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**DRAFT BASIC ASSESSMENT REPORT
EDTEA REF NO: D28/0010/2018: KZN/EIA/0000959/2018**

THE PROPOSED UPMARKET MIXED-USE DEVELOPMENT IN MEERENSEE, RICHARDS BAY WITHIN THE JURISDICTION OF THE CITY OF UMHLATHUZE, KWAZULU NATAL PROVINCE: THE RIDGE



Prepared by: Emvelo Quality and Environmental Consultant (PTY) Ltd

On behalf of

Sotobe Management (PTY) Ltd.

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LIST OF ACRONYMS

DWS	Department of Water and Sanitation
DEDTEA	Department of Economic Development, Tourism and Environmental Affairs
EMPr	Environmental Management Programme
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
MSDS	Material Safety Data Sheet
NEMA	National Environmental Management Act
I&AP	Interested and Affected Parties
EAP	Environmental Assessment Practitioner
GA	General Authorisation

PROJECT DETAILS

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GLOSSARY OF ITEM

DEVELOPMENT: the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.

BIODIVERSITY: The variety of life in an area, including the number of different species, the genetic wealth within each species, and the natural areas where they are found.

BASIC ASSESSMENT: The process of collecting, organizing, analyzing, interpreting and communicating information that is relevant to the consideration of the application.

DEVELOPMENT FOOTPRINT: any evidence of physical alteration because of the undertaking of any activity.

CONTRACTOR: companies and or individual persons appointed on behalf of the client to undertake activities, as well as their sub-contractors and suppliers.

ENVIRONMENTAL CONTROL OFFICER: an individual nominated through the client to be present on site to act on behalf of the client in matters concerning the implementation and day to day monitoring of the EMPr and conditions stipulated by the authorities as prescribed in NEMA.

ENVIRONMENT: in terms of the National Environmental Management Act (NEMA) (No 107 of 1998) (as amended), Environment means the surroundings within which humans exist and that are made up of:

- the land, water and atmosphere of the earth;
- micro-organisms, plants and animal life;
- any part or combination of (i) of (ii) and the interrelationships among and between them;
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence;
- Human health and wellbeing.

ENVIRONMENTAL IMPACT: the change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

MITIGATION: the measures designed to avoid reduce or remedy adverse impacts.

ENVIRONMENTAL MANAGEMENT PROGRAMME: a detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive environmental impacts and limiting or preventing negative environmental impacts are implemented during the life-cycle of the project. This EMP focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.

POLLUTION: the National Environmental Management Act, No. 107 of 1998 defined pollution to mean any change in the environment caused by the substances; radioactive or other waves; or noise, odors, dust or heat emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

WATER POLLUTION: the National Water Act, 36 of 1998 defined water pollution to be the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it less fit for any beneficial purpose for which it may reasonably be expected to be used; or harmful or potentially harmful (a) to the welfare, health or safety of human beings; (b) to any aquatic or non-aquatic organisms; (c) to the resource quality; or (d) to property.

REHABILITATION: rehabilitation is defined as the return of a disturbed area to a state which approximates the state (wherever possible) which it was before disruption.

WATERCOURSE: can be a) a river or spring; b) a natural channel or depression in which water flows regularly or intermittently; c) a wetland, lake or dam into which, or from which, water flows; and/or d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water

Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.

WETLAND: land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

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.

GENERAL WASTE: waste that does not pose an immediate hazard or threat to health or the environment, and includes -

- Domestic waste;
- Building and demolition waste;
- Business waste; and
- Inert waste.

HAZARDOUS WASTE: hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste have a detrimental impact on health and the environment.

GENERAL WASTE LANDFILL SITE: a waste disposal site that is designed, managed, permitted and registered to allow for the disposal of general waste.

ARCHAEOLOGICAL RESOURCES: includes (a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artifacts, human and hominid remains and artificial features and structures; (b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation; wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones

Act, and any cargo, debris or artifacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; features, structures and artifacts associated with military history which are older than 75 years and the site on which they are found.

INTERESTED AND AFFECTED PARTY: for the purposes of Chapter 5 of the NEMA and in relation to the assessment of the environmental impact of a listed activity or related activity, an interested and affected party contemplated in Section 24(4) (a) (v), and which includes (a) any person, group of persons or organization interested in or affected by such operation or activity; and (b) any organ of state that may have jurisdiction over any aspect of the operation or activity.

EXECUTIVE SUMMARY

Emvelo Consultant has been appointed by Sotobe Management (Pty) Ltd to conduct the Basic Assessment Report (EIA) for the proposed Upmarket Mixed-Use Development in Meerensee, Richards Bay, within the Jurisdiction of the City of uMhlathuze, KwaZulu-Natal Province, The Ridge.

Sotobe Group intends to develop the area of Meerensee, a waterfront suburb of Richards Bay. The proposed development entails the construction of a mixed-use development which will consist of a lifestyle shopping Centre; high density residential accommodation; office real estate and a hotel. Meerensee is middle to high income suburban area to which the development is targeted for those households.

The land disposal for the Ridge development is dual. The site property is currently owned by the City of uMhlathuze Municipality. The residential sites will be sold to the developer and the hotel commercial, and public open space sites will be leased to the developer. The road will remain under the ownership of the municipality but will be maintained by the developer.

A market feasibility assessment was undertaken by Urban-Econ Development Economists. The objectives of the study were to test the market feasibility of the various components of the proposed development; to quantify the demands for the components; assess the socio-economic impact potential for the proposed development and to provide recommendations.

The Public Participation Process (PPP) involved the conducting of public meeting with the affected community, placing of ad on the Zululand Observer (local newspaper), distribution of Background Information Documents (BIDs) to the relevant Government Stakeholders and other Interested and Affected Parties (I&APS). The Draft BAR will be circulated as part of the PPP and all the comments/concerns from the I&APs will be addressed in the Final BAR.

This Draft BAR has been compiled in accordance with the EIA Regulations 2014.

1. INTRODUCTION

Emvelo Quality and Environmental Consultant has been appointed by Sotobe Management (Pty) Ltd to conduct the Basic Assessment Report (EIA) in terms of the Section 24(5) and Section 44 of the National Environmental Management Act, 1998 (Act No.107 of 1998) as read with the Environmental Impact Assessment (EIA) Regulations of 04 December 2014, amended in 2017. This project will be registered with the Department of Economic Development, Tourism and Environmental Affairs (King Cetshwayo District Office).

2. PROJECT TITTLE

The Proposed Upmarket Mixed-Use Development in Meerensee, Richards Bay within the Jurisdiction of the City of uMhlathuze, KwaZulu-Natal Province: The Ridge.

3. PROJECT DESCRIPTION

Sotobe Management intends to sub-divide and rezone the whole of Erf 17464 to form a designated Erf 18557, in Meerensee Richards Bay, to construct the Ridge Upmarket Mixed-Use Development. The rezoning and subdivision of the affected erven will provide the following proposed components:

- Portion 1 of ERF 18557 will be a 2 storey 9 292m² Lifestyle shopping Centre;
- Portion 2 of ERF 18557 will be a 7 storey 5 782m² 8 Hotel and a Conference that will be 1900m² 7.
- Portion 3 of ERF 18557 will be a 7 storey luxury suites (14 x 3 bed units) with a total development footprint of 3 568m² and a 1 105m² parking space.
- Portion 4, 5 and 6 of ERF 18557 will be 6 and 8 storey high residential (119 x 2 beds units; 56 x 3 beds unit and 12 x penthouses) with a total development footprint of 28 688m²;
- Portion 7 is a 2 055m² public open space.
- Remainder of Erf 18557 will be upgraded to a 10 053m² blacktop access road into the development.

The Ridge development property measures a total site area of approximately 4.5077ha hectares in extent, and building area is estimated to be 5.8018 ha due to the proposed

multi-storey buildings. The Building footprint will be 1.1292ha. The area/boundary that will be affected is currently vacant and groundcover ranges from a combination of intact highly dense grassland vegetation, shrubs and indigenous trees.

