads. - Schedule high-dust activities during periods of low wind and reduced site activity. This can help minimize the impact on nearby receptors, including residences and businesses. - Construction plant, equipment, machinery and vehicles should be well maintained and services regularly to minimise exhausted fumes air pollution.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

Potential impact and risk:	**Impacts on air quality (air pollution)**	
Nature of impact:	**Indirect Negative Impact** Air emissions are generated during construction activities from the operation of machinery through exhaust emissions and the use of generators as well as the generating of dust during these construction activities. The emissions include CO2, NOx, and fine particulate matter.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	Local, medium-term	Local, medium-term
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Very low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	Medium	
Proposed mitigation:	- Develop a comprehensive dust control plan tailored to the specific conditions of the construction site. This plan should outline strategies and measures to mitigate dust emissions effectively. - Regularly water unpaved surfaces, construction access roads, and storage areas to minimize dust generation. The application of water helps to suppress airborne particles by increasing moisture content. - Use environmentally friendly soil stabilizers to control dust by binding soil particles together. This helps to prevent soil erosion and reduce the potential for airborne dust. - Establish temporary vegetative cover, such as mulch or straw, on exposed soil areas to prevent soil erosion and reduce dust emissions. This cover can be applied in phases as construction progresses. - Install temporary windbreaks, such as silt fences or construction fabric, to reduce the impact of wind on dust dispersion. These barriers can be strategically placed to shield sensitive areas from airborne dust. - Implement and enforce speed limits for construction vehicles within the site to minimize the disturbance and dust generated by fast-moving vehicles. - Consider enclosing construction activities within temporary structures or barriers to minimize the dispersion of dust beyond the immediate construction site. - Pave construction access roads to reduce the generation of dust. This can also enhance the overall durability of the roads. - Schedule high-dust activities during periods of low wind and reduced site activity. This can help minimize the impact on nearby receptors, including residences and businesses. - Take precautions to limit the amount of dust that makes its way to surrounding roads and footways to a “reasonable level”. - Topsoil and soil stockpiles should be covered, wetted or otherwise stabilised to prevent wind erosion and dust generation. - Cover construction material, skips and stockpiled soils if they are a source of dust. - A water cart or sufficient watering equipment should be available to wet soils during windy days if wind-blown sand and dust becomes a problem. - Heavy machinery and vehicles must not exceed a speed limit of 20 km/hr along route of construction. - Construction vehicles should be aware of neighbouring properties and reduce dust emissions as much as possible, specifically during days of increased wind speeds.	

Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

29.1.10 Socio economic & cultural

Potential impact and risk:	**Employment creation**	
Nature of impact:	**Direct Positive Impact** Individuals and dependents benefit from the income generated by employed persons due to employment creation during the construction phase of the proposed Housing Development. Approximately 40 direct employment opportunities are associated with this project. As per the SEIA, a number of indirect and induced employment opportunities are likely to follow the direct opportunities. Jobs will be created due to the provision of services and purchasing of goods from suppliers and distributors. Induced jobs lastly result from the spending and consumption by direct and indirect workers.	
	Without mitigation	**With mitigation**
Intensity	High	NA
Extent and duration of impact:	Short-term	NA
Magnitude of impact or risk:	Medium	NA
Probability of occurrence:	Certain	NA
Significance	Medium +	NA
Degree to which the impact can be reversed:	NA	
Degree to which impact may cause irreplaceable loss of resources	NA	
Degree to which impact can be mitigated	NA	
Proposed mitigation:	- Source diverse local labour. - Small, Medium, and Micro-sized Enterprises (SMMEs) could be utilized during the development project.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

Potential impact and risk:	**Contribution to the GDP of the NMB Metro**	
Nature of impact:	**Indirect Positive Impact** A noteworthy contribution to the GDP of the NMB Metro, leading to higher levels of local economic activity and related socio-economic benefits.	
	Without mitigation	**With mitigation**
Intensity	High	NA
Extent and duration of impact:	Short-term, local	NA
Magnitude of impact or risk:	Medium	NA

Probability of occurrence:	Certain	NA
Significance	Medium +	NA
Degree to which the impact can be reversed:	NA	
Degree to which impact may cause irreplaceable loss of resources	NA	
Degree to which impact can be mitigated	NA	
Proposed mitigation:	- Source diverse local labour. - Small, Medium and Micro-sized Enterprises (SMMEs) could be utilized during the development project.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

Potential impact and risk:	**Increased demand for local goods and services**	
Nature of impact:	**Indirect Positive Impact** The construction of large residential estates involves a multi-faceted process that is intensive in its demand for a variety of goods and services. Higher levels of local economic activity normally follow the increased demand for goods and services, and the supply thereof by local businesses, and this in turn is likely to culminate in various socio-economic benefits, such as employment creation and poverty reduction. The extent of this impact is, of course, a factor of the size and health of the local economy in question and the subsequent ability of local service providers to meet such demands. It follows that the more limited this ability, the more leakage will take place from the local economy as developers would be compelled to source relevant goods and services elsewhere. Although some leakage will inevitably occur, the impact remains significant in the context of the positive effect that the demand for goods and services will have on the local economy.	
	Without mitigation	**With mitigation**
Intensity	Medium	NA
Extent and duration of impact:	Short-term, local	NA
Magnitude of impact or risk:	Low	NA
Probability of occurrence:	Certain	NA
Significance	Medium +	NA
Degree to which the impact can be reversed:	NA	
Degree to which impact may cause irreplaceable loss of resources	NA	
Degree to which impact can be mitigated	NA	
Proposed mitigation:	NA	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

