

Draft Basic Assessment Report
FOR THE PROPOSED REFURBISHMENT AND
EXPANSION OF A MULTI-STORY RESIDENTIAL BLOCK
SITUATED AT 50 LAGOON DRIVE, UMHLANGA ROCKS,
LOCATED WITHIN THE ETHEKWINI MUNICIPALITY

EIA REF NUMBER: DM//0010/2017





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DRAFT BASIC ASSESSMENT REPORT

For the Proposed Refurbishment and Expansion of a Multi-Storey Residential Block
Situating at 50 Lagoon Drive, Umhlanga Rocks, Located within the eThekweni
Municipality

EIA Ref No.: DM//0010/2017

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Approved by	Project Manager	Fatima Peer		06 April 2017

Executive Summary

1World Consultants (Pty) Ltd has been appointed by Arup (Pty) Ltd, on behalf of Dalmation Duo Investments (Pty) Ltd, to undertake the required environmental services for the proposed refurbishment and expansion of a multi-story residential block situated at 50 Lagoon Drive, Umhlanga Rocks, located within the eThekweni Municipality. The proposed redevelopment of "Fleetwood on Sea" is located within 100m from the High Water Mark (HWM) of the sea within an urban area. The proposed development will involve the refurbishment of the existing structure (i.e. updating the façade and internals) of "Fleetwood on Sea", and would include the redevelopment and revamping of the existing apartment building comprising new apartments; the refurbishment of the entertainment area to include new lifts, stairs, bar, covered terrace, pool, and much more; the existing units and penthouse apartments will be upgraded. The existing site area is 4184sqm. The development footprint on ground level is approximately 500m² and will entail a new pedestrian entrance; a new vehicle entrance and gatehouse; a new boundary wall; new apartment; and a new roof pool deck. The proposed development triggers the need for a Basic Assessment since the proposed development is located within 100m from the High Water Mark (HWM) of the sea and will require more than 5 cubic metres of material to be removed from site.

The preferred site alternative is a site that is well established within an urban area approximately 100m from the High Water Mark (HWM) of the sea. The existing structure is a well-established, multi-story, residential block. The existing structure will be refurbished and expanded. A new boundary wall will be constructed with construction being limited to the boundary of the property. Thus, adverse environmental impacts will be kept to a minimal. No site alternatives have been proposed as the existing property and structure is privately owned. It is therefore much more feasible for the proposed development to take place within this property.

The Public Participation Process involved consultation with the relevant authorities, the landowners affected along the way, community leaders and other identified Interested and Affected Parties (I&APs). Newspaper advertisements were published and site notices were erected on site to inform the general public of the Basic Assessment Process. A public meeting was not requested or held prior to the distribution of the Draft BAR.

Specialist studies included:

- A Vegetation Assessment and Report to assess and identify the main vegetation types in the developmental area was conducted.
- A Traffic Impact Assessment was conducted by Arup (Pty) Ltd.
- A Geotechnical Study was conducted by Drennan Maud (Pty) Ltd.
- A Shadow Impact Assessment by Elphick Proome Architects inc.

The Draft BAR and EMP are hereby circulated to registered I&AP's for a **30-day review and comment period**. The comments and responses provided to 1World Consultants (Pty) Ltd will be incorporated into a Comments and Responses Report which will be included in the Final BAR for subsequent submission to the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZN EDTEA) for a decision on the Environmental Authorisation.

This BAR has been prepared in Accordance with the EIA Regulations, 2014 and follows the requirements for a BAR in Appendix 1 of GNR 982.

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INTRODUCTION

1World Consultants (Pty) Ltd has been appointed by Arup (Pty) Ltd, on behalf of *Dalmation Duo Investments (Pty) Ltd*, to undertake the required environmental services for the proposed refurbishment and expansion of a multi-story residential block situated at 50 Lagoon Drive, Umhlanga Rocks, located within the eThekweni Municipality. The proposed redevelopment of “*Fleetwood on Sea*” is located within 100m from the High Water Mark (HWM) of the sea within an urban area.

Table 1: Project Specifications

	“Fleetwood on Sea”
Ward	Ward 35
Property Description	Lot 1096 Umhlanga Rocks
Property Extent	4184m ²
New Development Footprint on the Ground Level	500m ²
Number of Additional Levels (new Block)	2 new levels below ground and 10 additional levels above existing structure
Total Floor Area Ratio (far)	6715sqm
Development Specifications	<ul style="list-style-type: none"> • Expansion to existing apartments • New pedestrian entrance • Adequate additional parking • New vehicle entrance + Gatehouse • New boundary wall

As per GN R982 of the EIA Regulations, 2014, a Basic Assessment (BA) Process has been undertaken and the environmental outcomes, impacts and residual risks of the proposed Listed Activity being applied for have been noted in this BA Report and assessed accordingly by the Environmental Assessment Practitioner (EAP). The requirements of the BA Process have been noted in Appendix 1 of the EIA Regulations, GNR 982 (2014) and are consequently adhered to in this report.

It must be noted that the Listed Activities in terms of GN R983 of the EIA Regulations, 2014, are applicable to this proposed project and will trigger activities in the construction phase. This BA Report focuses on the potential impacts that may arise during the construction and operational phases and provides recommended mitigation measures.

Ultimately, the outcome of a BA Process must be to provide the Competent Authority, the Department of Economic Development, Tourism and Environmental Affairs (EDTEA), with sufficient information to provide an informed decision on the Application, in terms of Environmental Authorisation (EA), in order to avoid or mitigate any detrimental impacts that the activity may inflict on the receiving environment.

BASIC ASSESSMENT REPORT

(A) ENVIRONMENTAL ASSESSMENT PRACTITIONER

Business name of EAP: **1World Consultants (Pty) Ltd**
 Physical address: **181 Winchester Drive, Reservoir Hills,**
 Postal address: **PO Box 2311, Westville,**
 Postal code: **3630** Cell: **082 640 4900**
 Telephone: **031 262 8327** Fax: **086 726 3619**
 E-mail: fatima@1wc.co.za

Table 2: Names and Expertise of Representatives of the EAP

Name and Title	Qualifications and Affiliations	Role	Experience at Environmental Assessments
Fatima Peer	B.Sc (Hons) Pr. Sci. Nat., IAIAAsa	Senior EAP	6 years
Roschel Maharaj	B.Sc	Junior EAP	1 year
Bryan Paul	B.Sc IAIAAsa	Biodiversity Officer	1 year
Yusuf Raja	B.Sc/ IAIAAsa	Environmental Project Manager	14 years

A Company Profile, CV's and Project Experience for the Consultants is Provided in **Appendix A**.

Table 3: Names and Expertise of Specialists

Name of specialist	Education qualifications	Field of expertise	Section/s contributed to in this basic assessment report	Title of specialist report/s as attached in Appendix E
Sumashni Moodley (Arup (Pty) Ltd)	Pr Tech Eng: 201370258	Traffic Impact Specialist	Traffic Impact Assessment, Special Consent Application (Section K)	Fleetwood on Sea LOT 1096 Umhlanga Rocks 50 Lagoon Drive Traffic Impact Assessment Special Consent Application
M.J. Hadlow (Drennan Maud (Pty) Ltd	Pr.Sci.Nat.	Geotechnical Specialist	Geotechnical Investigation (Section K)	Desktop Geotechnical Investigation, for the Environmental Basic Assessment Report for the Proposed Development, Fleetwood on Sea, Lagoon Drive, Umhlanga rocks.
Elphick Proome Architects inc.	Registered Architect	Shadow Impact Specialist	Shadow Impact Assessment (Section k)	Sun Study Proposed Building Shadow Impact

(B) LOCATION OF THE ACTIVITY

The proposed redevelopment of “Fleetwood on Sea” (Lagoon Drive) is located within Ward 35 of the eThekweni Municipality. Map 1 below depicts the general locality of “Fleetwood on Sea”. The 21-digit Surveyor General (SG) number for the property affected is provided below. The co-ordinates for the proposed development are also provided in Table 4.