The site is boarded by dunes on the ridge, hotels, high, medium and low density residential and mixed-use commercial. The proposed development is an ideal market catchment as each component of the Ridge will have varying ability to attract people in different ways.

4. PROJECT LOCALITY

The proposed development is located at the coordinates indicated on the table 1 below, in the southern end of Meerensee, within the City of uMhlathuze.

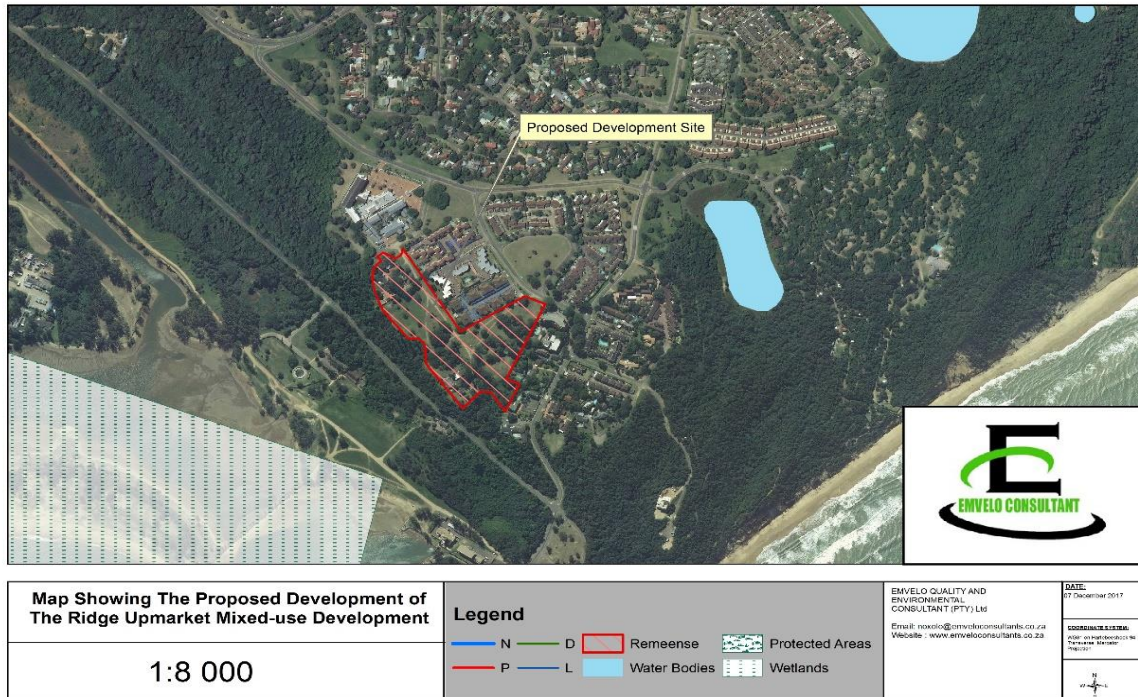
Table 1: Coordinates

Latitude /Longitude	Degrees	Minutes	Seconds
South	28 ⁰	47'	37.45''
East	32 ⁰	5'	40.54''

Table 2: 21-digit Surveyor General Code

N	O	G	V	O	4	2	1	0	0	0	0	1	7	4	6	4	0	0	0	0

Image 1: An image below indicates the location of the project



5. SERVICES

The development will be provided with services which will link into the existing services infrastructure currently serving Meerensee.

5.1. INTERNAL ROADS

The proposed site can be accessed via the existing roads, Launder Lane and Andrews Lane (the Gully) serving the existing adjacent residential and hotels. Access to individual Ervens within the proposed site will be provided by these two (2) internal road networks of which will join from the existing roads.

5.1.1. Launder Lane

This road is located on the north of the site and will have an all access, specially designed for delivery trucks coming into the Shopping Centre. These internal roads will link up to the road serving the adjacent areas. According to the provisional town planning design, the road reserves will be a maximum of approximately 14m in width including pedestrian sidewalks. Access from this road will be a four (4) lane road without an island. A taxi drop off point will be provided and pedestrian walkways on both sides

of the road will be provided. Deliveries to the delivery yard will be restricted to WD-12 delivery vehicles with access only from Launder Road.

5.1.2. Andrews Lane

This access road will consist of two (2) lanes with kerbing and a Centre island between the lanes. Pedestrian walkways will be provided on both sides of this road to accommodate pedestrians using public transport or walking to the development. A 40k/hr design speed restriction will be proposed, and traffic calming measures will be allowed.

5.2. ELECTRICITY

Power to the proposed development will be provided by the City of uMhlathuze. All the proposed additional connection points are within 1km to existing already serviced areas. Specific take-off points will have to be provided by the municipality. The developer will enter into a service agreement with the municipality.

5.3. WATER AND SANITATION

Water services and waterborne sewage systems already exist in the surrounding area and an agreement to tie the proposed development to the existing scheme will be made with municipality to provide this service.

5.4. DOMESTIC WASTE

During the operational phase, the development will start generating certain amounts of domestic waste. The developer will enter into a service agreement with local municipality to collect and manage all domestic waste generated by the development. The waste will be disposed of at the registered King Cetshwayo Landfill site.

5.5. STORMWATER MANAGEMENT PLAN

The Pre-and Post-development Stormwater runoff was calculated, and it is proposed that retention of the excess Stormwater generated by the post development must be used for secondary use in toilets and for irrigation where possible.

Rainwater will be taken to storage for re-use. It will be piped to a retention facility and then pumped to a storage on top of the buildings to be used for fire protection and sewage disposal. Any excess will be taken to the municipal reticulation as trickle flow to prevent overflow of existing reticulation.

The access roads, a kerb and channel will be constructed along the total length of the road on the lower side of the cross fall. Kerb inlets will be allowed for along the access roads. A side walk with a 2% cross fall towards the kerb and channel will follow. The Stormwater from the road will be collected in side inlets every 100m and piped under road towards either the retention facility or municipal Stormwater reticulation. *(Please see appendix J)*

6. SITE ALTERNATIVES

The site represents portions of vacant land within Meerensee. The proposed site is also surrounded by existing residential and commercial developments. Therefore, it is ideally suitable for the proposed development. No alternative site will therefore, be considered in this assessment.

7. SITE ACCESS

The site will be accessed in two ways; via Hibberd Drive from R34 Meerensee town or Richards Bay CBD, then proceed to the first left on the Gully Street opposite Bayshore Inn or via Launder Lane into the site.

8. WASTE, EFFLUENT, EMISSIONS AND NOISE MANAGEMENT

8.1. GENERAL WASTE MANAGEMENT: CONSTRUCTION PHASE

Weather and vermin proof bins in and around the site will be provided for the disposal of solid/construction waste and emptied out regularly. The general waste during construction phase will be sorted into recyclable and non-recyclable waste. Non-recyclable waste will be disposed of at the UMhlatuze Municipal Landfill Site.

Suitable portable sanitation/ablution systems for all construction workers will be provided and maintained on site for the duration of construction. One ablution facility per 20 workers must be provided on site each labelled male/female. All suitable excavated material from site levelling and landscaping activities will be used as far as possible on-site as fill material. The non-reusable excess excavated material will be taken to King Cetshwayo Landfill site.

8.2. GENERAL WASTE MANAGEMENT: OPERATIONAL PHASE

Operational phase waste will be managed by the municipality. Domestic Waste collection and disposal service. The developer will enter into an agreement with the municipality of this integration as the development will be within an existing and a well operated town. Non-recyclable waste along with hazardous waste that will be generated during the operation of the development will be disposed of at King Cetshwayo's registered and licensed landfill site.

