



agriculture
& environmental affairs

Department:
Agriculture
& Environmental Affairs
PROVINCE OF KWAZULU-NATAL

KZN Department of Agriculture &
Environmental Affairs
Directorate: Environmental Services
Private Bag X6005, Hilton, 3245
Enquiries: Mr. Sabelo Ngcobo
Tel: 039 682 2045
Fax: 039 682 3325
Ref: DC21/0036/10

Date: 18 / 10 / 2013

Fax Transmission

Chiba Ring Development (Pty) Ltd
P.O. Box 171
Ifafa beach
4185

cc. Strategic Environmental Focus Mr. Mark Ryan Fax no: 031 266 6880 Tel no: 031 266 1277

Dear Sir:

ENVIRONMENTAL AUTHORISATION FOR THE CHIBA RING DEVELOPMENT ON THE REMAINDER OF PORTION 3 OF THE FARM DARLINGTON SOUTH NO. 14361 & ELYSIUM NO. 15582, IFABA BEACH, UMDONI LOCAL MUNICIPALITY, UGU DISTRICT, DC21

The KwaZulu-Natal Department of Agriculture and Environmental Affairs has **authorised** the abovementioned project. This environmental authorization and reasons for the decision are attached herewith.

ENQUIRIES

Please note that:

- All queries regarding this application for environmental authorization (including the Department's decision) must be directed to the official of this Department with contact details provided on the letterhead above.
- **Only** queries regarding appeals must be submitted to the Office of the MEC (details provided below).

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APPEALS

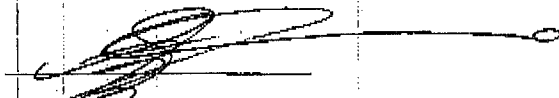
In terms of sub-regulation 10(2) of the EIA Regulations, 2010, you are instructed to notify all registered interested and affected parties in writing within **12 days** of this Department's decision in respect of your application. You are required to comply with the requirements of sub-regulations 10(2)(a)-(d) with regard to this notification. This includes drawing the attention of registered interested and affected parties to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of the EIA Regulations, 2010.

In accordance with the provisions of sub-regulation 60(1) of the EIA Regulations, 2010, a notice of intention to appeal must be lodged with the **KwaZulu-Natal MEC of the Department of Agriculture and Environmental Affairs** within **20 days** of the date of this decision by posted, faxed, e-mailed or hand delivered to the following address:

POSTAL/ FAX/ E-MAIL:	PHYSICAL:	SATELLITE OFFICE	
Private Bag X9059 PIETERMARITZBURG 3200 Tel: 033 343 8240 Fax: 033 343 8255 E-Mail: haresh.inderfall@kzndae.gov.za	No. 1 Cedara Executive Building Cedara College PIETERMARITZBURG 3201	P.O. Box 2132 DURBAN 4000 Tel: 031 368 2223 Fax: 031 368 1601	8 th Floor Truro House 17 Margaret Mncadi Blvd (Victoria Embankment) DURBAN 4001

The appellant is reminded of the requirements of sub-regulations 60(2) and 60(3) in the EIA Regulations, 2010 with regard to the notification of registered interested and affected parties and the applicant (if the appellant is not the applicant) of the notice of intention to appeal.

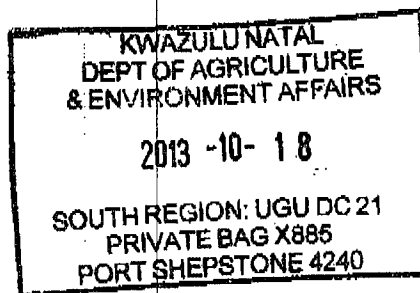
Yours faithfully


For **Ms. Y. Bacus**

Acting Head of Department

Department of Agriculture and Environmental Affairs

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Environmental Authorisation
Chiba Ring Development



agriculture & environmental affairs

Department:
Agriculture
& Environmental Affairs
PROVINCE OF KWAZULU-NATAL

Environmental Authorisation

In terms of Sub-regulation 25 of the
Environmental Impact Assessment Regulations, 2010

Project Title: CHIBA RING DEVELOPMENT

Local Municipality: UMDONI LOCAL MUNICIPALITY

Application number:	DC21/0036/10
NEAS number:	KZN/EIA/0000511/2011
Date of issue:	<u>18 / 10</u> / 2013
Holder of authorisation:	Chiba Ring Development (Pty) Ltd
Location of activity:	Remainder of Portion 3 of the Farm Darlington South No. 14361 & Elysium No. 15582 Ifafa Beach Umdoni Local Municipality Ugu District, DC21