Table 4: Site Details

Refurbishment and Expansion of Fleetwood on Sea	
Property Description	Lot 1096 Umhlanga Rocks
SG Number	NOFU03510000109600000
Property Size	4184m ²
GPS Coordinates	29° 43' 11.78" S; 31° 05' 25.29" E

(C) PROPOSED PLANS

The layout plan for the proposed refurbishment and expansion of “Fleetwood on Sea” is provided in **Appendix B**. The following are proposed:

- A new pedestrian entrance
- A new vehicle entrance and gatehouse
- New boundary wall
- Expansion to existing apartment/ Parking block
- Entertainment area will be refurbished to include new lifts, stairs, bar, covered terrace, pool, and much more.
- Existing units and penthouse apartments will be upgraded
- Fleetwood on Sea will be expanded to include additional levels.

Table 5 below provides an indication of the development schedule. Map 1 below provides an indication of the general locality of “Fleetwood on Sea”.

Table 5: Development Schedule as per latest Architects Plans

Development Schedule – Lot 1096 Umhlanga	
Site Area	4184sqm
Far (Floor Area Ratio)	0.76sqm
Coverage	30%
Ex far (to remain)	1712.30sqm (0.41)
Ex coverage (to remain)	978.76sqm (0.23)
Proposed far	7026sqm
Proposed coverage	750sqm
Total far	9205sqm (2.2)
Total coverage	1928sqm (46%)

The above schedules are based on the latest available information. The final development schedule will be in line with local authority (e.g. zoning, town planning, building planning) requirements.



MAP 1: GENERAL LOCALITY OF FLEETWOOD ON SEA, UMLHANGA ROCKS, LOCATED WITHIN THE ETHEKWINI MUNICIPALITY.

(D) SCOPE OF THE PROPOSED ACTIVITY

(i) Applicable Listed Activities

In terms of the Environmental Impact Assessment (EIA) Regulations (2014), promulgated in terms of the National Environmental Management Act, 1998 (NEMA), certain Listed Activities are specified for which either a Basic Assessment (GNR 983 and 985) or a full Scoping and EIA (GNR 984) is required. The following Listed Activity in Government Notice (GN) R 983 (Listing Notice 1) are triggered, requiring a Basic Assessment (BA) Process for the proposed expansion of "Fleetwood on Sea":

Table 6: Relevant Activities from EIA Regulations 2014

Activity Number	Description	Applicability
GNR 983, Activity 19 (iii)	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from- (iii) a distance of 100 metres inland of the high-water mark of the sea.	The proposed development is located within 100m from the High Water Mark (HWM) of the sea and will require more than 5 cubic metres of material to be removed from site as the proposed development footprint on the ground level is 500m ² .

Hence, a BA Process is required. An enquiry with regards to the proposed development was submitted to KZN EDTEA. The Response Letter is provided for review in **Appendix C**.

(ii) Project Description

The proposed development will involve the refurbishment of the existing structure (i.e. updating the façade and internals) of "Fleetwood on Sea", located on Lagoon Drive. This includes:

- Demolition of portion of the existing structure
- The redevelopment and revamping of the existing apartment building
- Refurbishment of the entertainment area to include new lifts, stairs, bar, covered terrace, pool, and much more.
- Existing units and penthouse apartments will be upgraded

The proposed expansion will be a multi-story residential block. The site is located within 100m from the High Water Mark of the sea (HWM). The site is located within an urban area. The existing site area is 4184sqm. The additional development footprint on ground level is approximately 500m² and will entail the following:

- A new pedestrian entrance
- A new vehicle entrance and gatehouse
- New boundary wall
- New apartment and parking block

"Fleetwood on Sea" will be expanded to include 10 additional above ground levels with an approximate Floor Area Ratio (far) of 6715sqm which would include new residential apartments.

Figure 1 below shows the general layout plan for the refurbishment of "Fleetwood on Sea" on Lagoon Drive. Figure 2 below is a cross-section view of the proposed redevelopment of "Fleetwood on Sea". Figure 3 below is a 3D visual of the re-development of "Fleetwood on Sea".



Figure 1: General Layout Plan for the Refurbishment "Fleetwood on Sea" on Lagoon Drive



Figure 2: Cross-section of the proposed redevelopment of "Fleetwood on Sea"



Figure 3: 3D Visual of the proposed re-development of "Fleetwood on Sea"

(E) POLICY AND LEGISLATIVE CONTEXT

Table 7 provides a list of all applicable legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA regulations.

Table 7: Applicable Legislation, Policies and/or Guidelines

Title of Legislation, Policy or Guideline	Administering authority	Date
National Environmental Management Act (Act 107 of 1998) – for its potential to cause degradation of the environment (Section 28).	Department of Environmental Affairs	1998
EIA Regulations GNR 983 and 985 – for identifying the triggers for a basic assessment.	Department of Economic Development, Tourism and Environmental Affairs	2014
Environmental Conservation Act (Act 73) – for potential environmental degradation.	Department of Environmental Affairs	1989
National Water Act (Act 36 of 1998) – for potential to cause pollution of water resources defined under the Act (Section 19).	Department of Water Affairs and Forestry	1998
Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) – for protection of agricultural resources and for control and removal of alien invasive plants.	National Department of Agriculture	1983
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) – for protection of biodiversity.	Department of Agriculture and Environmental Affairs & Ezemvelo KZN Wildlife	2004
The National Heritage Resources Act (Act No 25 of 1999 as amended) – for the identification and preservation of items of heritage importance.	Department of Arts and Culture (Amafa KwaZulu-Natal)	1999
Guideline 4: Public Participation in support of the EIA Regulations (2005) and EIA Regulations GNR 982 for Public Participation Guidelines.	Department of Economic Development, Tourism and Environmental Affairs	2006 and 2014
EIA Regulations GNR 982 – for guidelines on the process to be followed and the format of the BAR.	Department of Economic Development, Tourism and Environmental Affairs	2014
Minimisation of Shadows on Beaches Policy for eThekweni: Shadow Impacts on Beach and Residential Amenities.	eThekweni Municipality	2008
eThekweni Municipality By-Laws	eThekweni Municipality	Current

(F) NEED AND DESIRABILITY

It is only feasible that the proposed development occurs within the boundaries of the property. The proposed expansion is that of an existing structure which is currently set at a location that is most appealing for residential and tourist accommodation. The current structure is dated and an upgrade will be in line with the proposed new projects along Lagoon Drive. The proposed development is located at 50 Lagoon Drive, Umhlanga Rocks, providing ocean view accommodation.

The redevelopment of “*Fleetwood on Sea*” will allow for several skilled and unskilled employment opportunities during the construction and operational phases of the project. Over and above the direct financial investment and potential job creation, the proposed redevelopment of “*Fleetwood on Sea*” will also bring the following secondary and tertiary value to the area, thus increasing its need and desirability:

- Increase tourism opportunities in the Umhlanga Rocks area;
- Potential increase in property values;
- Potential skills development and employment in the eco-tourism industry

(G) MOTIVATION FOR THE PREFERRED SITE, ACTIVITY AND TECHNOLOGY ALTERNATIVE

The proposed refurbishment to the existing structure triggers Listing Notice GNR 983, Activity 19 (iii) of the EIA Regulations. As per GNR 982, Appendix 1(2)(b) and 1(3)(g), alternatives for the proposed development are to be identified and considered. Chapter 1 of the EIA Regulations provides an interpretation of the word “alternatives”, which are options “*in relation to a proposed activity, mean(ing) different means of meeting the general purpose and requirements of the activity, which may include alternatives to the -*

a) Property on which or location where the activity is proposed to be undertaken;

b) Type of activity to be undertaken;

c) Design or layout of the activity;

d) Technology to be in the activity; or

e) Operational aspects of the activity;

And includes the option of not implementing the activity.”