8.3. EFFLUENT

No effluent will be generated during the construction phase of the project. Proper measures will be put in place to contain any spillages (i.e. diesel or spills) occurring during construction before it reaches the near-by streams or drainages. It is proposed that the individual residential Ervens, such as residential, business and tourism use sites, will be provided with waterborne sanitation during the operational phase.

8.4. GENERATION OF NOISE

During the construction phase it is anticipated that there will be noise generated from the construction vehicles, earth works and machinery. The mitigation measures to reduce the level of noise will be implemented during construction.

8.5. WATER USE

Water to be used during construction will be supplied by the Municipality.

9. ENERGY EFFICIENCY

Energy conservation will be taken into consideration in this development. The Developer will collect the waste material simultaneously with other activities to reduce the amount fuel usage for such transportation and other nuisance impacts.

The Developer will also use energy efficient equipment within the buildings to save energy and to address the reduction of carbon footprint. This section will be further assessed in impact mitigations.

10. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF SITE

The geotechnical study was undertaken by Ibhongo Consulting CC, and the results of this report represents geotechnical desktop assessment and site walkover.

The proposed site is mainly underlain by Dune sands of Recent Littoral deposits. Colluvial soils and recent cohesionless sands, which overlie the Older Kosi Bay Formation sands.

Transported soil found on site comprise topsoil, colluvial soils and recent cohesionless soils. Older Kosi Bay Formation extend up to 30 meters in depth and are yellowish to brown in colour. Localized clayey sands are found in depths, no bedrock was encountered on site.

Generally, the site is approximately 300 meters above sea level and groundwater seepage will be measured during the detailed investigation. If ferruginised soils are encountered in the test pits or boreholes, it will indicate that a perched watertable at the interface between the sandy and clayey soils (Ibhongo, 2018).

With regards to subsoil conditions expected to be encountered on site, there are geotechnical constraints that need to be taken in account during the design, planning and implementation of the development. These include and are not limited to slope stability, problem soils, subsoil seepage and construction materials.

11. TRAFFIC IMPACT ASSESSMENT

The Traffic Impact Assessment was undertaken by Aurecon South Africa (Pty) Ltd which is based on the 2023 Design Year traffic volumes. Traffic from the development, where the residential units will be can be exited along Andrews Lane with approximately 10% to 20% exiting to Launder Lane after visiting the shopping centre. A little more than 200 vehicles will move along Andrews Lane during peak with 7 vehicles per minute, clearing the road within 30 minutes. The access from Launder Lane will generate more than 600 trips per day over 10 hours with 1.1 vehicles per minute and there will be minimal congestion to this intersection as the road will be a 4 lane road.

12. SITE LOCALITY MAPS AND SITE PHOTOGRAPHS

Site photographs and locality maps are attached in the document as Appendix C.

13. ACTIVITY MOTIVATION

13.1. SOCIAL ECONOMIC VALUE OF ACTIVITY

The project will contribute directly to social and service infrastructure, Site F of the Erven which was zoned as public open space will remain under public amenity. However, employment during the construction and operational phases of the project is unknown as there will be direct, indirect and induced employment opportunities.

13.2. THE NEED AND DESIRABILITY

A further Market Feasibility study was undertaken by Urban-Econ after conducting research within the Richards Bay area, to get a better understanding of the local trends within the local market. From the discussions done, there was evidence that there is demand for office space and residential units within the area. People are looking for child-friendly units; there is limited office residential and office space available and available spaces are usually very small units; there is demand to both rent and buy units.

Richards's bay over the years has experienced an increase in the number of international tourists visiting the city between 2015 and 2016. In 2015, Richards Bay was visited by 9.4% of international tourists visiting KZN which increased to 14.2% in 2016, making Richards Bay the city with the 3rd highest number of visitors behind Durban and Pietermaritzburg. Unfortunately, there are no new commercial, residential, office and business hotels developments within Richards Bay.

Now that the need has been identified, it is important to consider the desire as well. According to The City's Spatial Development Framework (2017/2018-2021/2022), the overall outcome of the Integrated Urban Development Framework (IUDF) is spatial transformation. This new focus steers urban growth towards a sustainable growth model of compact, connected and coordinated cities and towns like the Richards Bay area.

The IUDF implementation plan identifies several short-term proposals of reducing travel costs and distances; aligning land use; transport planning and housing; increasing urban densities and reducing sprawl; shifting jobs and investment toward dense peripheral townships; improving public transport and the coordination between transport modes to achieve spatial transformation. These listed levers relate very specifically to the pillar of spatial transformation and both are embraced by the Municipality.

14. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

Table 3: the list of applicable legislation

Title of legislation	Administering authority
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National Environmental Management: Waste Act, 1998 (Act No. 59 of 1998)	National & Provincial
National Water Act, 1998 (Act No 36 of 1998)	National
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	National
The Constitution of South Africa Act, 1996 (Act No. 108 of 1996)	National
National Health Act, 2003 (Act No. 61 of 2003)	National
National Environmental Management: Air Quality Act 39 (Act No. 39 of 2004)	National
National Heritage Resources Act (Act No. 25 of 1999)	National

15. A DESCRIPTION OF THE ENVIRONMENT THAT MAY BE AFFECTED BY THE ACTIVITY

15.1. CLIMATE

According to the Municipal IDP (2016-2017), The City of UMhlatuze is characterized by a warm to hot and humid subtropical climate with warm moist winters. Average daily maximum temperatures range from 29°C in January to 23°C in July and extreme weathers can reach more than 40 °C in summer. The average annual rainfall is 1228mm, and 80% of the rainfall occurs in the summer from October to March. Extreme rainfall and thundershowers occur which result in the loss of property and infrastructure. An increasing trend in the frequency of cyclonic activity is slowly occurring in the region.

15.2. TOPOGRAPHY AND GEOLOGY

The Richards Bay area is generally very flat and is situated on a coastal plain. The terrain rises slightly towards the west. The suburbs are all not more than a few meters (Reneging around 140m) (feet 459.3 ft.) above sea level. The area is abundant in coastal dune forest, most notably along the coastal dune belt and in the suburb of Meerensee (Municipal IDP, 2016-2017).

15.3. WETLAND ANALYSIS

The site is approximately 1km away from Alkantstrand beach. A wetland assessment was undertaken by Afzelia, and it was determined that there are no definable wetland units within 50m of the proposed site.

According to Afzelia, (2018), a single depression wetland (Lake Menywa) is located approximately 350m north east of the site whilst several ephemeral drainage lines are present downslope of the site. These drainage lines, which appear artificial or at least partially artificially enhanced, flow in a general south westerly direction into the eastern extent of the Port of Richards Bay, which is located approximately 250-300m below the property boundary. The southern and western edges of the site are near steep slopes which show signs of minor erosion and, as such, potential impacts and mitigation measures will be identified and assessed to prevent extensive erosion or impacts to these watercourses.

15.4. FLORA

There are three different categories of vegetation identified on sit: 1. Subtropical Freshwater Wetlands, 2. Maputaland Coastal Belt and 3. Northern Coastal Forest. The forest area (mapped as wetlands) just outside the boundary of the site is clearly not a wetland, the description for the nearest forest type is provided here and is Northern Coastal Forest, (Afzelia, 2018)

15.4.1. Northern Coastal Forest Vegetation

This vegetation type occurs in KwaZulu-Natal and extends slightly into the Eastern Cape. This forest type is species rich and forms a medium to tall subtropical forest on coastal plains and stabilised dunes. On dunes, these forests have herb, shrub and tree layers that are well-defined and include *Mimusops caffra*, *Sideroxylon inerme*, *Dovyalis longispina* among others. One edemic taxon occurs within this forest type: *Acacia kosiensis*. This vegetation type is Least Threatened in general but under increasing threat due to mining on coastal dunes. 68% is statutorily conserved (Afzelia, 2018).