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Decision

By virtue of the powers conferred on it by the National Environmental Management Act (No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2010, the **KwaZulu-Natal Department of Agriculture and Environmental Affairs** (hereafter referred to as "the Department")

grants environmental authorisation

to:

CHIBA RING DEVELOPMENT (PTY) LTD

(hereafter referred to as the "authorisation holder")

Details of the contact person:

Dr. E. Wethli

P.O. Box 171

Ifafa Beach

4185

Fax No: 086 664 7938

Tel No: 039 977 8339

to undertake the following activities (hereafter referred to as "the activities") as described below:

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1 Project proposal

The project entails the development of a low-density residential and mixed use development at two sites, which are differentiated here and referred to as the *Woodlands Site* and the *Wetlands Site*. The above sites are located within 250m of one another, within the town of Ifafa Beach. The size of the activity is 48 626 m² (Woodlands and Wetlands Sites combined). The total development footprint of the Woodlands Site is 7.19 hectares out of a total available area of approximately 26.5 hectares. The total development footprint of the Wetlands Site is 1.79 hectares out of a total available area of approximately 13 hectares. The residential development will be clustered such that the sensitive environmental areas (wetlands, grasslands, forested areas and drainage lines) of the *Woodlands* and *Wetlands* Sites are not negatively impacted on by the development. The density of the development is low and is concentrated on the disturbed areas of the sites as far as possible.

The development will take place in a phased process with few units being constructed at a time, which will help to ensure minimal disturbance to natural areas. The development is located outside an urban area and does not constitute infill. The development will also entail the construction of an internal road network and services infrastructure.

The developer must not clear the development footprint of vegetation. The road, parking areas and actual building footprints will be cleared, but bush clumps and individual trees have been mapped and must be incorporated into the detailed design. The creation of platforms for the construction of the houses is not anticipated, and the road design minimises disturbance. Additionally, the green living areas will not be cleared but will be disturbed.

Ultimately, individual home ownership will be through sectional title, while Chiba Ring Development Company will retain common land and land earmarked for mixed use.

Woodlands Site (occurs on the remainder of Portion 3 of the Farm Darlington South No. 14361):

In terms of the current Urban Planning Scheme for uMdoni Municipality, the Woodlands Site has two zonings in terms of the uMdoni Urban Scheme, namely Low Impact Agriculture and Medium Impact Agriculture.

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The site is divided into five parcels as follows:

A, B and C – residential units (35, 23 and 6 units respectively);

D and E – contains private conservation areas as well as developable land outside of the buffers. However, these areas cannot be accessed and development has not been proposed on those portions.

F – sectioned off and retained by the Goldstone family (in recognition of their heritage, Chiba Ring agreed that the Ben Goldstone descendants will take legal transfer of Parcel F once sub-divided, so that they may continue to enjoy their ancestral home).

Parcel A is the area on open indigenous coastal forest zone and Parcel B is the area around and within the closed canopy forest. Parcel F is located in close proximity to the estuary and on a steeply sloping site.

The units will be a maximum of two storeys and there will be a Community Facility in Parcel A, which will have a maximum floor area of 900m². The overall (gross) density of the units is 2.38 units per hectare. . There is a church on the property, along the northern border of the site. Parts of the site are invaded by alien plant species, Eucalyptus plantations and sugarcane plantations.

Only the access road off Ifafa Beach/Kirkman Drive (from Hosley Lane) is approved as it is through the narrowest portion of the eastern valley bottom wetland. There are no existing formal internal roads on the Woodlands site (other than a few informal foot paths), except for old vehicle tracks. The new roads on the Woodlands will total approximately 1500 metres in length. Parking facilities and turning areas will also be provided. The distance over which a new access road will be built is 80 metres. The new roads will be designed to suit vehicles travelling at a maximum speed of 40 km/h. due to the steepness of the site and spatial constraints, horizontal curves may need to be reduced to suit the local topography. In steep or sensitive areas, where the road construction may change, grassed or lined swales can be constructed to assist with the conveyance and management of runoff. The swales will be grassed on the shallow slopes, thus allowing runoff to infiltrate into the soil as it is conveyed. On steeper sections, the swales will be lined to protect against erosion and scour from faster flowing runoff.

The preferred method of road construction is to use concrete strips. The benefits of this method are financial and they result in a low environmental impact with negligible effect on the existing stormwater runoff from the site. Stormwater

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from the concrete strip roads (and runoff flowing across the roads from surrounding areas) will easily maintain its natural path with little impediment or added runoff and will infiltrate into the soil and it would naturally have done.