Based on the above, the following alternatives are presented for the proposed refurbishment of “*Fleetwood on Sea*”.

(i) Preferred Site Alternative

The preferred site alternative is a site that is well established within an urban area approximately 100m from the High Water Mark (HWM) of the sea. The existing structure is a well-established, multi-story, residential block. The existing structure will be refurbished and expanded. A new boundary wall will be constructed with construction limited to the boundary of the property. Thus, adverse environmental impacts will be kept to a minimal. Figure 4 below provides an aerial view of the existing “*Fleetwood on Sea*” property, located on Lagoon Drive. No site alternatives have been proposed as the existing property and structure is privately owned. It is therefore much more feasible for the proposed development to take place within this property.



Figure 4: An Aerial View of the Existing Structure of "Fleetwood on Sea" Located on Lagoon Drive

Site Photographs



Plate 1: General view of the main entrance.



Plate 2: General view of the parking area.



Plate 3: View of the main entrance/ exit to the West of the property.



Plate 4: View of the existing pool area located to the West of the property.



Plate 5: View of the existing building from the East side of the property, sea view.



Plate 6: View of the access path from the hotel to the beach.



Plate 7: North view of the existing Lagoon Drive, main road.



Plate 8: South view of the existing Lagoon Drive, main road.

(ii) Preferred Technology Alternative

The options for positioning the new block was either on the seaward side (east) or along the Lagoon Drive (west) portion of the property. In order to maximize the potential of the site in addition to ensuring a softer touch between the site and the promenade and beach, the new tower block has been positioned behind the existing structure.

Beyond this, the applicant does not have alternative footprint layouts as the site is pretty constrained. There are alternate internal layout plans and proposed alternatives for the facade. These specifically relate to different size apartments and different materials. However, the general size and position of the structure is fixed. Detailed layout plans for the development can be reviewed in **Appendix B**. A construction method statement will be compiled by the appointed contractor and will be included for review within the Final BAR.

(iii) No-Go Alternative

The No-Go Alternative is the option of not undertaking the proposed redevelopment of "Fleetwood on Sea". There would be no negative environmental implications that may have resulted from the construction phase. However, there would also be no socio-economic improvement. Based on the current and projected developments in the Umhlanga area, a no-go alternative does not seem necessary. The No-Go Alternative would also fail to create much needed jobs, financial investment and downstream tourism growth in the area.

(H) THE PROPOSED PREFERRED ALTERNATIVE

The following measures were implemented to fulfil the required public participation process:

(i) Alternatives

No other alternatives have been considered as the proposed refurbishment and expansion is that of an existing structure, making the development site specific. The preferred alternative is the most feasible option as the current plot of land will be optimally utilized by expansion on existing structures rather than demolishing followed by new development.

(ii) Public Participation

- Newspaper Advertisement

A newspaper advertisement will be published to inform the public of the BA Process. The advertisement will appear in the predominant language of the project area, English in the Umhlanga Times newspaper, on 25 April 2017. The proof of advertisement is provided in Appendix D.

- Site Notice Boards

Site notice boards have been erected on the site and in close proximity to the development site on 04 April 2017. The notice boards have been provided in English with illustrations of the plan. A copy of the site notice board and pictures can be reviewed in Appendix D of the final Basic Assessment Report. The purpose of the notice board is to inform the community members of the proposed BA Application and the proposed refurbishment and expansion of the existing "Fleetwood on Sea" hotel. Contact details of the EAP are also provided to facilitate public participation.

- Written Notifications

Interested and Affected Parties (I&APs) were identified and notified of the Basic Assessment. A Background Information Document (BID) was prepared and distributed via hand delivery. The BID together with Notification letters were hand delivered to neighbors within 100m of the preferred site on 04 April 2017. The BID provided information on the proposed development, the site and on the process to be followed by the EAP. A copy of the BID and the distribution list, is provided in Appendix D.

Map 2 below indicates the properties identified within 100m of "Fleetwood on Sea." Table 8 below lists the physical addresses of those identified properties within 100m of "Fleetwood on Sea". The outcome of distributing the BID during the site visit is stated in Table 8.



MAP 2: PROPERTIES WITHIN 100M OF FLEETWOOD ON SEA

Table 8: Physical Addresses of Landowners within 100m of Fleetwood on sea as per Map 2 above.

	Physical Address	Name	BID Delivery Yes/ No/ comment
	50 Lagoon Drive, Umhlanga Rocks	Fleetwood on Sea	Yes
1	36 lagoon Drive, Umhlanga Rocks	Casa Playa	No Response
2	44 Lagoon Drive, Umhlanga Rocks	Umhlanga Sands Resort	Yes, Notification letter signed
3	52 Lagoon Drive, Umhlanga Rocks	Bronze Bay	Yes
4	54 Lagoon Drive, Umhlanga Rocks	Casa Blanca	No Entry, Individually owned apartments
5	60 Lagoon Drive, Umhlanga Rocks	Timeless Seasons	Yes
6	57-59 Lagoon Drive, Umhlanga Rocks	Bensiesta	No Entry, Individually owned apartments
7	55 lagoon Drive, Umhlanga Rocks	Villa Polana	No Entry, Individually owned apartments
8	53 Lagoon Drive, Umhlanga Rocks	Palamos	No Entry, Individually owned apartments. However, BID left in available Post Box.
9	49 Lagoon Drive, Umhlanga Rocks	Lagoon Park	Yes
10	47 Lagoon Drive, Umhlanga Rocks	Seabreeze	No Entry, Individually owned apartments
11	45 Lagoon Drive, Umhlanga Rocks	1A Pumula – Mr B.S. Brockwell	No Entry, Individually owned apartments
12	43 Lagoon Drive, Umhlanga Rocks	Golden Sands	No Entry, Individually owned apartments
13	39 Lagoon Drive, Umhlanga Rocks	Hyde Park, Genmore Seaside Resort	No Entry, Individually owned apartments
14	33 Lagoon Drive, Umhlanga Rocks	Talana	No Entry, Individually owned apartments
15	1 Park Drive, Umhlanga Rocks	Park Lane	No Entry, Individually owned apartments. However, BID left in available Post Box.
16	11 Park Drive, Umhlanga Rocks	Star of the Sea Catholic Church	No Entry, Individually owned apartments. However, BID left in available Post Box.
17	15 Park Drive, Umhlanga Rocks	Resident	No Entry, Individually owned apartments. However, BID left in available Post Box.

- **Public Meeting**

None requested or required following distribution of the BID, publication of the advertisement and erection of the notice boards up to date of distribution of this Draft BAR.

(iii) Issues Raised by the I&APs

Copies of the Draft BAR were circulated to the following I&APs for review and comment:

- KZN Department of Transport
- Ezemvelo KZN Wildlife
- Department of Water and Sanitation

- AMAFA Heritage
- KZN Corporate Governance and Traditional Affairs.
- KZN Department of Economic Development, Tourism and Environmental Affairs.
- eThekweni Municipality (various departments)
- Ward Councilor Mr Heinz Ulrik De Boer – Ward 35

All registered I&APs were notified on the availability of the Draft BAR and of the deadline for comment. All I&APs were reminded that in terms of the EIA Regulations (2014), GNR 982 43(2), all State Departments that administer a law relating to a matter affecting the environment, specific to the Application, must submit comments within 30 days to the Environmental Assessment Practitioner (1World Consultants (Pty) Ltd). Should no comment be received within the 30-day commenting period, it is to be assumed that the relevant State Department has no comment to provide.