15.4.2. Subtropical Freshwater Wetlands Vegetation

This vegetation type occurs in flat terrains like the proposed site and supports low beds dominated by reeds, sedges and rushes, waterlogged meadows dominated by grasses. The vegetation type is found along the edges of seasonal pools in aeolian depressions as well as edging alluvial pans or artificial dams. They occur in KwaZulu-Natal, Mpumalanga, Gauteng, North-West, Limpopo and Eastern Cape. Endemic taxa include the graminoid: *Cyperus sensilis* (embedded within Indian Ocean Coastal Belt of KwaZulu-Natal), geophytic herbs: *Crinum campanulatum* (Albany region) and aquatic herbs: *Isoetes wormaldii* (Albany region), *Wolffiella denticulata* (Maputaland), (Afzelia, 2018).

This vegetation type is Least Threatened, with a conservation target of 24% and up to 50% statutorily conserved in various reserves including the Richard's Bay Nature Reserve.

15.4.3. Maputaland Coastal Belt Vegetation

The Maputaland Coastal Belt occurs within the KwaZulu-Natal province and extends into southern Mozambique. This vegetation type occurs on flat coastal plains likely to have been densely forested in the past in places with a wide range of interspersed non-forest plant communities including dry grasslands, hygrophilous grasslands and thicket groups like the ones found on site.

Currently the vegetation type comprises pockets of various forest types, thickets, primary and secondary grasslands, timber plantations and cane fields. Endemic taxa include the herbs: *Helichrysum adenocarpum* subsp. *ammophilum*, and *Vahlia capensis* subsp. *vulgaris* var. *longifolia*, geophytic herbs: *Asclepias gordon-grayae*, *Kniphofia leucocephala*, and *Raphionacme lucens* and the graminoid: *Restio zuluensis*. This vegetation type is Vulnerable, with a conservation target of 25%, and 15% statutorily conserved (Afzelia, 2018).

15.5. FAUNA

To determine the fauna that is likely to occur on site, the lists for the Quarter Degree square within which The Ridge is contained were obtained from the Animal Demography Unit's virtual museum. These lists include all fauna previously recorded from the area. Although it unlikely that all these species will be found on site, primarily due to the influx of people and other anthropogenic disturbance, there are some areas of the site which form suitable habitat for faunal species (Afzelia, 2018).

15.6. VISUAL ENVIRONMENT AND LAND USE CHARACTER

The site is located within a residential and commercial area. It is situated along the coast of Richards Bay and is the only area that enjoys the view of the harbour and the beach area because of its elevation. A large portion of the site is on vacant land however, there are two existing houses owned by the municipality located on parcels of the Ridge development.

15.7. HERITAGE AND CULTURAL ASPECTS

The enquiry has been lodged with AMAFA to ascertain whether there are any cultural and heritage sites within the study area. Findings will be incorporated in the final Basic Assessment Report.

16. LIST OF ACTIVITIES APPLIED FOR UNDER THE NEMA AND EIA REGULATIONS

In terms of the Environmental Regulations promulgated under the National Environmental Management Act (NEMA), an EIA must be conducted for any development or activity that requires an Environmental Authorisation. The listed activities in the NEMA, relevant to this project, that trigger the need for Environmental Authorisation are listed below;

Table 4: Listed Activities

Listed Activities as described in GNR.983	Description of project activity
<p>Listing Notice 1, Activity 27: “The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-</p> <p>(i) The undertaking of a linear activity; or</p> <p>(ii) Maintenance purposes undertaken in accordance with a maintenance management plan.”</p>	<p>The proposed construction will require clearance of more than 1 hectare of indigenous vegetation.</p>
<p>Listing Notice 3, Activity 12: “The clearance off 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.</p> <p>(b) In Kwa-Zulu Natal:</p> <p>vii. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.”</p>	<p>The clearance of vegetation that is 300m² metres or more will be required for the construction of infrastructure on land that was zoned as conservation or had an equivalent zoning.</p>

17. THE PUBLIC PARTICIPATION PROCESS

17.1 BACKGROUND

Public participation is part of the EIA process which is governed under the principles of NEMA as well the EIA regulations. It is defined as the process by which an organization consults with all interested or affected parties (I&APs) which include organizations, government entities, community, NGOs etc., before deciding. It is a two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions.

It provides all the stakeholders including the community with a platform to raise their concerns before the Competent Authority can make a final decision about the environmental authorization. This prevents and minimizes disputes before they

become unsolvable. Chapter 6 of the EIA regulations emphasize that the information related to the proposed project must be made available to I&APs, prior to a final decision. Therefore, this process will allow I&APs to have access to the information relating to this project. The Application was conducted according to Chapter 6 of the EIA Regulations as amended in December

17.2 OBJECTIVES OF PUBLIC PARTICIPATION

- To inform and involve the community and the stakeholders about the development happening in Meerensee.
- To identify and address the community and stakeholder’s concerns regarding this activity.
- To provide opportunities for the community, relevant government departments, surrounding businesses, the residents and other stakeholders to raise their concerns, suggest solutions and identify priorities or issues.

17.3 NOTIFICATION OF THE INTERESTED AND AFFECTED PARTIES (I&APS)

Section 41 of Chapter 6 of the EIA regulations have listed the following options, to be used when notifying the interested and affected parties (I&APs):

Table 5: Public Participation Processes

<i>All the Interested and Affected parties were notified of the application by-</i>		
Fixing a notice board at the place conspicuous to and accessible by the public at the boundary, on fence, or along the corridor of any alternative sites.	YES	NO
Any alternative site also mentioned in the application	YES	NO
<i>Has a written notice been given to-</i>		
Land owner or person in control if the applicant is not in control of the land	YES	NO
The municipal councillor of the Ward in which the site and alternative site of the proposed activity.	YES	NO
The municipality which has jurisdiction in the area and other organs of state	YES	NO
<i>Placing an advertisement in-</i>		
One local newspaper	YES	NO

Any official Gazette that is published specifically for providing public notice of applications	YES	NO
One* provincial newspaper, any official Gazette that is published with the purpose of providing public notice of applications.	YES	NO

17.4 COMMENTS FROM THE REGISTERED INTERESTED AND AFFECTED PARTIES (I&APS)

Section 43 of Chapter 6 indicates that all interested and affected parties are entitled to comment in writing on all reports produced by the applicant during EIA process. This will bring the concerns raised to the attention of the applicant.

The Ridge Public Meeting was held on the 24th of July 2018, at Indaba Lodge @18h00. All comments received were acknowledge and have been addressed in Table 5 below and are indicated by means of communication.

Table 6: Comments and Response Report (CRR) for The Ridge Public Meeting held in: Meerensee, Ward 2, Richards Bay, Indaba Lodge

NO	NAME OF I&AP	MEANS OF COMMUNICATION	COMMENT	RESPONSE BY EAP
1.	Deon Boshoff	E-mail	A question regarding the development effect on traffic flow, the quality of supply of electricity and water and sanitation was raised by the I&AP. Traffic in the mornings is regarded as hectic when turning into the John Ross Highway and this added accommodation was seen as added traffic congestion in the area.	Existing intersections operate at acceptable rates. Two access roads will also be constructed to meet development standards which will also operate at acceptable rates. However, further Traffic Impact Assessment studies are being undertaken by specialists. This report will be available during the BAR circulation. Electricity and Water infrastructure will be connected to the municipal system. The developer will try to make it a point that the service provider has sufficient electricity and resources to provide for the new development.
2.	Mr Pillay	Phone Call	During our telephonic discussion with Mr. Pillay he mentioned that he was in the process of selling his property but due to the upcoming proposed development, he is hopeful something positive might come as this will increase the value of Meerensee as a whole.	The EAP has acknowledged this comment.