The Woodlands area has the presence of alien invader species such as *Lantana Camara*, *Solanum mauritianum* and *Chromolaena odorata*, as well as cultivated crop (sugarcane) and plantation trees (*Eucalyptus spp.*).

Water supply

Water supply will be from the existing municipal network. The highest developable elevation on the site is 76 metres above mean sea level and the pressure log tests taken at approximately 15 metres above mean sea level indicate a minimum pressure in the Municipal network of 6 bar (60 metres). The existing pressure is therefore insufficient to service all the proposed units on the site. uMdoni Local Municipality has stipulated that at least 48 hours on-site storage be provided to take the strain off of the Municipal network during peak hours. A below-ground, concrete reservoir will be located on the site, which can be fed directly from the Municipal network without the need for pumping.

Three connections will be required from the Municipal main: one to serve the units on the north portion of the site (Parcel D), one to supply the units on the southern portion of the site (Parcel C) and one to supply the likely commercial development on Parcel E.

Approved access onto Parcel C:

The presence of forest, wetland and the respective buffers have resulted in this node being isolated and difficult to access, thus presenting an ecological challenge. While three layout options were presented by the Environmental Assessment Practitioner (EAP), Option B is the preferred and approved option.

Option B:

Parcel C will be accessed via the neighbouring property owned by the Church. No access is achieved internally across the wetland, forest and respective buffers. This option makes use of a portion of the Church's property for the proposed access from Bullock Road. This access avoids encroachment into the south central valley bottom wetland and the

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grasslands, thereby avoiding the need to traverse any features of conservation significance. The maximum impact footprint, excluding Parcel F which is already disturbed, is 4.8560 hectares.

Option B maintains the six residential units within Parcel C but access is no longer required internally and must be achieved across the neighbouring property owned by the Church.

Wetlands Site (occurs on the remainder of the Farm Elysium No. 15582):

In terms of the current Urban Planning Scheme for uMdoni Municipality, the Wetlands Site has a Private Conservation zoning in terms of the uMdoni Urban Scheme. The maximum impact footprint is 0.4789 hectares.

This site is divided into three parcels as follows:

G – residential units (8 units)

H – guest house complex (10 self catering units, renovation of existing building for communal facilities and 2 units including a caretaker) – reticulation of treated effluent from the septic tank to the evapotranspiration area

I – mixed use facility (falls outside all environmentally sensitive areas and is to be serviced by a conservancy tank)

The proposed guest house at Parcel H occurs partially within the dune forest and on steep slopes. The units will be a maximum of two storeys and be able to occupy maximum building footprints that range between 150m² – 500m². There is a railway line running close to the eastern border of the site. The high ecological value sensitive areas are the *Brachylaena Discolor* – *Carissa Bispinosa* Thickets, *Phoenix Reclinata* – *Phragmites australis* Estuarine Flood Plains and the Coastal Dune Forest.

The Wetlands Site Parcel H is intended to be developed for a small scale guest house or wellness centre with self-catering units. The guest house or wellness centre will be used to offset some of the costs of the development, including running costs and to provide jobs and local income generation. The existing house will be renovated and extended and additional units will be constructed. The existing house will not be demolished. The lower ground (semi basement) caretaker's accommodation will be retained and renovated. The existing upper ground floor will be altered to accommodate the public areas of the guest house, and a timber deck will be added off the living area, facing the sea view. An additional residential unit be added as a first floor addition onto the existing footprint. This is intended as

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residential accommodation for the owner/manager of the guesthouse. Ten (10) self-catering guest suites (bed-sit type accommodation). These units will be as 5 at grade, and 5 at the first floor on the same footprint.

Access to the Wetlands Site will be from Kirkman Drive and this access point will be improved so that it can be used by visitors to the site. Speed humps serving as a traffic calming measure will be placed on either side of the proposed access point with at least 20 metres spacing as there is not sufficient sight distance available from the access point, particularly in an easterly direction, where the curve is located.

The Wetlands Site is divided in two by Kirkman Road. On the north side of Kirkman Road, there is an existing gravel access road that has been cut into the steep road embankment to provide access to both the Wetlands Site and the properties to the north and east. These properties will retain access rights through the Wetlands Site, using the upgraded access road. The section of road serving the properties to the north and east will be maintained by uMdoni Local Municipality. The road will be extended to allow access to all the new residential units on this portion of the site. The extended section will be considered a private road and will be maintained by the development's body corporate. The total length of the access road, as well as the new extended access road, is approximately 300m.