All comments received on the BID are summarized below and those following the distribution of Draft BAR will be inserted in the Final BAR. The full report is provided as the Comments and Responses Report in Appendix D.

Issues / Comments Raised Following Review of the BID:

The comments raised following the distribution of the BID has been included in the comments and responses report which can be reviewed under **Appendix D**.

Issues / Comments Raised Following Review of the Draft BAR:

Any issues or comments raised will be recorded in the Final BAR.

(iv) Environmental Attributes (geographic, physical, biological, social, economic, heritage and cultural aspects)

The eThekweni Municipality is located on the east coast of South Africa in the Province of KwaZulu-Natal. KZN is bordered by three district municipalities, namely, iLembe in the north, UGu in the south and uMgungundlovu in the west. The eThekweni Municipal Area (EMA) spans an area of approximately 2297km², extending from Tongaat in the North to Umkomaas in the South and from the coastline in the East to Cato Ridge in the West and is characterized by coastal plains and steep and dissected topography (eThekweni Municipality SDF, 2016-2017).

The eThekweni Municipality (EM) is situated at the centre of the Maputaland-Pondoland-Albany Region, an area described as a "Biodiversity Hotspot", one of only 34 in the world. Over 50% of the world's plant species and 42% of all terrestrial vertebrate species are endemic to the 34 global biodiversity hotspots, despite these areas covering only 2.3% of Earth's land surface. The Maputaland-Pondoland-Albany biodiversity hotspot region is home to more than 7, 000 species of vascular plants, 25% of which are restricted (endemic) to this area (Conservation International, 2013).

Durban is situated at the centre of this region in a transitional zone of the warm tropical and cooler temperate elements. Varied topography, climatic conditions and Durban's unique biogeographical position have resulted in a wide range of terrestrial and aquatic ecosystems that play host to a rich diversity of organisms. Marine ecosystems in Durban exist seaward of the High Water Mark and include sandy beaches, rocky shores and the in-shore marine environment (eThekweni Municipality SDF, 2016-2017).

A Draft BAR has been submitted to AMAFA. AMAFA is the authority responsible for KZN Heritage aspects. Unless stated by AMAFA, a Heritage Impact Assessment (HIA) will not be undertaken for the proposed development since the proposed

development is that of an existing structure which is no older than 60 years. Comment from AMAFA has been received and is included in Appendix D.

• Tourism Profile

Tourism remains one of the most significant components of the metropolitan economy. Recreation opportunity is considered to be the main tourist resource within the eThekweni Municipal Area and is based largely on the natural qualities of the coast. The coastline and beaches are significant tourist anchors for accommodation, commercial and entertainment development. Durban's central beachfront is arguably the most important tourism and recreation resource in the eThekweni Municipal Area.

According to SA Tourism, research conducted in 2005, the value of foreign tourist to KZN was R6,9 billion with the eThekweni Municipality attracting 1,1 million foreign tourists. The Durban Beachfront was found to be the most popular attraction among foreign tourists, and was visited by approximately 875 000 foreign tourists (64% of tourism to KZN). Accordingly, the KwaZulu-Natal Tourism Authority analysis of the value of KZN's regional tourism markets concluded that Durban captures around 33% of foreign consumer spending in the province (eThekweni Municipality SDF, 2016-2017).

It is therefore understood that the proposed redevelopment of "*Fleetwood on Sea*" will also bring the following secondary and tertiary value to the area:

- Increase tourism opportunities in the Umhlanga Rocks area;
- Potential skills development and employment in the eco-tourism industry.
- Potential increase in property values

• Employment Profile

An extremely high percentage of the population is not economically active. This also means high dependency ratios on household heads with low income levels. Despite the diversified nature of the local economy, unemployment in the municipal area is of concern as only 992560 of the total labour force are employed. The unemployment rate is currently estimated at 430319 of the population while 873583 of the total labour force are not economically active (eThekweni Municipality SDF, 2016-2017).

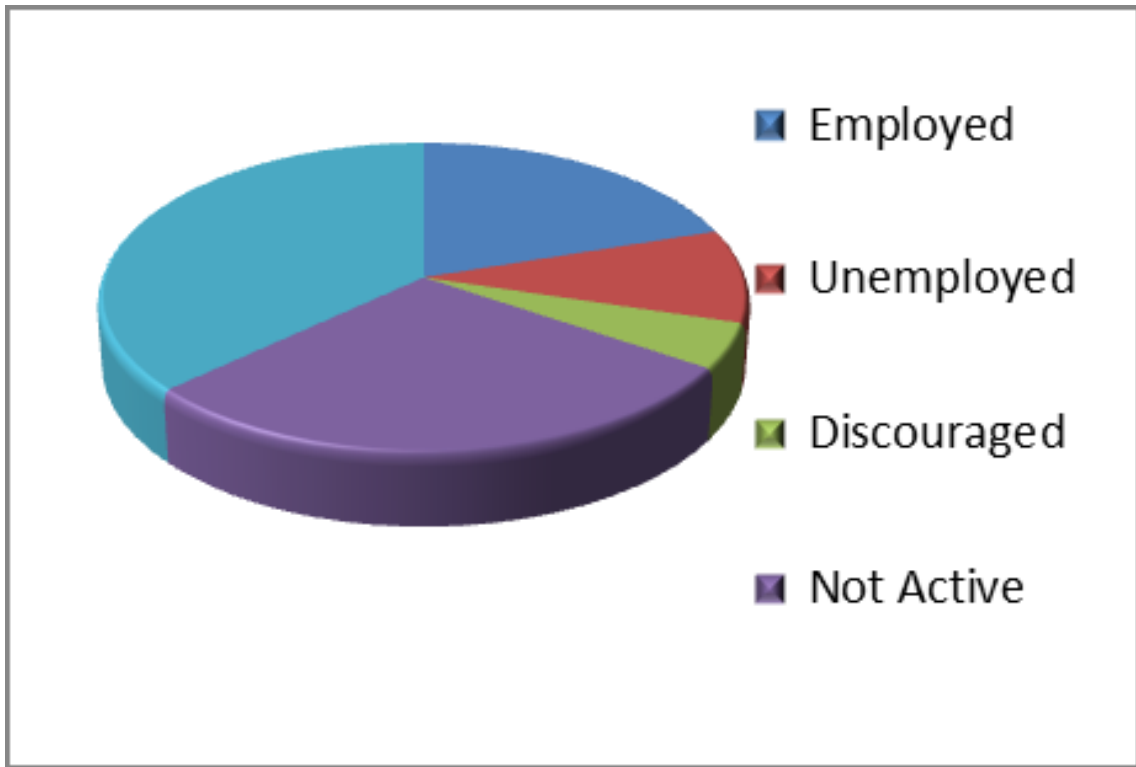


Figure 5: Employment profile (eThekweni Municipality SDF, 2016-2017).