NO	NAME OF I&AP	MEANS OF COMMUNICATION	COMMENT	RESPONSE BY EAP
3.	Claudie Pretorius	Public Meeting	The removal of vegetation as depicted in the 3D conceptual design image in the presentation shown was seen as misleading if the trees were not going to be cut down or disturbed. Miss Claudie requested that during the development the Dunes should remain untouched and not be disturbed or damaged in any way.	The Dunes will not be removed or disturbed, the 3D conceptual design was just a meagre depiction of how the Dunes could look like once the alien vegetation and litter has been removed. The developer can choose not to touch the Dunes if the community feel they need to be left alone. The aim of maintaining the Dunes is for the public and The Ridge residents to feel safe and ensure no nuisance activities happen there.
4.	Christo Botha Ward 2 Councillor of Meerensee	Public Meeting	Along Boulevard road directly opposite to the proposed site, there's a challenge of prostitution, Cllr Botha requested the EAPs to talk to the municipality regarding this issue.	The EAP cannot comment on the issue of prostitution at this point. However, the comments have been acknowledged by EAP.
		Public Meeting	The water infrastructure in Meerensee is more than 40 years old. Cllr Botha was concerned the existing water infrastructure could struggle to support the new development and requested the EAPs present at the meeting to raise such issues back to the municipality to upgrade the infrastructure before attempting to undertake such development.	The development will be incorporated to the existing water and sanitation infrastructure. During the construction phase it anticipated that the supply will be affected by the transition. However, during the operational phase, the development will not cause any nuisance impacts on the area of Meerensee.

NO	NAME OF I&AP	MEANS OF COMMUNICATION	OF COMMENT	RESPONSE BY EAP/DEVELOPER
5.	John Harvey	Public Meeting	The comment raised by John Harvey was regarding financial implications, whether the Developer will have enough funds to take on such development.	The Developer has their own return on investment.
6.	Jacques Jacobs	Public Meeting	Mr Jacobs highlighted that Richards Bay is an industrial town; people are not willing to spend money on expensive property, especially in Meerensee. In this area businesses are closing, and the local economy is crumbling reconsider building an up-market shopping centre and sell the land to us.	Feasibility studies were undertaken, and research has been conducted thus the development is aligned with such results. The developer would have not decided on such development without the necessary studies and research being done.
7.	Tebogo Matolo	Public Meeting	Miss Mtolo appreciated and acknowledged the opportunities and possibilities brought by the proposed development. She also shared at the meeting that the project will benefit the community in so many ways through local jobs, residential units, and new shopping mall. People will have a variety of malls to choose from in Richards Bay.	The EAP has acknowledged this comment.

18. SUMMARY OF THE KEY FINDINGS FOR THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Table 7 below shows the Environmental Impact Assessment (EIA) conducted for the planning and design phase, the construction phase and the operational phase, for the preferred alternative site.

Table 7: Direct and Indirect Impacts (Preferred Alternative)

Impact	Description	Mitigation
Planning and Design Phase		
Removal of vegetation	Although much of the construction will occur within individual Ervens, the dunes that lay next to the construction boundary on the ridge can be affected by construction activities.	<ul style="list-style-type: none"> • The contractor must ensure that employees are trained on the preservation of the environment. • Clearing of vegetation must be kept within the demarcated area or site boundary. • The dunes must be barricaded with a tape before construction commences. • The contractor must ensure that vegetation is not removed without permission from the ECO or Ecologist.
Carbon footprint	<p>The buildings must be designed to suite the carbon footprint reduction.</p> <p>Water Conservation Demand Management</p> <p>Designing for water conservation, efficiency and re-use can be the most effective way.</p>	<ul style="list-style-type: none"> • The Architects or Structural Engineers must prove to have made an effort to consider carbon footprint reduction in the early stages of buildings designs.

Impact	Description	Mitigation
Construction Phase		
Removal of Indigenous Vegetation	<p>There were no rare or endangered/protected plant species that were recorded in or near any of the construction footprints/development parcels. However, several indigenous trees will be removed during construction activities.</p>	<ul style="list-style-type: none"> • The contractor must identify sensitive flora prior to construction works. • The site should be fenced off for the duration of the construction phase to prevent domestic animals from entering the site and being injured. • No fauna encountered on site may be intentionally harmed or killed. • Where necessary, the disturbed areas should be re-vegetated with plants that attract seed eating and nectar feeding birds for pollination and re-vegetation. • Keep the loss of forest vegetation as close as possible to the footprint of the development, restrict dumping of soil and trampling to outside of an established buffer zone surrounding the forest; • No forest plants should be removed or cut down unless these are alien invasive species.

Impact	Description	Mitigation
Construction Phase		
Faunal disturbance	Due to the level of disturbance and how close the proposed site is to the residential area. With domestic dogs and cats, the area is expected to have very low indigenous faunal numbers and diversity. It is also possible that domestic animals may wander onto the site and become injured by construction activities.	<ul style="list-style-type: none"> • Special care should be taken not to kill or injure snakes and reptiles when working on site. • Blasting and earth moving activities must be scheduled to occur at the same time to reduce noisy activities that might affect domestic animals.
Noise Pollution	Excessive noise might be generated during the construction, from the delivery vehicles, earth moving machinery, piling works and TLBs. This can cause the negative impacts to the hotels, business, people and their domestic animals living next the construction site.	<ul style="list-style-type: none"> • Excavation activities can be conducted during the daylight hours only, no excavation should be allowed before or after working hours. • Training and environmental awareness must be provided to the workers about the noise pollution. • Noise dampening mechanisms must be installed on the moving machinery'. • Ear plugs must be provided to the workers. • Surrounding businesses, hotels and people must be made aware through signage of nuisance activities such as noise impacts.

Impact	Description	Mitigation
Construction Phase		
Air Quality	Air quality will be compromised from construction activities like excavating, stockpiling and backfilling for the residents living near the proposed construction site. It will also be generated from bare surfaces and moving machinery,	<ul style="list-style-type: none"> • Suppressed and re-vegetated to reduce dust. • Strict speed limit must be implemented on the dusty road. • Training and environmental awareness must be provided. • Proper stockpile management must be implanted to reduce dust. • Where necessary dust must be suppressed using water tankers. • Dust from the stockpiles must also be suppressed.
Wetland Analysis	<p>There are no wetlands located within 50m of the site, only Lake Menywa which is located 350m from the proposed site while several drainage lines present downslope of the site.</p> <p>The drainage lines flow into the eastern extent of the Port of Richards Bay, located 250-300m away. However, the southern and western edges of the site are near steep slopes show signs of minor erosion. Implementation of mitigations will help reduce erosion/impacts to these watercourses.</p>	<ul style="list-style-type: none"> • Soil stockpiles, storage areas and site camps should be located on flat areas at least 50m away from the steep banks and drainage lines on the western edge of the site. • Erosion control measures (sand bags, geotextiles) must be implemented in areas sensitive to erosion such as near water supply units, edges of steep slope and drainage lines.

Impact	Description	Mitigation
Construction Phase		
Community members and private landowners.	Construction activities might cause impacts to the people living nearby. People living near the proposed site might be at risk of being injured by construction machinery or nearby houses cracking.	<ul style="list-style-type: none"> • Access to the construction camp site and construction sites must be monitored always. • Strict access to the construction site must be ensured to avoid any disturbance or interference by the community. • Safety signs must be displayed around the site to warn the community of the potential hazards within the construction site.
Socio-Economic Impacts	Positive Impact: There's a potential that local communities will receive employment opportunities during the construction phase of the project.	<ul style="list-style-type: none"> • N/A
Urban environment: congestion and traffic	The transportation of materials to and from the site and the possibility of the road being congested at peak times during the construction phase will likely generate traffic.	<ul style="list-style-type: none"> • Residents must be alerted about the anticipated traffic delays and known periods of road closure. • Visible signs must be installed to warn the road users of the development. • Construction and during the operational phase about the traffic in the area being temporary affected, so that relevant traffic signs will be erected along the road. • Construction vehicles should be limited to off-peak hours of the day.