Potential impact and risk:	Skills development and transfer	
Nature of impact:	**Indirect Positive Impact** Skills development and transfer leading to the empowerment of affected individuals with marketable skills and greater socio-economic mobility.	
	Without mitigation	**With mitigation**
Intensity	Medium	NA
Extent and duration of impact:	Short-term, local	NA
Magnitude of impact or risk:	Low	NA
Probability of occurrence:	Certain	NA
Significance	Medium +	NA
Degree to which the impact can be reversed:	NA	
Degree to which impact may cause irreplaceable loss of resources	NA	
Degree to which impact can be mitigated	NA	
Proposed mitigation:	NA	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

Potential impact and risk:	Health and safety risks	
Nature of impact:	**Indirect Negative Impact** The proposed Housing Development is likely to generate an increased amount of traffic as far as the daily movement of its workforce is concerned. The transport of workers will of course, supplement the other construction-related vehicular traffic that is expected to coincide with the proposed Housing Development's construction phase.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	Short-term, local	Short-term, local
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Possible	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	Medium	
Proposed mitigation:	- Establish an information-sharing link with the Safety and Security Directorate of the NMB Municipality.	

	- Comply with relevant health and safety regulations, and applicable legislation, including the Occupational Health and Safety Act (85/1993): 2014 Construction Regulations and the 1996 National Road Traffic Act.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

29.1.11 Archaeological & Palaeontological

Potential impact and risk:	**Possible loss of non-renewable heritage resources**	
Nature of impact:	**Indirect Negative Impact** The main impact on archaeological sites/remains (if any) will be the physical disturbance of the material and its context. The clearing of the vegetation may expose, disturb, and displace archaeological sites/materials. However, from the investigation, it would appear that the proposed areas earmarked for development are of low archaeological sensitivity. There are no known graves or buildings older than 60 years in the area surveyed.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	long-term, Development footprint	Short-term, site-specific
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Possible	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	Medium	
Proposed mitigation:	- Construction managers/foremen should also be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. - An archaeologist must conduct a walkthrough of the proposed development area after vegetation clearing. - An archaeologist must also monitor all levelling and trenching activities that form part of the development. - A historian must be appointed if any concentrations of historical material or the remains of built structures that are older than 60 years are uncovered after vegetation clearing or during the construction phase, to evaluate the find. If any human remains (or any other concentrations of archaeological heritage material) are exposed during construction, all work must cease in the immediate area of the finds and must be reported immediately to the archaeologist at the Albany Museum in Makhanda (Tel.: 046 622 2312) or to the Eastern Cape Provincial Heritage Resources Authority (043 492 1370). Sufficient time should be allowed to investigate and to remove/collect such material. Recommendations will follow from the investigation and may include: - Consultation with the local communities regarding the conditions for the possible removal, storage, and reburial (in the case of human remains) of heritage material.	

	- If the local communities agree to the removal of human remains and heritage, an archaeologist must apply for permits from the Eastern Cape Province Heritage Resources Authority to collect and/or excavate sites/materials from archaeological sites impacted by the development. - Consultation with the Albany Museum (repository for archaeological material in the Eastern Cape) regarding permit(s) to remove the heritage material, the storing, curating, and costs involved. - A Phase 2 Mitigation process to systematically excavate and to remove the archaeological deposits before construction of the development continues. - **Note:** All costs must be financed by the applicants. This may include: All monitoring and mitigation expenses regarding the excavations/collecting of material, travel, accommodation, and subsistence, analysis of the material, radiocarbon date(s) of the site(s), and a once-off curation/storage fee payable to the Department of Archaeology at the Albany Museum.	
Cumulative impact post mitigation:	The cumulative impacts on above and below-ground heritage will increase when further developments take place in adjoining areas. There are no other developments planned for the adjoining area, and the cumulative impact of the development therefore does not change the overall impact rating. Low Negative (-)	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

29.2 Operational Phase Impacts

29.2.1 Terrestrial Biodiversity

Potential impact and risk:	**Invasion of Alien Invasive Species**	
Nature of impact:	**Indirect Negative Impact** Susceptibility of post-construction disturbed areas to invasion by exotic and alien species. Post-construction disturbed areas having no vegetation cover are often susceptible to invasion by weedy and alien species, which can not only become invasive but also prevent natural flora from becoming established. The site is already covered with alien vegetation, and with the proposed development occurring, the area left for alien vegetation to establish itself will be limited to the open space areas. The developer will have the responsibility to ensure that alien vegetation is routinely removed from the retained open space.	
	Without mitigation	**With mitigation**
Intensity	Medium	Low
Extent and duration of impact:	long-term, local	Short-term, site-specific
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Possible	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	Medium	
Proposed mitigation:	- Alien trees must be removed from the site as per NEMBA requirements. - A suitable weed management strategy to be implemented in the construction and operation phases. - After clearing is completed, an appropriate cover crop should be planted where any weeds or exotic species are removed from disturbed areas, should construction not commence immediately.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