(I) IMPACT ASSESSMENT

(i) Methodology

EIA Regulation 982, 2014 prescribes the requirements and aims of environmental impact assessments. In terms of the regulations, the following objectives are specified:

- Determine the nature, significance, consequence, extent, duration and probability of impacts; and
- The degree to which these impacts:
 - Can be reversed,
 - May cause irreplaceable loss of resources, and
 - Can be avoided, managed or mitigated

The impacts of any development including the construction and operational phases are identified, using the following definitions:

Term	Description
significant impact	<i>an impact that may have a notable effect on one or more of the aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence.</i>
cumulative impact	<i>In relation to an activity, means the past, present and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.</i>

The potential impacts are listed and assessed for significance. Significance is assessed by scoring each impact based on four variables viz. probability, severity, duration and spatial impact. The four variables, with their score criteria are detailed below:

Frequency/ Probability (FR)

(Frequency or likelihood of activities impacting on the environment)

- 1: Almost Never / impossible
- 2: Very seldom / highly unlikely
- 3: Infrequent / Seldom
- 4: Often / Regular
- 5: daily / Highly regular

Severity (SV)

(Degree of change to the baseline environment in terms of reversibility of impact; Sensitivity of receptor, duration of impact and threat to environment and health standards)

- 1: Insignificant / not harmful / totally reversible
- 2: Small / potentially harmful / reversible within 05 years
- 3: Significant / slightly harmful / needs specific mitigation to reverse in a time span of between 05 and 15 years
- 4: Great / harmful / irreversible

- 5: Disastrous / extremely harmful / totally irreversible and damaging

Duration (DR)

(Length of time over which activities will cause change to the environment)

- 1: One day to a month
- 2: One month to a year
- 3: One year to ten years
- 4: Life of project
- 5: Post closure

Spatial Scope (SS)

(Geographic overage)

- 1: Activity Specific
- 2: Site specific
- 3: Area
- 4: Regional
- 5: National

The impacts are also scored taking any mitigation into consideration. The impacts are scored and scaled for significance as follows:

- **Negligible** (scoring of 3 or less) – The impact is unimportant / indiscernible and hence insignificant – little or no mitigation adequately addresses the impact.
- **Low** (scoring of 4 to 9) – The impact is of little importance since it is easily and adequately mitigated.
- **Medium** (scoring of 10 to 15) – The impact is considerable and requires adequate mitigation to reduce potential damage to the environment.
- **High** (scoring of 16 or more) – the impact is adverse and may never be adequately mitigated. The impact has a high probability of causing cumulative effects of other less significant impacts. It may be considered to be a fatal flaw of the project and requires intense consideration.

(ii) Impacts Identified

The impacts of the construction and operation phases for the proposed expansion and refurbishment of "Fleetwood on Sea" are summarised in Table 9 below.

Table 9: Impacts Identified and Associated Mitigation Measures for the Construction Phase

Nature of Impact	Frequency		Severity		Duration	Spatial Scope	Impact Score with Mitigation	Significance
	Unmitigated	Mitigated	Unmitigated	Mitigated				
DESIGN AND CONSTRUCTION PHASE OF THE PREFERRED ALTERNATIVE								
Shadows impacts	4	4	4	4	4	3	15	Medium
Traffic Pressures and access	4	3	3	3	3	3	12	Medium
Soil erosion and storm water	3	2	3	2	2	2	8	Low
Ground water pollution (sea)	4	3	3	2	3	3	11	Medium
Surface water pollution (sea)	4	3	4	3	3	3	12	Medium
Risk of alien invasive encroachment into disturbed areas.	2	1	3	2	3	1	7	Low
Flora - Damage and removal of existing indigenous vegetation.	2	1	2	1	2	1	5	Low
Fauna - Hunting/ Fishing/ Poaching by construction workers.	2	1	2	1	2	1	5	Low
Waste and littering around the site.	4	3	3	2	3	2	10	Medium
Noise disturbance	5	4	2	1	3	2	10	Medium
Air Quality	4	2	4	2	2	2	8	Low
Visual Quality	5	4	3	2	3	2	11	Medium
Public safety and health	5	4	3	2	3	2	11	Medium
Existing Infrastructure Disturbance	4	3	3	2	3	3	11	Medium
Social Impacts	4	3	3	3	4	3	13	Medium

Table 10 below lists the impacts identified for the Operational Phase.

Table 10: Impacts Identified and Associated Mitigation Measures for the Operational Phase

Nature of Impact	Frequency		Severity		Duration	Spatial Scope	Impact Score with Mitigation	Significance
	Unmitigated	Mitigated	Unmitigated	Mitigated				
OPERATIONAL PHASE OF THE PREFERRED ALTERNATIVE								
Increased pressure on municipal water supply	3	3	3	2	3	3	11	Medium
Increased pressure on electrical supply	3	3	3	2	3	2	10	Medium
Sewage Discharge	3	3	3	2	3	3	11	Medium
Noise and Disturbance	2	1	2	1	4	1	7	Low
Air quality	2	2	1	1	3	3	9	Low
Visual impacts	3	2	3	2	4	2	10	Medium
Surface run-off	3	2	2	1	2	2	7	Low

(iii) Significance of Impacts

Based on the outcome of the impact assessment matrix noted in Table 9 above, the overall significance impact with mitigation measures, is considered to be LOW/MEDIUM i.e. the impact is reasonable but requires mitigation to reduce potential impacts to the environment.

(J) MITIGATION MEASURES

Design and Pre-Construction Phase
<p>Shadow Impact - The Shadow Impact Assessment has been conducted for "Fleetwood on Sea" and the findings of the Shadow Simulations are provided in section k of this BAR. Based on the Shadow Simulations the following has been recommended:</p> <ul style="list-style-type: none"> • The Shadow impacts are significant, but are not an impact arising from the triggering of excavation of soils within 100 m of the sea. • It is recommended that development in the coastal zone must be limited both in height and linear extent to minimise shadow impacts. Based on the Shadow Simulations found in section k of this BAR, the height of the proposed "Fleetwood on Sea" development has been limited to the adjacent, Umhlanga Sands Hotel. The linear extent is quite compact and does not change extensively. • In areas where development is permitted, developers should be required to submit accurate shadow projections, including the effects of topography, to ensure that the rights of landowners to the south are not infringed, and that sufficient beach area remains unshaded on winter afternoons. This has been incorporated in the Shadow Simulations within section k of this BAR. • Shadow projections must show shadows cast by the proposed development at midwinter to assess overshadowing impacts on the beach. The Shadow Simulations found within section k of this BAR has been conducted on 21 June at 13:00; 14:00 and 15:00. • If the shadow impact assessment indicates that expected shadows lie across significant areas of the beach, such as tidal pools and bathing areas, the proposal must be modified to meet the policy requirements. The findings of the Shadow Simulations can be reviewed within section k of this BAR. • Developers are required to place the tallest part of the building furthest from the beach, to the west. However, since the proposed development is the expansion and refurbishment of the existing "Fleetwood on Sea" hotel, the position of the additional levels was limited. With that said the expansion is set as far back on the property as possible. • Based on the Shadow Simulations provided in section K of this report, the actual impacted area will be relatively small due to the impacts from both the topography and existing shadows cast from surrounding structures. Overall, the impacts of these properties to direct Sunlight are not considered to be significantly comprised.
Construction Phase
<p>Traffic pressures and Access – presence of construction vehicles and personnel leading to traffic congestion, dust, noise and threat of accident.</p> <ul style="list-style-type: none"> • Construction vehicles and personnel must adhere to business hours. This may be relaxed to accommodate abnormal vehicles so they may not hinder daily life and/or regular traffic. • Pointsmen to guide traffic for entry and exit of construction vehicles must be used where required. • Safety measures such as appropriate pavements, speed humps, signage boards for construction site and vehicles and for workmen will be implemented to slow down traffic within the development. • Construction phase must be as short as possible. Reliable building contractors must be employed to avoid delays. • The site must be wet regularly to minimise dust. Vegetation must be removed as and when required only. • Vehicles must park within demarcated areas only.

Soil erosion and stormwater – heavy rains may cause a nuisance to the neighbouring properties and also cause pollution to the sea by localised high levels of erosion if these are allowed to enter the stormwater system. Loss of stockpiles, instability of soils and associated loss of vegetation may also result. Ecological disturbances from high levels of erosion are also possible.