Impact	Description	Mitigation
Construction Phase		
Soil Erosion	Disturbed soil from excavations done during construction may be prone to erosion by wind and water. Stockpiles of topsoil and excavated material may also be prone to erosion. This impact is site specific but may spread to the dunes outside the site boundary.	<ul style="list-style-type: none"> • Should erosion scars begin to form on the landscape, an erosion management plan should be implemented immediately. • Erosion control and construction disturbance should be an important monitoring facet falling under the control of an Environmental Control Officer (ECO), who should be appointed to implement the environmental management plans (EMP's) during the construction and site rehabilitation phases of this project. • Limit vegetation to construction footprint/development parcels.
Groundwater	During construction accidental spillages might occur, causing soil and groundwater to be contaminated.	<ul style="list-style-type: none"> • No cement/concrete mixing on bare soil must be allowed on site. Cement mixers are to be placed on large drip trays to prevent spills. • Vehicles must not be serviced on site to prevent pollution of soil. • Generators and fuel supply needed during construction must be placed on trays on site.

Impact	Description	Mitigation
Construction Phase		
Soil and geology	The local site geology is underlain by Dune sands of recent littoral deposits which are likely to have moderate to high collapsible potential in the sense that they are subject to increase in moisture content under load, they undergo a densification and subsequent settlement.	<ul style="list-style-type: none"> • The dense vegetation on site plays a role in stabilizing site, therefore, disturbance should be kept as low as possible. • When building new structures on site it is important that the stability is looked at. Stabilizing solutions like retaining structures must be considered. • Within loose sandy aeolian sediments, Kosi bay formation sands and colluvium sands, excavations greater than 1.2m where not battered back should be suitably shored. • All cut embankments should be protected against surface erosion by planting indigenous vegetation after construction.
General waste management	During the lifecycle of the project, general waste will be generated from the accumulation of day-to-day construction and domestic activities. Mismanagement of waste could lead to negative visual and environmental impacts as there is a lagoon approximately 300m from the proposed site and dunes just outside the site boundary.	<ul style="list-style-type: none"> • All staff should be trained on correct waste management. • All waste should be collected and appropriately disposed of at the licensed landfill site and records of disposal kept on site always. • Manageable day-to-day waste can be put in storage containers and collected weekly by municipal vehicles. • No construction waste must be stockpiled on site. • Adequate waste bins must be provided in and around the site clearly labelled for different types of waste.

Impact	Description	Mitigation
Construction Phase		
Carbon footprint	<p>Materials and Equipments Construction activities can have a major impact on climate change through materials used, vehicles used during construction as well the human behaviour.</p> <p>Water Conservation Demand Management Supplying of poor-quality plumbing materials increases water loss.</p>	<ul style="list-style-type: none"> • Recyclable materials that have negative impacts into the environment must be considered during the construction. • Vehicles must be inspected to ensure that they are in a good condition to avoid oil spillages and oil leaks. • Minimizing of vehicles and sharing of vehicles on site is encouraged. • The plumbing equipment suppliers must provide equipment that prevent water leaks, to reduce the carbon footprint.

Impact	Description	Mitigation
Operational Phase		
Traffic Accommodation	The shopping centre, hotel and residential components will generate some public transport passengers and pedestrians once the development is fully operational.	<ul style="list-style-type: none"> • Laybys on both sides of the access roads to cater for the public transport users/pedestrians coming into the development. • Pedestrian crossing is recommended at the shopping centre access near the recommended public transport lay-byes to provide safe crossing opportunities for pedestrians walking to and from the laybys. • Sidewalks are recommended along Andrews Lane and Launder Lane or where necessary.
Stormwater Management Plan	During the operational phase, Stormwater runoff during high rainfall season might not be adequately constructed to control/prevent erosion of existing drainage lines.	<ul style="list-style-type: none"> • The contractor must ensure compliance with the Stormwater management plan which must include regular inspection of Stormwater control related infrastructure to avoid blockages and monitor potentially malfunctioning structures. • The contractor must ensure that wastewater and sewage is being correctly and safely managed onsite to avoid discharge into the drainage lines and/to the ocean. • Ensure compliance with the alien plant management plan. • Excess water or rainwater retention facility can be developed to assist in recycling and re-using of water.

Impact	Description	Mitigation
Operational Phase		
Stormwater Management Plan		<ul style="list-style-type: none"> • Access roads should be constructed with kerb and channel along road lengths, kerb inlets should be allowed for along access roads on the lower side of the cross fall.
Carbon footprint	<p>The operational phase has a major contribution to climate change if carbon footprint is not reduced.</p> <p>Greening Several trees will be removed during construction within the site which is an impact to climate change.</p> <p>Materials and Equipments Materials used within the buildings must be energy efficient to reduce carbon footprint. Careful selection of globes, solar Equipments and other materials can help to reduce carbon footprint.</p>	<p>Greening</p> <ul style="list-style-type: none"> • Planting indigenous plants on rooftops and integrating the natural environment into the development as much as possible will help to create oxygen and help reduce carbon footprint within the buildings. <p>Materials and Equipments</p> <ul style="list-style-type: none"> • Use windows and skylight as they provide with natural lighting i.e. glazed or double-paned windows as they provide insulation. • The use of roof mounted turbines or solar panels is recommended to reduce using the municipal energy sources.

Impact	Description	Mitigation
Operational Phase		
General waste management	<p>During the lifecycle of the project, general waste will be generated from the accumulation of day-to-day construction and domestic activities. Mismanagement of waste could lead to negative visual and environmental impacts as there is a lagoon approximately 300m from the proposed site and dunes just outside the site boundary.</p>	<ul style="list-style-type: none"> • All waste must always be collected and appropriately disposed of at King Cetshwayo District Municipality and records of disposal kept on site. • Manageable day-to-day waste can be put in storage containers and then collected weekly by municipal vehicles for disposal. • No construction waste must be stockpiled on site. • Adequate waste bins must be provided in and around the site clearly labelled for different types of waste.
Socio-Economic Impacts	<p>Positive Impact: After construction, temporary employment will be lost but once the development is up and running, permanent employment opportunities from the hotel and shopping centre will be received by the communities.</p>	<ul style="list-style-type: none"> • N/A

Table 8: Cumulative Impacts

Impact	Description	Mitigation
Carbon Footprint	<p>The development will have major negative effects if the following are not done:</p> <ol style="list-style-type: none"> 1. Materials used are not energy efficient. 2. Water consumption and water reduction measures are done. 3. Methods suggested to reduce carbon footprint are not considered. 	<ul style="list-style-type: none"> • Application of greening methods such as planting of trees/shrubs. Vegetated roofing is one of the recommended latest methods of reducing carbon footprints. • Integration of the natural environment into the development will need proper implementation in order to reduce CO₂ and create more oxygen. • Use windows and skylight as they provide with natural lighting i.e. glazed or double-paned windows as they provide insulation. • The use of roof mounted turbines or solar panels is recommended to reduce using the municipal energy sources.
Impact	Description	Mitigation
Alien Invasive plant species	<p>The construction site boundary is right next to the dunes. This might lead to alien vegetation growing back instead of indigenous vegetation affecting the dunes and competing with them for water and space due to construction activities being conducted on site.</p>	<ul style="list-style-type: none"> • Alien Plant Management Plan must be implemented to prevent the spreading of weeds and alien from coming back. • The re-vegetation must be trees or shrubs or grassland vegetation indigenous to the locality of the area. • Dunes must be protected throughout the lifecycle of the project. Bird hides must

		be constructed to attract birds into the dunes.
Municipal Services	The proposed development will put pressure on the municipality to provide more services to the new residents and companies that will be operating within this development.	<ul style="list-style-type: none"> • Ensure that enough electricity supply is available. • Encourage the use of energy efficient equipment e.g. CFL lighting in residential and business tourism development parcels.

19. THE RATING CRITERIA FOR THE IDENTIFIED IMPACTS AND RISKS

The table below indicates the rating criteria that was used to rate the extent of the identified impacts. It also indicates the method that was used to rate the impacts. The score ranges from 10 to 100, where 10 indicates lowest impact, 60 indicates medium and 100 indicates the highest impact. The score then determines the significance, duration and the extent of impact.