Potential impact and risk:	**Management of a section of Algoa Sandstone Fynbos Veg Unit**	
Nature of impact:	**Indirect Positive Impact** The developer will be responsible for managing the open space areas that have fynbos species associated with the Algoa Sandstone Fynbos Vegetation Unit. These areas will have to be managed and alien invasive species will be kept out of these areas, which will also provide the opportunity for more species to recover and contribute to the conservation target.	
	Without mitigation	**With mitigation**
Intensity	Medium	NA
Extent and duration of impact:	long-term, local	NA
Magnitude of impact or risk:	Medium	NA

Probability of occurrence:	Possible	NA
Significance	Low +	NA
Degree to which the impact can be reversed:	NA	
Degree to which impact may cause irreplaceable loss of resources	NA	
Degree to which impact can be mitigated	NA	
Proposed mitigation:	NA	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**

29.2.2 Stormwater & flooding

Potential impact and risk:	**Increased impervious area**	
Nature of impact:	**Indirect Negative Impact** The development of the property will increase the impervious area, which will increase stormwater runoff from the property. Proper stormwater management must be implemented. The Engineering Services report thoroughly covers stormwater management options, which can be considered as the mitigation measures for this impact.	
	Without mitigation	**With mitigation**
Intensity	High	Low
Extent and duration of impact:	short-term, local	Short-term, site-specific
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Possible	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Correct planning and maintenance for stormwater drainage and engineering of development to keep water accumulation to a minimum. - A stormwater management plan should be compiled by a professional engineer. - Stormwater management plan implemented must follow the correct stormwater infrastructure be installed and continually monitored. - Properly designed drainage systems and maintain them. Rainwater harvesting should be implemented on the site in line with Sustainable Drainage Systems (SuDS) principles. - A stormwater management plan should be compiled and the planning of stormwater infrastructure be approved by the municipality.	

	- The stormwater management plan should be consulted during the installation of stormwater infrastructure and should be one of the first factors considered during the finalisation of the storm water management plan.	
Cumulative impact post mitigation:	The cumulative discharge of stormwater from multiple developments, including the proposed mixed-use project, may lead to heightened levels of pollutants entering local water bodies. Even with on-site mitigation, overall water quality of residual wetland areas may be impacted.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium-	Low-

29.2.3 Waste

Potential impact and risk:	**Waste management**	
Nature of impact:	**Indirect Negative Impact** Waste generated during the operational phase of the project could cause pollution to surrounding areas if proper waste management is not implemented.	
	Without mitigation	**With mitigation**
Intensity	High	Low
Extent and duration of impact:	short-term, local	Short-term, site specific
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Possible	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Proper operational waste management systems should be in place for the operational phase of the project. - Waste should be collected weekly. - Waste must be stored in secure waste bins which must be impermeable and animal safe. - Waste recycling and sorting of recyclable materials should be encouraged. - A responsible person should be appointed to ensure that staff makes use of the bins provided and do not litter on site. - The property should be cleaned on a regular basis and any litter or waste not in bins should be collected and be disposed of.	
Cumulative impact post mitigation:	The collective waste generated by multiple developments in the region, including the proposed mixed-use project, may contribute to increased regional waste volumes. This can strain local waste management facilities and landfill capacities. The transportation of waste from various developments to disposal facilities can lead to increased traffic and associated environmental impacts. This cumulative effect may result in congestion, emissions, and wear on transportation infrastructure.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium-	Low-

29.2.4 Traffic

Potential impact and risk:	**Increased traffic and effects on road conditions**	
Nature of impact:	**Indirect Negative Impact** Large numbers of vehicles may make use of the new facility, it will not likely add large volumes of traffic to the existing road network, considering the projected volumes of traffic for 2025 and 2030.	
	Without mitigation	**With mitigation**
Intensity	High	Medium
Extent and duration of impact:	permanent, local	permanent, local
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probable	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Provision for pedestrian movement must be implemented on the site to access buildings. - Access to the subject site is proposed on Blumberg Road and Chopin Road. - Install or upgrade signs to better inform drivers and manage traffic flow.	
Cumulative impact post mitigation:	The increased traffic volume, especially from heavy trucks, can accelerate road degradation and noise levels over time. Cumulatively, this leads to the deterioration of noise pollution, road surfaces, including pavement cracking, potholes, and rutting, requiring more frequent maintenance and repairs. Impacting the quality of life for nearby residents and wildlife habitats.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium-	Low-