The new road extension will turn west off the line of the existing gravel road, and run parallel with and adjacent to the northern site boundary. Parking facilities and turning areas will also be provided. On the south side of Kirkman Road, there is an existing house with a private access drive. Access is gained directly off of Kirkman Road. The drive will be upgraded. In the south east corner of the Wetlands Site, a mixed use development is easily accessible from the main road to Elysium, situated near the boundary of the wetland and south sides of the Wetlands Site.

Water supply will be from the existing municipal network. Pressure at the take off point for the Wetlands Site can be interpolated from the pressure readings taken from the log tests with the difference in elevation taken into account, hence a 3.5 bar pressure from the Municipal line will be sufficient to supply the new units at 53 metres elevation above mean sea level. Three connections will be required from the municipal main: (i) one to serve the units on the north portion of the site (Parcel G), (ii) one to supply the units on the southern side of Kirkman Drive (Parcel H) and (iii) one to supply Parcel I on the south side earmarked for mixed use.

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In terms of reticulations of treated effluent from the septic tank to the evapotranspiration area, Option B is approved. This option allows for the pipeline to be reticulated along a contour from the septic tank to the evapotranspiration area, therefore encroachment (of approximately 5 metres) is required into the wetland buffer. From an environmental risk perspective, Option B is considered to be more favourable. A spill contingency plan will be required to mitigate the potential for significant environmental impacts resulting from a malfunctioning pump station.

2 Activities authorised

The listed activities for which environmental authorisation are granted as follows:

Activity number	Activity description	Extent to which activity authorised
GNR544 9	<i>The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or stormwater –</i> <i>i. with an internal diameter of 0.36 metres or more; or</i> <i>ii. with a peak throughput of 120 litres per second or more,,</i> <i>excluding where:</i> <i>a. such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve</i> <i>b. where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.</i>	There will be construction of pipelines for the transportation of water, sewage and stormwater.
GNR544 11	<i>The construction of (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas; (viii) jetties exceeding 50 square</i>	An access road will cross the wetland on the Woodlands Site and stormwater systems and septic tanks will be located

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Activity number	Activity description	Extent to which activity authorised
	<i>metres; (ix) slipways exceeding 50 square metres in size; (x) buildings exceeding 50 square metres in size or (xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i>	more than 30m but less than 32 metres of the wetland buffer.
GNR544 18	<i>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: (i) a watercourse; (ii) the sea; (iii) the seashore; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is greater, but excluding where such infilling, depositing, dredging, excavation, removal or moving; (a) is for maintenance purposes undertaken in accordance with a management plan agreed by the relevant environmental authority; or, (b) occurs behind the development setback line.</i>	There will be an access road which will cross the wetland on the Woodlands Site. There will be associated 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 from the wetland and its buffers.
GNR 544 23	<i>The transformation of undeveloped, vacant or derelict land to (i) residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares, or</i>	The site for the development at the Woodlands Site is 26.89 hectares and the site for development at the Wetland Site is 13.63 hectares. In both cases, the total area to be transformed is less than

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Activity number	Activity description	Extent to which activity authorised
	<i>(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; except where such transformation takes place (a) for linear activities; or (b) for purposes of agriculture or afforestation, in which case Activity 16 of Notice No. R. 545 applies.</i>	20 hectares. The Woodlands Site has a few houses, one of which is Portion F (currently occupied). Portion F will be subdivided and the remaining land is undeveloped.
GNR 544 24	<i>The transformation of land bigger than 1000 square metres in size, to residential, retail, commercial, industrial or institutional use, where, at the time of the coming into effect of this Schedule or thereafter such land was zoned open space, conservation or had an equivalent zoning.</i>	The Wetlands Site is zoned as "Private Conservation," as per the Umdoni Planning Scheme.
GNR 546 4	<i>The construction of a road wider than 4 metres with a reserve less than 13, 5 metres.</i>	The internal and access roads will be a maximum of 4, 5 metres wide with no road reserve.
GNR 546 6	<i>The construction of resorts, lodges or other tourism accommodation facilities that sleep 15 people or more.</i>	A guest lodge with 10 self-catering units is proposed at the Wetland Site.
GNR 546 12	<i>The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.</i>	There will be clearance of 300 square metres or more of vegetation.
GNR 546 16	<i>The construction of (i) jetties exceeding 10 square metres in size; (ii) slipways jetties exceeding 10 square metres in size; (iii) buildings with a footprint exceeding 10 square metres in size; or (iv) infrastructure covering 10 square metres or more where such construction occurs</i>	An access road will cross the wetland on the Woodlands Site and stormwater systems and septic tanks will be located more than 30 metres but less than 32 metres of the wetland buffer.