Table 9: The rating criteria for the identified impacts and risks

PLANNING AND DESIGN PHASE		
Removal of Vegetation/Erosion		
Rating criteria	With mitigation measures	Without mitigation measures
Score	15	85
Significance	Low	High
Duration	Immediate	Long term
Extent of impact	Site	Local
Impact Rating summary	When proper mitigation measures are implemented, the clearance of indigenous vegetation will be reduced and kept to a minimum and that will save the vegetation from being destroyed completely and integrate the natural environment into the new developments.	
Carbon Footprint		
Rating criteria	With mitigation measures	Without mitigation measures
Score	20	80
Significance	Low	High
Duration	Immediate	Long term
Extent of impact	Site	Local
Impact Rating summary	When proper mitigation measures are implemented, the natural environment will be integrated successfully into the new developments. Planting of trees can be considered during planning and designing of all buildings as much as possible.	

	All reasonable precautions as stipulated under mitigation measures must be taken into consideration to minimize such possible impacts.
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CONSTRUCTION PHASE		
Wetland Analysis		
Rating criteria	With mitigation measures	Without mitigation measures
Score	40	60
Significance	Low	High
Duration	Short term	Long term
Extent of impact	Site	Local
Impact Rating Summary	Storm water management will help to reduce the impacts to the nearest Wetlands.	
Urban environment: congestion and traffic		
Rating criteria	With mitigation measures	Without mitigation measures
Score	30	70
Significance	Low	High
Duration	Short term	Short term
Extent of impact	Site	Local
Impact Rating Summary	If these mitigation measures are not properly implemented road, construction vehicles and local residents will have difficulty moving around the town of Meerensee.	

CONSTRUCTION PHASE		
Soil and Geology		
Rating criteria	With mitigation measures	Without mitigation measures
Score	30	70
Significance	Low	High
Duration	Short term	Long term
Extent of impact	Site	site
Impact Rating Summary	If the mitigation measures are not properly implemented, then the vegetation on site keeping the soil stable will be destroyed and surface erosion will occur. It is important that these mitigation measures are adhered to in order to stabilize the soil and the plants.	
General Waste Management		
Rating criteria	With mitigation measures	Without mitigation measures
Score	30	70
Significance	Low	High
Duration	Short term	Short term
Extent of impact	Site	Local
Impact Rating Summary	If these mitigation measures are not properly implemented properly and the staff is not trained on correct waste management on site, then this could lead to negative visual and environmental impacts.	

CONSTRUCTION PHASE		
Removal of Vegetation		
Rating criteria	With mitigation measures	Without mitigation measures
Score	25	70

Significance	Low	High
Duration	Short term	Long term
Extent of impact	Site	Local
Impact Rating Summary	The removal of vegetation can be reduced if the mitigation measures are applied properly. The impact on the Dunes can occur over a long period of time if the mitigation measures are not implemented, they need to be protected from disturbance throughout the lifecycle of the project.	
Faunal disturbance		
Rating criteria	With mitigation measures	Without mitigation measures
Score	20	40
Significance	Low	Low
Duration	Short term	Short term
Extent of impact	Site	Local
Impact Rating Summary	Domestic animals need to be protected by the residents next to the proposed construction site. Signs warning residents of dangers that could occur must be erected by the contractor.	
Noise Pollution		
Rating criteria	With mitigation measures	Without mitigation measures
Score	35	60
Significance	Low	Medium
Duration	Immediate	Long term
Extent of impact	Site	Local
Impact Rating Summary	Noise pollution can be prevented with the stipulated mitigation measures, however if the noise is not kept to a minimum then the residents and domestic animals will experience high noise levels.	

Air Quality		
Rating criteria	With mitigation measures	Without mitigation measures
Score	25	80
Significance	Low	High
Duration	Immediate	Long term
Extent of impact	Site	Local
Impact Rating summary	When proper mitigation measures are implemented, the air quality of the surrounding environment can be sustained.	

Groundwater		
Rating criteria	With mitigation measures	Without mitigation measures
Score	60	60
Significance	Low	Medium
Duration	Immediate	Long Term
Impact rating summary	If the mitigation measures are not adhered to, contamination of groundwater will occur.	

CONSTRUCTION PHASE		
Carbon Footprint		
Rating criteria	With mitigation measures	Without mitigation measures
Score	20	75
Significance	Low	High
Duration	Short term	Long term
Extent of impact	site	Local
Impact Rating Summary	If the carbon footprint is not reduced, that can have a major effect on climate change.	

OPERATIONAL PHASE		
Stormwater Management Plan		
Rating criteria	With mitigation measures	Without mitigation measures
Score	40	60
Significance	Low	High
Duration	Short term	Long-term
Extent of impact	site	Local
Impact Rating Summary	If these mitigation measures are not properly implemented, then during season of high rainfall poorly constructed Stormwater might lead to blockage and waste water and sewage might be wrongly discharged.	
Carbon Footprint		
Rating criteria	With mitigation measures	Without mitigation measures
Score	40	60
Significance	Low	High
Duration	Short term	Long-term
Extent of impact	site	Local
Impact Rating Summary	The risk assessment shows that reduction of carbon footprint, through applying of mitigation measures can be achieved. However, if the mitigation measures are not implemented, the carbon footprint can increase to impact the environment even locally.	

20. RECOMMENDATIONS BY SPECIALISTS

20.1 RECOMMENDATIONS BY TRAFFIC IMPACT ASSESSMENT (TIA) SPECIALIST

The following conclusions and recommendations were made:

- ✚ A pedestrian crossing is recommended at the shopping centre access near the public transport laybys to provide safe crossing opportunities for pedestrians walking to and from the laybys.

- ✚ The analysis of the 2023 forecast traffic conditions excluding the development generated traffic on the road network surrounding the site showed that the roads and intersections are expected to operate at acceptable levels of service during the 5-year forecast Saturday AM and Friday PM peak hours.
- ✚ Additional public transport lay-byes are recommended on both sides of the Proposed Access Road near the shopping centre access to cater for any public transport passengers that might be generated by this development.
- ✚ A pedestrian crossing is also recommended at the shopping centre access near the recommended public transport laybys to provide safe crossing opportunities for pedestrians walking to and from the laybys. This development can therefore, be supported by the traffic and transportation perspective.

20.2 RECOMMENDATIONS BY WETLAND SPECIALIST

The assessment found that no wetlands or riparian habitats are likely to receive impacts from the proposed development and therefore, a full wetland assessment was not required. Extensive sampling did take place onsite, however, no wetland or watercourse indicators were identified.

A DWS risk assessment was completed as part of this assessment as requested via formal correspondence with DWS. The risks from the proposed development, related to downstream erosion and sedimentation as well as water quality issues, were rated as 'low' in the case of good mitigation and best management practices being applied during construction and operation.

This indicates that the onsite development activities meet the risk level criteria required for a General Authorisation (GA) as contained in Notice 509 of 2016, a water use license is not required, and the recommendations are as follows:

- Spillages of fuels, oils and other potentially harmful chemicals outside of the bunded areas must be cleaned up immediately and contaminants properly drained and disposed of using proper solid/hazardous waste facilities (not to be disposed of within the natural environment). Any contaminated soil must be removed, and the affected area rehabilitated immediately – consult with the Environmental Control Officer if spills occur.
- It is recommended that environmental education of construction workers must be done prior to establishing good pollution prevention practices. The training programme must include lessons on handling, spill prevention and response to better prepare the workers of such emergencies that might occur on site.

- Erosion control measures must be implemented in areas sensitive to erosion such as near water supply points, edges of steep slopes and drainage lines. These measures include but are not limited to - the use of sand bags, geotextiles such as soil cells which are used in the protection of slopes, hessian sheets, silt fences and retention or replacement of vegetation.
- It is also recommended that suitable slope stabilising structures are recommended specifically for the western bank of drainage line D1.