29.2.5 Visual

Potential impact and risk:	**Visual alterations to the surrounding landscape**	
Nature of impact:	**Indirect Negative Impact** During the operational phase, the development may introduce new structures, roads, and utilities that alter the visual character of the area. Increased industrial activity, such as warehousing and logistics operations, may introduce large-scale buildings, storage facilities, and transportation infrastructure. The introduction of built structures and increased human activity may contrast with the existing natural landscape and agricultural surroundings. Visual impacts may include changes to the skyline, loss of open space, and alterations to the natural vista, potentially affecting the scenic quality of the area.	
	Without mitigation	**With mitigation**
Intensity	High	Medium
Extent and duration of impact:	permanent, local	permanent, local
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probabale	Possible
Significance	Medium -	Low -

Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Introduce landscaping elements, such as native vegetation, trees, and green buffers, to soften the visual impact of built structures and integrate them harmoniously with the natural surroundings. - Develop architectural design guidelines that ensure new structures complement the existing landscape character, including considerations for scale, form, and materials that blend with the surroundings. - Utilize visual screening techniques, such as earth berms, vegetation barriers, and architectural features, to shield unsightly elements of the development from view and maintain visual continuity with the landscape. - Incorporate public art installations, aesthetic enhancements, and facade treatments to enhance the visual appeal of the development and contribute positively to the local built environment. - Establish monitoring programs to assess the effectiveness of mitigation measures in mitigating visual impacts over time. Implement adaptive management strategies to adjust mitigation measures as needed based on monitoring results and stakeholder feedback.	
Cumulative impact post mitigation:	The cumulative visual impact can result from the combined effects of multiple developments in the region, including the proposed project and existing or planned infrastructure projects. As more developments are introduced, the overall visual character of the landscape may undergo significant transformation, leading to a loss of natural or rural aesthetics. Cumulative impacts may exacerbate visual clutter, diminish scenic views, and alter the sense of place for local communities and visitors.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium-	Low-

29.2.6 Noise

Potential impact and risk:	**Noise pollution**	
Nature of impact:	**Indirect Negative Impact** Noise disturbance associated with traffic noise and large delivery vehicle access.	
	Without mitigation	**With mitigation**
Intensity	High	Medium
Extent and duration of impact:	permanent, local	Long-term, local
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probabale	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	Medium	
Degree to which impact may cause irreplaceable loss of resources	Low	

Degree to which impact can be mitigated	High	
Proposed mitigation:	- Implement noise reduction technologies and engineering controls to minimize noise emissions from operational activities, such as sound barriers, acoustic enclosures, and mufflers on machinery and equipment. - Establish operational restrictions, such as limited hours of operation or noise abatement protocols, to mitigate noise impacts during sensitive times, such as evenings, nights, and weekends. - Conduct regular noise monitoring to assess compliance with regulatory standards and identify areas where noise mitigation measures may be required. Implement proactive measures to address any exceedances promptly. - Establish buffer zones and setbacks between noise-generating activities and sensitive receptors, such as residential homes, to minimize direct exposure to noise impacts. Utilize natural features or constructed barriers to enhance noise attenuation. - Use landscaping and vegetative screening to absorb and diffuse noise, creating a natural barrier between noise sources and receptors. Planting dense vegetation can help mitigate the transmission of noise and improve aesthetic value. - Develop educational programs to raise awareness among workers, contractors, and stakeholders about the importance of noise management practices and their role in minimizing noise impacts during the operational phase. - Ensure compliance with relevant noise regulations, standards, and guidelines established by local authorities. Regularly review and update noise management plans to reflect changes in operational activities and community needs.	
Cumulative impact post mitigation:	Cumulative noise from various sources can diminish the availability of quiet areas in the vicinity. Over time, the cumulative effect may result in the loss of tranquil spaces and recreational opportunities for residents and visitors.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium-	Low-

29.2.7 Air quality

Potential impact and risk:	**Air pollution**	
Nature of impact:	**Indirect Negative Impact** During the operational phase of the development, various activities such as vehicle emissions, and dust generation can contribute to air pollution, affecting local air quality. Common pollutants associated with operational activities include particulate matter (PM), nitrogen oxides (NOx), sulfur dioxide (SO2), volatile organic compounds (VOCs), and carbon monoxide (CO). These pollutants can have adverse effects on human health, ecosystems, and the environment. Additionally, cumulative effects from multiple sources of pollution in the area can exacerbate air quality issues over time.	
	Without mitigation	**With mitigation**
Intensity	High	Medium
Extent and duration of impact:	permanent, local	Long-term, local
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Probabale	Possible
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	

Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Proposed mitigation:	- Implement emission control technologies and best management practices to minimize air pollutant emissions from operational activities. This may include installing pollution control devices, and using cleaner fuels. - Manage on-site vehicle fleets to reduce emissions, improve fuel efficiency, and minimize idling. Promote the use of low-emission and electric vehicles, implement vehicle maintenance programs, and encourage eco-driving practices among drivers. - Implement dust suppression measures to minimize fugitive dust emissions from construction and operational activities. This may include watering dusty areas, covering stockpiles, using dust control agents, and employing dust control equipment such as misting systems or barriers. - Integrate green infrastructure features such as green roofs, vegetated buffers, and permeable surfaces into the development to help absorb air pollutants, mitigate urban heat island effects, and enhance air quality. Vegetation can act as a natural filter, capturing and removing pollutants from the air. - Establish air quality monitoring programs to track pollutant concentrations and assess compliance with air quality standards and guidelines. Use real-time monitoring data to identify hotspots, evaluate the effectiveness of mitigation measures, and inform adaptive management strategies.	
Cumulative impact post mitigation:	Cumulative emissions from the operational phase of the development, combined with emissions from existing and potential future sources in the area, can result in elevated levels of air pollution. This cumulative effect may lead to deteriorating air quality and exceedances of air quality standards and guidelines.	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Medium-	Low-