- Project management of construction activities must be done to ensure that only small and/or necessary portions will be disturbed at any given time. Vegetation must not be removed until necessary.
- Soil erosion measures must be placed on sensitive areas like banks and slopes.
- All stock piles must be covered with suitable material to prevent loss of sediment via wind/ water.
- Although there are very limited areas of topsoil within the site, topsoil (top 300mm layer minimum) must be removed prior to the construction by earthmoving equipment. Topsoil must be stored in heaps of not higher than 2m in a way that prevents damming. Stored top soil must not be compacted.
- Top soil must not be used as fill material for backfilling of excavations on site.
- Minimize the amount of area that needs to be disturbed and the amount of time spent on sensitive areas.
- Offsite runoff around disturbed areas should be diverted to reduce the amount of storm water which comes into contact with exposed soils, as a result there will be less erosion.
- A storm water management plan must be devised and implemented for both the construction and operational phases to prevent storm water from pooling and to direct storm water to any existing storm water infrastructure on the surrounding roads and residential areas. This plan can include the following mitigation methods during construction;
 - Interceptor Ditches/Dikes
 - Stream bank stabilisation: riprap, gabion, reinforced concrete, asphalt paving etc.
 - Silt fencing
- Upon completion of construction top soil must be replaced in bare ground areas.
- All surfaces hardened due to construction activities are to be ripped and imported materials removed, this must be done in consultation with the Contractor/s and the ECO. The ECO is to ensure that these areas are adequately rehabilitated and re-vegetated where appropriate. An indigenous landscaping plan is expected to be implemented.

Groundwater pollution – Pollution of ground surfaces and water may result from chemical substance spills and sewage spills.

- Chemical substances must be mixed or handled on impervious surfaces. Concrete must be mixed on impervious surfaces. There should be a contained/ designated area for washing out and cleaning of concrete mixing equipment, to further prevent pollution. In addition, wash waters from site should be collected and disposed of off-site.
- An adequate number of chemical toilets for the staff must be provided and serviced regularly. The positioning of the toilets must be determined taking cognisance of the neighbours. The ECO must authorise the positioning of the toilets.
- Spills that result in the contamination of ground and/or surface water must be reported immediately to the ECO
- Spills must be managed in the following manner:
 - Stop the spill
 - Contain the spill
 - Report significant spills to DWS and the Local Municipality Water and Sanitation Department.
 - Remove spilled material for treatment/disposal.
 - Determine any possible impact to soils, groundwater, storm water, etc.
 - Undertake any necessary remedial actions
 - Document the spill

Surface water pollution (sea) – protection of the sea includes the water, the banks (floodlines) and the bed

- Comments from Ezemvelo and Environmental protection bodies must be kept in consideration in order to protect the sea which is located 100m from the site.
- A no-go area to protect the watercourses and sea must be demarcated. No personnel may enter this area for any reason.
- Environmental training must be provided to personnel.
- No laundry and bathing is allowed in the water courses or sea. Contractors must provide ablution facilities to staff.
- Abstraction of water for construction use is prohibited unless obtained legally. Municipal water must be brought in by tanker/vessels to the site for use by the contractors.
- Concrete and cement mixing wash areas should be placed at least 10m from any watercourse/ surface water drain/ the sea to minimise the risk of run-off entering a water source.
- Storage areas for any chemical, fuel (for machinery), oil, cement etc., should be located above any flood line and away from high risk areas (i.e.; 10m from a water source) to minimise the risk of spill entering the water.

Risk of alien invasive encroachment into disturbed areas – alien species are able to easily invade a wide range of ecological niches thereby altering natural systems.

- Protect as much indigenous vegetation as possible.
- Ongoing alien plant control must be undertaken particularly in the disturbed areas. Areas which have been disturbed will be quickly colonised by invasive alien species. An ongoing management plan must be implemented for the clearing/eradication of alien species.
- Monitor all sites disturbed by construction activities for colonisation by exotics or invasive plants and control these as they emerge.

Flora - Damage and removal of existing indigenous vegetation

- Identify sensitive flora on the site prior to construction. Conduct a specialist study if necessary.
- Comments from Ezemvelo and Environmental protection bodies must be kept in consideration in order to protect the flora on the site and surrounds.
- Prior to the clearing of the site, the ECO and if necessary the Biodiversity Specialist must ensure that all plants of conservation significance are removed.
- A site boundary must be erected to identify the limits of the construction site. Construction activities must be limited to within these boundaries.
- Burning of removed vegetation is prohibited.
- Sealant, coatings, adhesives and glazing's, can be toxic to flora, if released in to the environment. Therefore, the products used should be stored and used carefully, to save resources as well as protect the environment.
- The ECO is to ensure that a list of any indigenous trees/ shrubs which are to be removed is provided. This list must include the tree/ shrub species and the number of each species.

Fauna - Hunting/ Fishing/ Poaching by construction workers.

- Identify sensitive fauna on the site prior to construction.
- Trapping/snaring/killing of animals including snakes and reptiles is prohibited.
- Fishing is prohibited.
- Sealant, coatings, adhesives and glazing's, can be toxic to fauna, if released in to the environment. Therefore, the products used should be stored and used carefully, to save resources as well as protect the environment.

Waste and littering around the site - Improper storage/ disposal of waste and litter may affect neighbours as well as contaminate/ pollute identified water sources.

- Personnel must be trained in etiquette regarding littering and waste management.
- Hazardous waste bins must be clearly marked, stored in a contained area (or have a drip tray) and covered (either stored under a roof or the top of the container must be covered with a lid).
- A hazardous waste disposal certificate must be obtained from the waste removal company as evidence of correct disposal.
- In the case of a spill of hydrocarbons, chemicals or bituminous, the spill should be contained and cleaned up and the material together with any contaminated soil collected and disposed of as hazardous waste to minimize pollution risk.
- On-site chemical toilets will be provided for domestic purposes during construction phase.
- The contractors will be responsible for the maintenance of the chemical toilets.
- Waste will be collected by an accredited waste company and disposed of at an appropriate and licensed waste disposal facility.
- Littering is not permitted and general housekeeping must be enforced.

Noise disturbance - the presence of personnel and machinery will present a nuisance to the area.

- Personnel must be trained in etiquette regarding noise and trespassing, as well as in health issues and occupational safety.
- Local people should be employed where possible.
- Construction activities must be limited to normal construction industry working hours.
- A registered contractor providing a project schedule must be employed. Penalties for extending the timeline could be enforced to try and minimise the period of impact.
- In addition, construction vehicles and machinery should be fitted with the appropriate noise muffling devices and must be appropriately maintained to ensure that the machines and vehicles do not produce excessive noise disturbance.

Air Quality - Dust generated from construction vehicles and on-site activities.

- Dust control measures/suppression of dust must be implemented timeously by the contractor.
- Water trucks must be utilized to wet exposed road surfaces or stockpiled areas. The dust levels must be kept as minimal as possible to ensure minimal impact to the surrounding community and the environment.
- Vehicles are to be kept in good condition to minimise vehicular fumes. Should excessive emissions be observed, the Contractor must remove the vehicle from the site.
- Dust and mud should be controlled at vehicle exit and entry points to prevent the dispersion of dust and mud beyond the site boundary.
- Speed limit sign boards should be erected during the construction phase to limit dust emissions.

Visual Quality - the area is urban and surrounding neighbors, including businesses, may not appreciate the presence of a construction site in the vicinity.

- The site must be well maintained and neat. The use of screening during construction is recommended.
- The contractor must adhere to project schedule in order to minimise the length of the construction period.
- Inspections of the site by an Environmental Control Officer are required.
- If facilities such as toilets, bins, tanks and stockpiles are left uncovered or unfenced this could have a negative visual impact on the community as well as potentials visitors in the area and could pose a health and safety issue.

Public safety and health –occupational safety, security and health of staff and public in general.