20.3 RECOMMENDATIONS BY GEOTECHNICAL SPECIALIST

The Geotechnical Studies were conducted by iBhongo Consulting and the following are the recommendations for the proposed development:

20.3.1. Slope Stabilization

The sloping portion of the site was also identified as being a zone of potential instability due to the following factors:

- Steepness of slope
- Low angle of friction and cohesion of the soils

The dense vegetation currently found on site plays a great role in stabilizing the slope by mechanically binding the soil. However, it also obscures areas of current instability. The proposed development structures will impose a load on the ridge and crest of the slope, therefore, it is important to that the stability is of the slope is looked at. During construction the slope and the Bayview Boulevard road will likely receive impact. Stabilizing solutions like i.e. retaining structures will need to be looked at in detail during the full investigation.

20.3.2. Earthworks

During the planning stage no earthworks details were made available. However, the general cutting and filling recommendations should be considered:

20.3.3. Cuts

Permanent cut slopes in all unconsolidated colluvial and aeolian sediments should be restricted to a maximum slope gradient of 1:2 (26°). Cut slopes should not exceed a maximum height of 3.0m without being assessed by the responsible engineer.

20.3.4. Fill

The site is in almost perfect level and not too many embankments will be needed. However, filling will be required in the south eastern portion of the site, where the hotel and wooden walkway are proposed. These are the general recommendations where fill will be required:

- ✚ Fill platforms should not be engineered into any unstable materials. Prior to any placement of fill, all vegetation should be grubbed and cleared.
- ✚ Fill should be construction in layers of maximum 300mm loose thickness and compacted to 93% and 95% of the materials maximum Mod AASHTO density for more clayey and sandy materials respectively prior to the placement of the next layer.

20.3.5. Excavations

In terms of the materials underlying the development site, “soft” excavation according to SABS1200D Standards, is anticipated through the entire depth of the Recent Aeolian dune sand and kosi bay formation sands.

20.4 RECOMMENDATIONS BY ECOLOGICAL SPECIALIST

The Ecological Studies were conducted by Afzelia Environmental Consultants for the proposed site as well as the Dunes.

The site compromises of park and the forest. The park forms transformed land and thus no significant impacts in the environment can occur. Development of the forest by restricting access, construction of wooden walkways, construction of bird hides will give a positive impact since that will limit the access of people coming to dump in the forest. The will also reduce invasive species.

The following recommendations were also made:

- Keep the loss of forest vegetation as close as possible to the footprint of the development, restrict dumping of soil and trampling to outside of an established buffer zone surrounding the forest;
- No forest plants should be removed or cut down unless these are alien invasive species; • A rehabilitation plan must be developed;
- Monitoring of vegetation growth should be employed to reduce alien invasion and increase the presence of natural dispersed indigenous species;
- Development and application of an alien invasive management plan to prevent spread and new invasions by alien invasive plant species;

- No additional development must take place within the forest;
- Ideally a buffer zone allowed to develop as a natural ecotone should be set aside between the side of the forest adjacent to the development and the development itself;
- Rehabilitation should take place as soon as possible after construction is completed.

20.5. RECOMMENDATIONS FROM THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

The EAP recommends the authorization of this application: However, the following conditions and mitigation measures are recommended and should be considered in any authorization that may be granted by the competent authority in respect of the application.

- ✚ Appoint an Environmental Control Officer (ECO) to oversee and advice on site specific environmental management requirements when needed.
- ✚ Mitigation measures for Carbon footprint reduction must be considered to reduce risks of climate change.
- ✚ All reasonable precautions must be taken to minimize noise generated on site.
- ✚ Delivery trucks and vehicles must be kept in good working order so as not to generate excessive noise.
- ✚ Maintenance done on vehicles coming in and out of the site must be done in such a manner to maintain good transportation of raw materials to the site.
- ✚ Storage areas must be managed properly by applying the suggested mitigation measures in this document.
- ✚ Non-recyclable material should be removed on site to private recycles who utilize it or be disposed of at the local Municipal Landfill site.
- ✚ If excessive spillage of diesel and fuel etc. should occur due to accidents, it should be cleaned-up immediately.
- ✚ All employees must be trained about the Spill Management, Waste management, Emergency Procedures and Evacuation Procedures in place.
- ✚ Stormwater management must be drawn to separate clean water from dirty water.
- ✚ No workers are permitted to be accommodated overnight in the site except for skeleton security personnel.
- ✚ Re-vegetate and rehabilitate after day a day's work if any vegetation is removed.
- ✚ Where possible limit the removal of existing trees or shrubs.
- ✚ Only indigenous vegetation should be used during rehabilitation.
- ✚ Rehabilitation success should be monitored.

21. CONCLUSIONS

The above report provides a detailed Basic Assessment Report (BA) for the proposed Mixed-Use Development. This report and documentation attached are sufficient to decide in respect of the activity applied for in the view of the EAP.

The EIA process was conducted according to Appendix 1 of the EIA regulations, December 2014 and the NEMA as amended in 2017. The assessment was based on the information provided, the site inspection conducted by the EAP and DEDTEA, as well as the comments by the Stakeholders.

This draft report will also provide the Interested and Affected Parties (comments from stakeholders) (I&APs) with an opportunity to comment, their comments will be reviewed and will be incorporated in the final Basic Assessment Report.

The Competent Authority (CA) is required to assess the report based on the information currently provided and take a final decision once the information submitted is complete. Enviro Consultant will continue to liaise with all the I&APs during the process.

APPENDIX A:

DECLARATION OF INFORMATION

I, the undersigned **Phumzile Lembede**, on behalf of **Emvelo Quality and Environmental Consultant**, hereby declare that the information provided in this application is correct and true.

Signature

Date

Position

Company

APPENDIX B:
ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

**APPENDIX C:
SITE PHOTOGRAPHS AND LOCALITY MAPS**

APPENDIX D
LAYOUT PLANS

**APPENDIX E:
PUBLIC PARTICIPATION PROCESS**

The images below show the notices displayed within the Construction site, the local clinic and the advertisement placed in the Zululand Observer



Figure 1: Onsite notices (English), placed on both entrances of the proposed site (Lauder Lane and Andrews Lane).

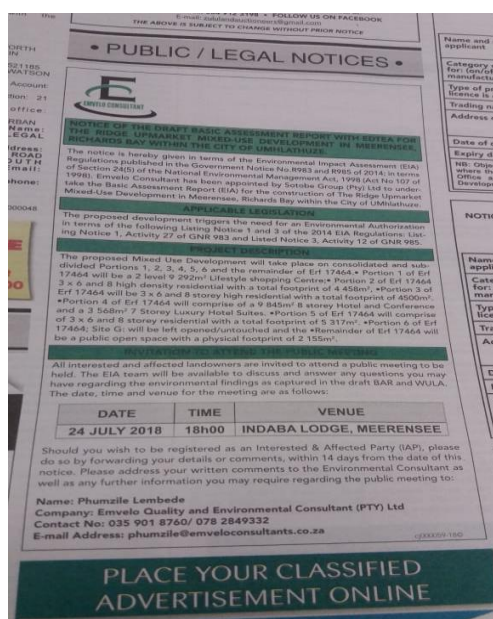


Figure 2: Newspaper advertisement published in the Zululand Observer.



Figure 3: Notice placed on Meerensee Public Clinic Notice Board.



Figure 4: Public Meeting of the public notices held at Indaba Lodge.

**APPENDIX F:
EAP'S CV(S)**

**APPENDIX G:
ECOLOGICAL ASSESSMENT REPORT**

**APPENDIX H:
TRAFFIC IMPACT ASSESSMENT**

**APPENDIX I:
WETLAND ASSESSMENT REPORT**

**APPENDIX J:
GEOTECHNICAL STUDIES**

**APPENDIX K:
CIVIL DESIGNS REPORT**

APPENDIX L
MARKET FEASIBILITY STUDY