29.2.8 Socio-economic & Cultural

Potential impact and risk:	**Stimulation of the local economy**	
Nature of impact:	**Indirect Positive Impact.** The operational phase will create employment opportunities for local residents, including both skilled and unskilled labour. Jobs may be generated in various sectors such as construction, logistics, warehousing, retail, and service trades. The development will contribute to economic growth by attracting investment, generating revenue, and stimulating business activity in the surrounding area. It can serve as a hub for commercial activities, trade, and entrepreneurship, fostering a vibrant economic ecosystem. The operational phase may entail the construction and improvement of infrastructure such as roads, utilities, and public amenities. These investments in infrastructure enhance connectivity, accessibility, and quality of life for residents and businesses in the area. The development will stimulate demand for ancillary services and support industries, including transportation, hospitality, catering, security, maintenance, and facility management. These services create additional business opportunities and employment prospects for local service providers. The operational phase will generate tax revenue and public revenue streams for local governments, which can be reinvested in community development, infrastructure projects, and public services. These revenues contribute to the fiscal health and sustainability of the local government.	
	Without mitigation	**With mitigation**
Intensity	Moderate	NA
Extent and duration of impact:	Long-term, local	NA
Magnitude of impact or risk:	Medium	NA

Probability of occurrence:	Certain	NA
Significance	Medium +	NA
Degree to which the impact can be reversed:	NA	
Degree to which impact may cause irreplaceable loss of resources	NA	
Degree to which impact can be mitigated	NA	
Proposed enhancement measures:	- To maximize the positive impact on job creation, prioritize hiring from the local community through targeted recruitment efforts, job fairs, and partnerships with local employment agencies. Provide training and skill development programs to enhance the employability of local residents and ensure they have access to job opportunities within the development. - Foster synergies with local businesses, suppliers, and service providers to create a network of economic support. Encourage collaboration and partnerships between businesses within the development and those in the broader local economy. Facilitate access to financing and support services for small and medium-sized enterprises (SMEs) to promote entrepreneurship and business expansion. - Coordinate infrastructure development efforts with local authorities and utility providers to ensure alignment with broader community development plans. Prioritize investments in infrastructure that address critical needs and support long-term sustainability and resilience. Engage stakeholders in the planning and design process to identify priorities and optimize resource allocation. - Encourage the establishment of local businesses and service providers to meet the demand generated by the development. Facilitate access to business incubation programs, mentorship, and financial incentives to support the growth of local enterprises. Promote collaboration and partnerships between anchor tenants and local businesses to enhance supply chain integration and value-added services. - Ensure transparent and accountable fiscal management practices to maximize the effective utilization of tax revenue and public funds. Prioritize investments in projects that address community needs, promote social equity, and enhance the overall quality of life. Engage stakeholders in budget planning and decision-making processes to ensure alignment with community priorities and aspirations.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	NA	NA

29.2.9 Health and safety

Potential impact and risk:	**Impacts on the health and safety of persons in site as well as local community & other road users**
Nature of impact:	**Indirect Negative Impact.** Workers involved in construction, operational activities, and maintenance may face hazards such as slips, trips, falls, exposure to hazardous substances, machinery accidents, and ergonomic strains. The presence of valuable assets, equipment, and materials on-site may attract theft, vandalism, and unauthorized access, posing security risks to both workers and the surrounding community. Road safety is also a potential issue considering the increased traffic load and the type of vehicles associated with this development. Cyclists and runners often make use of these roads, to avoid heavy traffic.

	Without mitigation	With mitigation
Intensity	Moderate	Low
Extent and duration of impact:	Long-term, local	Long term, local
Magnitude of impact or risk:	Medium	Low
Probability of occurrence:	Certain	Unlikely
Significance	Medium -	Low -
Degree to which the impact can be reversed:	High	
Degree to which impact may cause irreplaceable loss of resources	Low	
Degree to which impact can be mitigated	High	
Mitigation:	- Develop and implement a comprehensive health and safety management plan that identifies potential hazards, assesses risks, and outlines preventive measures and emergency procedures. Ensure regular training, supervision, and monitoring of workers to promote safe work practices. - Collaborate with local law enforcement agencies and community stakeholders to develop crime prevention strategies tailored to the specific needs and concerns of the area. Enhance security measures on-site, including surveillance cameras, lighting, fencing, and access control systems, to deter criminal activities. - Employ trained security personnel or private security firms to patrol the site, monitor activities, and respond promptly to security incidents or suspicious behavior. Implement access control measures, visitor registration procedures, and regular patrols to maintain a secure environment. - Speed limits should be reconsidered and all staff should be educated on the safety concerns regarding cyclists and runners in the area.	
Cumulative impact post mitigation:	NA	
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	NA	NA