- The design and planning of the development must be conducted by trained and relevant consultants.
- Skilled contractors must be utilised for specialised tasks
- Unskilled labour must be trained relevantly including environmental training.
- Buildings and/or steel structures must be constructed according to engineers specifications.
- Fire safety measures must be included in the design of the facility. Fire safety equipment must be provided on site during construction.
- First aid kits are required on site as well as an incident records file.
- Construction related vehicles must adhere to speed limits of the surrounding roads and a limit of 20km/hr on site.
- Safety gear including hard hats and safety shoes must be provided and worn at all times while on site.
- Emergency numbers must be clearly visible on site.
- Trespassing and/or utilising the site as a thorough fare is prohibiting by unauthorised persons.
- Contractor staff are prohibited from trespassing over the site boundaries.
- Interaction with neighbours and objecting parties at the site must be well documented. A complaints register must be readily available on site. Interaction with external parties must be courteous.
- Although the Contractor is responsible for ensuring that the environmental awareness training of staff members is put in place, it must be the direct responsibility of the appointed ECO to carry out the training. Each staff member is to sign a register confirming their attendance at this training. This register must be included in the site Environmental file.

Disturbance to Existing Infrastructure – the roads, footpaths and crossings are infrastructure that are utilised by the community. Water, electricity, telecommunications, roads and railway infrastructure must also be considered.

- Stakeholders must be notified as soon as possible. This includes the community, the municipalities, the service providers and ward councilor.
- Servitudes of infrastructure must be confirmed prior to design of the development and permission granted.
- No-Go areas must be demarcated. This would include any known existing grave sites. The recommendations of the Heritage Impact Assessment must be adhered to.

Socio Economic Impacts – Job creation and possible economic benefit to construction material suppliers in the area.

- Community members and leaders must be notified as soon as possible by posting notice boards with illustrations on site.
- Local people should be employed where possible
- Ward councilors must be involved in the public participation.
- Strict penalties must be built into tenders to deal with issues such as petty crime, fence cutting, trespassing etc.

Operational Phase

Increased pressure on municipal water supply

- Concerns have been addressed and discussed with the municipality. The municipality will confirm the capacity of the existing main to satisfy the demand of the new development.
- Refer to the Bulk Services Report in Appendix E.

Increased pressure on electrical supply

- eThekweni electricity will confirm the availability of the required electricity supply.

<ul style="list-style-type: none"> Refer to the Bulk Services Report in Appendix E.
<p>Sewage Discharge</p> <ul style="list-style-type: none"> The municipality is currently undertaking an exercise to ascertain the impact of the discharge from the development on the capacity of these pump stations. Refer to the Bulk Services Report in Appendix E.
<p>Noise and Disturbance</p> <ul style="list-style-type: none"> All noise generating plant such as air conditioning, refrigeration, fans, etc. are to comply with noise standards.
<p>Air Quality</p> <ul style="list-style-type: none"> The proposed operational phase activities may affect air quality as a result of emissions caused by exhaust fumes and dust generation. The effect on air quality is expected to be very localised and minor.
<p>Visual impacts</p> <ul style="list-style-type: none"> All flood lighting to comply with relevant standards. Visual impacts are considered to be low.
<p>Surface runoff</p> <ul style="list-style-type: none"> Road surfaces are recognised as a source of various pollutants which can originate from a wide variety of sources. The pollutant concentration in road runoff can be highly variable and dependent on a wide variety of factors including location, traffic volumes, extent of dry period before a rainfall event, and nature of the road surface. Proper management and disposal of waste must occur during the lifespan of the project, including during the operational phase. The applicant must ensure regular maintenance of all drainage systems within the road upgrade as they help in improving site drainage, and reduce pollutants entering surface waters and groundwater. Grass filter stripes can also be used as they function by slowing runoff velocities, trapping sediment and other pollutants and providing a modest infiltration

(K) SUMMARY OF SPECIALIST STUDY FINDINGS AND IMPACTS

Vegetation Assessment and Report

A Vegetation Survey to assess and identify the main vegetation types in the developmental area was conducted. The assessment aids in identifying all significant ecological habitats within the area with special emphasis on the conservation of Red Data plants in the area and their populations. The vegetation survey aids in identifying all impacts that have the potential to disrupt the ecology of the area and where possible project the impact significance. Based on the vegetation survey, the specialist is able to suggest or recommend mitigation techniques and methods of impact avoidance or reduction when necessary. A survey was conducted to assess the probable impact of the development. The entire site was walked and data was recorded.

The proposed construction site is noted to be devoid of the original vegetation that would be expected in this region, except for two coastal species. The site has mainly been utilised for the development of the existing Fleetwood on Sea apartment block with a minimal abundance and diversity of vegetation. Much of the vegetation present on site is concentrated along

pathways/passages and demarcating boundaries of the property. Many of the species present are in fact indigenous but commonly used in landscaping or have occupied the site by natural distribution. Much of the species present do not have any ecological importance.

In terms of the faunal elements of this site, there were no species recorded at the time of the study and there is a very low possibility that species of conservation importance will occur directly in the development footprint. At the time of the study there was very limited habitat, and in the event that species should venture onto site they will be able to vacate the area and inhabit more suitable areas nearby.

The Vegetation Assessment can be reviewed as **Appendix E**.

Traffic Impact Assessment (TIA)

The existing development is served by full access on Lagoon Drive. This access will be retained as part of the proposed Site Development. Refer to Figure 6, Access Arrangement Below.



Figure 6: Access Arrangement (TIA, 2016)

As part of the TIA process for the Oceans Umhlanga development, a traffic road layout (TRL) for the required upgrade of the surrounding road network was approved by the municipality. The proposed upgrades were based on traffic generated by all

significant approved neighboring developments in addition to the Oceans Umhlanga development. The TIA revealed that upgrades to Lighthouse Road, Lagoon Drive (from Lighthouse Road to Flamingo Lane) and the Ridge Road/Flamingo Lane extension are required. The approved TRL is provided within the TIA Report which can be reviewed in **Appendix E**.

It is assumed that the increase in background traffic that was considered as part of the Oceans Umhlanga TIA accommodates for trips generated by small developments such as "Fleetwood on Sea". This implies that the approved road upgrades will adequately accommodate the trips generated by the "Fleetwood on Sea" development.

Bulk Municipal Services Report

The Bulk Municipal Services Report is a desktop evaluation of the impact of the development upon the bulk municipal services to assist in the rezoning application of the development.

- **Storm Water Discharge**

Indications are that perhaps minor attenuation may be required but will not represent any major obstacle in the project. The municipality will confirm their exact requirements at a later date.

- **Potable Water Supply**

A 300mm diameter watermain runs along Lagoon drive in front of the site and the existing water connection is off this main. This is shown in Figure 7 below. It has been confirmed that there would be no need for any change to this existing connection and that the reticulation on site would be extended to supply the new section of the development. The municipality should be in a position shortly to confirm the capacity of the existing main to satisfy the demand of the new development.



Figure 7: Existing Municipal Services

- **Sewage Discharge**

It has been confirmed that the estimated Average Daily Discharge for the proposed development will be 21.86 kl, and will be directed to enter the sewage line along Lagoon Drive. The sewage line drains to a series of pump stations and the municipality is currently undertaking an exercise to ascertain the impact of the discharge from the development on the capacity of these pump stations.

- **Electricity**

The existing development is fed with a 250Amp low voltage supply via a mini-sub located across Lagoon Drive. The estimated new load required is 480Amps hence triggering the need for a sub-station on site. While this load could normally be serviced with a mini-sub, Harry Buckle (eThekweni Planning) has confirmed that a 'brick built' sub-station is required due to the close location to the coast and to prevent corrosion of the switchgear. The sub-station would have to be located on the boundary of the property with its doors accessible (opening) onto Lagoon Drive.

The municipality is still in discussion and is yet to confirm the above. The Bulk Municipal Services Report can be reviewed in **Appendix E**.