30 Impact Summary

	PREFERRED ALTERNATIVE 1	
	Construction Phase Impacts	
Impact	**Before mitigation**	**After Mitigation**
Loss of vegetation units that could contain particular species/habitats	Very high -	Very low -
Loss of habitat containing protected species or Species of Special Concern	Low -	Very low -
Loss of any critical corridors and connect habitats that are linked to any future conservation plans or protected areas expansion	Very high -	Very low -
Changes to the hydrological regime and increased potential for erosion	Low -	Very low -
Changes to the water quality	Low -	Very low -
Susceptibility of soil erosion	High -	Very low -
Palaeontology impact on the proposed residential development on Erf 325, Theescombe	Medium -	Very Low
Increased traffic	Medium -	Very low -
Accumulation of construction waste on-site	Medium -	Very low -
Visual intrusion	Medium -	Very low -
Noise disturbance	Medium -	Very low -
Dust generation	Medium -	Very low -
Impacts on air quality (air pollution)	Medium -	Very low -
Employment creation	Medium +	NA
Contribution to the GDP of the NMB Metro	Medium +	NA
Increased demand for local goods and services		

	PREFERRED ALTERNATIVE 1	
	Construction Phase Impacts	
Skills development and transfer	Medium +	NA
Health and safety risks	Medium -	Low -
Possible loss of non-renewable heritage resources	Medium -	Low -
	Operational Phase Impacts	
Invasion of Alien Invasive Species	Medium -	Low -
Wildlife disturbance due to aircraft landing and taking off	Medium -	Low -
Displacement of birds due to habitat loss and transformation	Medium -	Very Low -
Bird interactions with aircraft	Very low -	Insignificant
Increased impervious area	Low -	Very Low -
Waste management	Low -	Very Low -
Decreased traffic and effects on road conditions	Low +	Medium +
Visual alterations to the surrounding landscape	Medium -	Low -
Noise pollution	Medium -	Low -
Air pollution	Medium -	Low -
Job creation	Low +	Medium +
Economic Growth and Infrastructure Development	Medium +	High +

31 Climate Change Assessment

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

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

Climate change is a considerable issue, with its effects being felt by particularly vulnerable countries within the African continent. South Africa has a sensitive climate and is known to be a water-scarce country, which reiterates the vulnerability of South Africa to the effects of climate change. Climate change will likely have extensive effects, which will be experienced over long periods by all sectors of society. Climate change effects will cause impacts across all environmental sectors, the economic performance of South Africa, social behaviour, infrastructure, and many more cumulative effects as the impacts become more of a reality.

The proposed development comprises 331 residential units with additional provisions for a gatehouse and a community centre. The total area of the site is approximately 17.43 Ha; however, approximately 11,28 Ha will be used for the development, leaving 6,15 Ha as natural no-go areas. A total of 4965,5 parking bays will be needed. Inside the site will be seven small villages (Village A – Village G), each consisting of between 12 to 69 units. The development will have internal roads leading into the access road on the site via Blumberg Road and Chopin Road. The development will not be related to a manufacturing plant, so it will not lead to the production of large amounts of greenhouse gases or harmful pollutants typically related to manufacturing plants.

For sewage treatment, the development will use the NMBM sewage network system. The effluent of the proposed residential development on consolidated Erf 325, Theescombe, will be treated by the NMBM Driftsands Waste Water

Treatment Works (DWWTW). The preliminary total design Average Dry Weather Flow (ADWF) of the proposed Residential development under discussion has been calculated to be 144.4kl per day. The capacity of the last-mentioned treatment works is 22 Ml per day. The DWWTW is currently treating up to 14 Ml per day.

The site has clusters of alien invasive species which means that these species will be removed and eradicated during site clearing and the establishment. Invasive alien species are one of the biggest causes of biodiversity loss and climate change has exasperated the spread of these species as they are highly adaptive. These species have reduced the resilience of natural habitats and the potential for natural habitats to recover after a disturbance event. By eradicating the invasives from the developments site, it reduces the potential of the spread of the species originating from this specific site. A comprehensive alien vegetation management plan will be implemented during the operational phase of the development to ensure that alien vegetation within the public and private open space is cleared regularly. Urban sprawl and development also contribute to the loss of biodiversity; however, any rare, protected or species of special concern (fauna and flora) which occur on the site will be translocated to any area not destined for development during a thorough search and rescue of the site before bush clearing commences. Thus, limiting the development's impact on the biodiversity factors.

(a) The proposed development may result in the release of greenhouse gas emissions through construction activities, transportation of materials, energy consumption, and operational processes. Emissions may arise from sources such as fossil fuel combustion, vehicle emissions, and energy-intensive production processes.
(b) Though the proposed site location stays the same, alternatives have been discussed and the recommended options do consider reducing, re-using and recycling (see **Section 2: Feasible and Reasonable Alternatives**).
(c) The development will result in the release of typical amounts of greenhouse gases related to an increase in regular vehicle movement within the site. The development will not produce significant amounts of GHGs. The development will release GHGs related to the typical daily operations of a residential complex, which is expected to be released from the operation of vehicles moving in and out of the residential development.
(d) The development is not necessary to achieve long-term decarbonisation goals.
(e) The development should consider the use of alternative methods of electricity generation and electricity saving techniques, as well as make use of rainwater harvesting and stormwater management, etc. It is recommended that the contractor use generators during construction as an alternative to electricity.
(f) Climate change could have an impact on the water usage of the development, considering its potential for rainwater harvesting and the fact that the Nelson Mandela Bay Municipality has been under immense pressure related to the ongoing drought.
(g) The climate change impacts that could be exacerbated relate to water demand and usage. Rainwater harvesting has been indicated as a mitigation measure to reduce the effects resulting from the potential of drought being a long-term issue.
(h) The mitigation measure relates to the potential for long-term water shortages. Mitigation measures have been identified which should assist with the lowering of the daily water demand from the municipal system.

32 Assumptions and limitations

Data Accuracy and Reliability: This impact assessment report relies on available data and information obtained from various sources, including scientific literature, government reports, and stakeholder consultations. While efforts have been made to ensure the accuracy and reliability of the data, there may be limitations inherent in the data quality, completeness, and currency. Any inaccuracies or uncertainties in the data could affect the robustness of the assessment findings and conclusions.

Modelling and Predictive Uncertainties: The assessment involves modelling future scenarios and predicting potential impacts based on current understanding of climate change dynamics, socio-economic trends, and environmental factors. However, predictive modelling inherently involves uncertainties and assumptions about future conditions, including climate projections, technological advancements, and human behaviour. As such, the accuracy and reliability of the projected impacts are subject to inherent uncertainties and may deviate from actual outcomes.

Scope and Boundaries: The assessment's scope is limited to evaluating the anticipated impacts of the proposed development on social, economic, natural, and built environments in the context of climate change adaptation and resilience. Certain factors, such as geopolitical changes, regulatory frameworks, and market dynamics, which may influence the project's long-term impacts, are beyond the scope of this assessment.

Temporal and Spatial Scale: The assessment focuses on assessing impacts at a specific temporal and spatial scale relevant to the proposed development and surrounding environment. However, many impacts and adaptation responses operate across varying temporal and spatial scales, and localized impacts may interact with broader regional or global-scale trends. The assessment may not capture all nuances and interactions at different scales.

Assumptions and Scenarios: The assessment makes certain assumptions about future conditions, socio-economic trends, and climate change scenarios to project potential impacts. These assumptions are based on current knowledge and understanding but may not fully account for unforeseen changes, abrupt events, or tipping points that could alter the trajectory of impacts.

Stakeholder Engagement and Perspectives: While efforts have been made to incorporate stakeholder perspectives and input into the assessment process, the representation and inclusivity of stakeholder engagement may be subject to limitations. Variations in stakeholder interests, priorities, and perspectives may influence the interpretation of impacts and the identification of adaptation measures.

Regulatory and Policy Frameworks: The assessment considers existing regulatory and policy frameworks related to impact assessment, environmental management, and land use planning. However, future changes in regulations, policies, or governance structures could impact the implementation of adaptation measures and the project's overall resilience.

Human and Behavioural Factors: The assessment acknowledges the influence of human behaviour, decision-making processes, and societal dynamics on impacts and adaptation responses. However, predicting human responses to climate change, impact mitigation and development interventions involves inherent uncertainties that may not be fully captured in the assessment.

33 Environmental Impact Statement

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

Alternative A (preferred alternative)

The terrestrial biodiversity impacts that were identified with the help of the Biodiversity Specialist included impacts related to vegetation loss, habitat loss, loss of critical corridors, increased potential for alien vegetation spreading, and disruption to ecological processes. All these impacts can be mitigated to a very low should the mitigation measures are implemented correctly for the Preferred Alternative. During the preparation of the layout plan for the intended development, the approved zoning, local and national policy guidelines natural and manmade characteristics of the site, socio-economic status of the community, availability of municipal services, as well as traffic assessment were taken into account to achieve the best use of the site from an economic perspective. The preferred alternative will contribute to bioregional conservation, considering the implementation of open spaces to maintain and improve the current ecological state of the property as well as its surroundings. The proposed residential development has both positive and negative environmental impacts. The proposed layout shows that approximately 6,15 Ha of Erf 325, Theescombe will be left as natural no-go areas as recommended by the Biodiversity Specialist.

Negative Impacts

The main negative impacts include short-term air quality and noise pollution during construction, and increased stormwater runoff as a result of cleared vegetation cover in the area. These impacts are significant but manageable through careful planning and execution. Implementing advanced stormwater management systems and noise and dust control measures will mitigate these adverse effects. The likelihood of these impacts occurring is high, given the nature of construction and residential activities, but their severity can be reduced with appropriate mitigation measures.