Geotechnical Investigation

A site visit was conducted on 6 December 2016 during which time a general site assessment comprising a walk over survey of the site was carried out. No sampling or laboratory testing was undertaken as a desk top study was conducted. No sampling or laboratory testing was undertaken for this desk top assessment. However, from observations of the site inspection, the following can be noted:

- The Berea Formation materials are classified as an A-2-4 and A-6 material which is considered fair to good for use as fill and for use in subgrade layers in road and pavement construction.
- Aeolian Dune Sand is classified as fine to medium grained which is considered fair for use as fill and for use in subgrade layers in road and pavement construction.

Based on the results of the desktop geotechnical assessment it is evident that the site is generally no different to other sites in the area which have been successfully developed as hotels or multi story apartment blocks. The Geotechnical studies have concluded that the proposed development is geotechnically feasible provided that the preliminary geotechnical recommendations made in this report are considered in the initial planning and design for the feasibility of the development proposals. These preliminary recommendations stated in the Geotechnical Report mainly refer to good engineering practice appropriate to the prevailing subsoil conditions and nature of the proposed development.

The Geotechnical Report can be reviewed in **Appendix E**.

Minimisation of Shadows on Beaches Policy for eThekweni: Shadow Impacts on Beaches and Residential Amenities

The beachfronts of eThekweni are collectively one of the municipality's key tourism assets, and any future development along the beachfronts needs to ensure that this asset is not undermined. The recreational use of any beach is highly dependent on direct sunlight, and therefore the positioning of developments close to the beach can compromise beach amenity through overshadowing. Arising out of the Umhlanga Node Study conducted by the Municipality in 2005/ 2006, the eThekweni Municipality recommended that a city-wide policy be implemented. The **"Minimisation of Shadows on Beaches**

Policy for eThekweni: Shadow Impacts on Beach and Residential Amenities” has been developed and aims to manage the shadow impacts of all future coastal developments in the eThekweni municipal area.

Current building heights along the city’s beachfronts range from 2 to 40 story’s. The shadow impacts of these buildings are associated with their height, orientation and position on site including whether they cast a shadow of a swimming or non-swimming beach. The Shadow Impact Assessment focuses on winter conditions as the worst case scenario because this is the season when direct sunlight is most wanted, but also when beach overshadowing is most extreme. To protect the beach from overshadowing in the afternoons, two key strategies were adopted:

1. Limit Shading Period
2. Orientation of buildings

The Policy Requirement for the **Limiting of Shading periods** are that *“New Coastal Development shall not result in shadows before 3pm in midwinter (all beaches) and before 4 pm in midwinter (swimming beaches)”*.

The Policy Requirement for the **Orientation of Buildings** are that *“New development to meet specific orientation requirements to limit impact of shadows before 3pm (all beaches) and 4pm (swimming beaches) in midwinter”*.

Based on the Shadow Simulations below, Figure 8, 9, and 10, the shadow projections indicate that the actual impacted area will be relatively small due to the impacts from both the topography and existing shadows cast from surrounding structures. It must be noted that the projected shadows over the beach area is that of a non-swimming beach. Overall, the impacts are not considered to be significantly. It is important to note that the height of the proposed development is in keeping with that of the neighbouring buildings.

Feedback from the eThekweni Municipality regarding the project proposal against the shadow policy is awaited.

The Shadow Simulations can be reviewed under **Appendix B**.



Figure 8: Shadow Impact of proposed building for 21 June at 13:00, showing shadows falling within similar reaches to the adjacent Umhlanga Sands hotel.



Figure 9: Shadow Impact of proposed building on 21 June at 14:00.



Figure 10: Shadow Impact of proposed building on 21 June at 15:00. The actual additional impact is depicted in blue.

(L) ENVIRONMENTAL IMPACT STATEMENT

Through this Basic Assessment, it had been concluded that the proposed development is not expected to have any significant, adverse or lasting impacts on the environment when considering the excavation of soils within 100m of the sea. There are shadow impacts of the development that are cast on a non-swimming beach with the cumulative impact considered to be minimal when considering the impacts of adjacent structures casting shadows at the same time. With that said, once the development is complete the shadow impacts will be permanent. Nevertheless, the locality is prime area earmarked for tourism and development of high buildings for accommodation are to be expected. The municipality is required to provide their response to the development against the shadow policy.

The project will have positive impacts, viz: Short term skills development; job creation; and potential increase in property values. The positive impacts will be long term via the added accommodation of tourism in the area.

The construction phase is short term and is not anticipated to cause any further detriment to the environment provided the post construction rehabilitation is implemented. The development will in fact aid in the establishment of indigenous vegetation in the immediate vicinity of the site. The EMP must be adhered to and will ensure that any negative impacts however minimal are not magnified.

During the post construction phase of the project, the contractors must ensure that all hazardous materials are removed from the site and that rehabilitation of land is undertaken according to the requirements of the EMP.

(M) CONDITIONS OF AUTHORISATION

In terms of Monitoring and Auditing, the following are recommended to ensure protection of the environment during construction:

- An ECO must monitor the construction site and activities on a monthly basis,
- An ECO must document the findings and submit a monthly report to the Competent Authority;
- The Project Manager and Contractor are responsible for the implementation of the EMP and protection of the environment for the duration of the construction period.
- An ECO must monitor the facility on a bimonthly basis for the operational phase, for a period of 6 months following completion of construction to ensure that rehabilitation has been successful.

(N) ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

Although the conceptual layout plans and designs of the structure have been completed but yet to be finalised, much of the Bulk Municipal Services still awaits confirmation from eThekweni Municipality.

(O) RECOMMENDATION OF THE EAP

The information contained in this report and the documentation attached hereto, in the view of the EAP, is sufficient for the Public Participation Process (PPP). Should the Competent Authority request additional studies to be conducted, this shall be conducted and obtained to assist the Competent Authority in making and informed decision.

The EMP, which includes recommended conditions and mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application, is provided. Refer to Appendix F for a full Environmental Management Plan. The EMP must be read in conjunction with the BAR.

(P) TIMEFRAMES

An environmental authorisation is valid for five (05) years. Commencement of construction begin at any time within this 5 year period.

(Q) UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP

(i) 1World Consultants (Pty) Ltd hereby confirms that the information provided in this Basic Assessment Report is correct at the time of the compilation and distribution for review. Input from specialists was utilised in the compilation of the Report.

(ii) 1World Consultants (Pty) Ltd confirms that all comments received from Stakeholder and I&APs have been included in this report. It is to be noted that in terms of the EIA Regulations (2014), GNR 982 43(2), all State Departments that administer a law relating to a matter affecting the environment, specific to the Application, must submit comments within 30 days to the EAP. Should no comment be received within the 30-day comment period, it will be assumed that the relevant State Department has no comment to provide.

(iii) All information from the specialist studies have been included in this Basic Assessment Report. Recommendations from the specialists have been included in the EMP.

(iv) All information and comments received in response to this Basic Assessment Report will be summarised and responded to in a final version of the Report, which will be submitted to EDTEA for consideration in terms of issuing Environmental Authorisation.

For 1World Consultants (Pty) Ltd:



Fatima Peer B.Sc. (Hons) Pr. Sci. Nat.
SENIOR ENVIRONMENTAL ASSESSMENT PRACTITIONER

APPENDICES

The following appendixes must be attached as appropriate:

Appendix	Description of Contents
A	Company Profile of EAP Project Experience of EAP Curricula Vitae of EAP Team
B	Proposed plans of development and Shadow Simulations
C	EIA Enquiry Response Letter Application for Environmental Authorisation Acknowledgement and Acceptance of Application
D	Newspaper advertisement Copy of notice board and photograph of notice boards at site Background Information Document I&AP distribution list Comments and Responses Report Copies of correspondence with I&AP's
E	Vegetation Assessment Report Traffic Impact Assessment Bulk Municipal Services Report Geotechnical Report
F	Draft Environmental Management Plan