In **Appendix D1**, the Biodiversity Impact Assessment made mention of several impacts, including the loss of vegetation and particular species/habitats, loss of habitat containing protected species or species of special concern, susceptibility to soil erosion, increased traffic, and accumulation of construction waste on-site. All of these impacts can be mitigated to low or very low levels should the mitigation measures be implemented correctly.

Positive Impacts

The positive impacts include enhanced local housing availability, economic growth, and improved stormwater management through the removal of invasive species. The development's long-term effects, while significant, can be minimized by incorporating sustainable practices and renewable energy solutions. Overall, with effective mitigation strategies, the proposed development is expected to balance community benefits with manageable environmental impacts, ensuring a sustainable and resilient outcome.

No-go alternative (compulsory)

In considering the no-go option, wherein the site remains undeveloped, an environmental impact assessment was conducted to evaluate the potential impacts on the environment. Despite not proceeding with development, there are still implications that need to be addressed:

Spread of Alien Invasive Species

Without active management and development activities, there is a risk of further spread of alien invasive species into the fynbos sections. This could lead to the degradation of native habitats and the loss of biodiversity. However, the Conservation of Agricultural Resources Act 43 of 1983 (CARA) and the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) indicate that all landowners have a responsibility and legal liability in relation to the control of invasive vegetation.

Loss of Potential Economic Benefits

By not developing the site, potential economic benefits such as employment creation, local economic stimulation, and skills development may be forgone. This could impact the socioeconomic dynamics of the area and hinder opportunities for growth and development.

Potential for Informal Settlements

The absence of development may attract informal settlers to the site, leading to unplanned and unregulated human habitation. This could result in land degradation, increased pressure on natural resources, and challenges in service provision.

Duration of Impacts

The impacts of not developing the site could persist over the long term, potentially leading to gradual environmental degradation and missed economic opportunities.

Likelihood of Potential Impacts Occurring

The likelihood of alien invasive species spread, loss of economic benefits, and informal settlements depends on various factors such as land management practices, socioeconomic conditions, and regulatory enforcement.

Significance of Impacts

The significance of impacts is influenced by the extent of alien species invasion, the magnitude of economic losses, and the scale of informal settlement. While some impacts may be localized, others could have broader implications for biodiversity conservation, socioeconomic development, and land use planning.

In conclusion, while the no-go option may initially seem to avoid immediate environmental impacts associated with development, it poses its own set of challenges and risks. Active management and conservation efforts would be necessary to mitigate the spread of alien invasive species and address potential socioeconomic consequences. Additionally, proactive measures would be required to prevent informal settlements and ensure the sustainable management of the site in the absence of development.

SECTION E: RECOMMENDATIONS OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	**YES**	NO
Is an EMPr attached?	**YES**	NO

The EMPr must be attached as Appendix F.

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

N/A

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

EAP recommends that the developer adhere to the mitigation measures outlined in the EMPr and specialist reports compiled for the project (refer to **Appendix D**). All mitigation measures indicated in the **Impact Evaluation** section should be implemented. Below are the mitigation measures that should be adhered to both in the construction phase and the operation phase:

In terms of alternatives;

- All relevant permits and authorisations must be in place before the commencement of construction.
- I&Aps must be notified timeously (two weeks minimum) prior to site preparation commencing.
- It is recommended that an Environmental Control Officer (ECO) be appointed to conduct independent audits and compile monthly audit reports to ensure compliance with the EMPr and EA during the construction phase.
- The manager/foreman should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter, and the procedures to follow should they be found, even though none are expected.
- Alternative 1 (preferred alternative) is recommended by the EAP for this project. This preferred alternative layout is, therefore, the only site alternative that can meet the need and desirability of the Application.
- It is also recommended that the environmental authorisation (should it be granted) require that the no-go areas be demarcated and that no access should be allowed within these areas during construction. Only for relocation of search and rescue plants in accordance with the rehabilitation plan, and for the management of alien vegetation.
- Topsoil should be removed and stockpiled in an appropriate manner: Stockpiled separately from subsoil, monitored for and protected from erosion, kept clear of exotic vegetation.

- Topsoil and soil stockpiles should be covered, wetted or otherwise stabilized to prevent wind erosion and dust generation.

In terms of mitigation measures:

- Mitigation measures indicated in the Impact Evaluation section and specialist reports should be implemented.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s) & Alternatives

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

1. Biodiversity Impact Assessment
2. Socio-economic Impact Assessment
3. Palaeontological Impact Assessment
4. Phase 1 Archaeological Impact Assessment
5. Engineering/ Civil Services Report
6. Traffic Impact Assessment

Appendix E: Comments and Responses Report

Appendix F: Draft Environmental Management Programme (EMPr)

1. Draft Environmental Management Programme (EMPr)
2. Draft Operational Environmental Management Programme (EMPr)

Appendix G: Other information

1. Site Sensitivity Verification Report
2. NMBM Confirmation of Water Services
3. Approved Subdivision of Erf 325, Theescombe - 2016-02-25
4. Rezoning and Hybrid Subdivision - 2015

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information