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Activity number	Activity description	Extent to which activity authorised
	<i>within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</i>	

3 General

3.1 Compliance with the conditions of this authorisation

In terms of section 24F of the National Environmental Management Act, 1998 (Act No. 107 of 1998), failure to comply with the conditions of this environmental authorisation constitutes an offence for which a convicted person may be liable to a fine not exceeding R5 million or imprisonment for a period not exceeding ten years or both such fine and such imprisonment.

3.2 Understanding the conditions of authorisation

It is the responsibility of the authorisation holder to understand the conditions of this authorisation. Any queries regarding this environmental authorisation must be submitted in writing to the Department at the address provided below.

3.3 Amendments to the project, Environmental Authorisation or Environmental Management Programme

3.3.1 Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected.

3.3.2 Any subsequent amendments to the approved Environmental Management Programme must also be submitted to the Department for review. The amendments must only be implemented after being approved by the Department.

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- 3.4 This environmental authorisation does not negate the authorisation holder's responsibility to comply with any other statutory requirement that may be applicable to the carrying on of the activities.¹
- 3.5 The Department retains the right to inspect the property at any time during the construction and operational phases of the development in accordance with the relevant legislation.
- 3.6 It is the responsibility of the authorisation holder to ensure the Department is made aware of any change of ownership or contact details within 30 days. Where applicable, an amendment application must be submitted.

3.7 **Contact details for the Department**

Please ensure that all correspondence pertaining to this proposed development clearly includes the EIA reference number.

Unless otherwise stated in the condition, where documentation must be submitted to the Department it must be submitted to the **Control Environmental Officer for the Compliance, Monitoring and Enforcement Component** of the Department's **Ugu District office**. The contact details are as follows:

Fax Number: 039 682 3325

Tel Number: 039 682 2040

Postal Address: Private Bag X885, Port Shepstone, 4240

Please note that it is the responsibility of the authorisation holder to ensure the above details are correct at the time of submitting any documentation, and that the documentation reaches the relevant official.

4 Conditions of Authorisation

It is the responsibility of the authorisation holder to identify legislation relevant to the activities.
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The granting of this environmental authorisation is subject to the conditions set out below. These conditions are binding on the authorisation holder and any successor in title.

- 4.1 The authorisation holder must ensure compliance with this Environmental Authorisation (EA) by any person, company or other entity acting on its, his or her behalf in respect of the approved development.
- 4.2 The listed activity/activities which is/are authorised through this EA may only be carried out at the premises indicated above.

Validity Period

- 4.3 One or more of the listed activities authorised (e.g. construction) must commence within five (5) years from the date of issue of this EA. Failure to commence within this five (5) year period (without extension being granted by the Department) renders the EA invalid.
- 4.4 Should extension of the EA be required, it must be requested (by following the appropriate amendment process) at least sixty (60) days prior to the expiry date. A request submitted past the expiry date cannot be considered by the Department, unless allowed for in the environmental legislation at the time of the request.

Notification of interested and affected parties (including key authorities)

- 4.5 The authorisation holder must ensure that every registered Interested and Affected Party (I&AP) is notified in writing (i.e. fax, registered mail or email) within twelve (12) calendar days of the date that this EA was issued.
- 4.6 Notification of the EA must be published in the same newspaper(s) used during the public participation process within twelve (12) calendar days of the date that this EA was issued.
- 4.7 The notification referred to in conditions 4.5 and 4.6 above must –
- 4.7.1 indicate the outcome of the application;
 - 4.7.2 outline the reasons for the decision;
 - 4.7.3 specify the date on which the EA was issued;

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- 4.7.4 inform the I&AP of the appeal procedure provided for in Chapter 7 of the EIA Regulations, 2010, including the requirement to use the prescribed forms obtainable from the Department, the authorisation holder or the Environmental Assessment Practitioner (EAP); and,
- 4.7.5 advise the I&AP that a copy of the EA will be furnished by the authorisation holder or EAP on request.
- 4.8 The authorisation holder must ensure that a copy of the EA is provided within two (2) work days of being requested.

Written notice of commencement of the activity/ies

- 4.9 Not less than **seven (7) days** written notice must be given to the Department that the construction phase will commence. Commencement for the purposes of this condition includes site preparation.
- 4.10 The notification referred to in condition 4.9 must include –
- 4.10.1 the EIA reference number DC21/0036/10;
 - 4.10.2 the date on which it is anticipated that the activity will commence;
 - 4.10.3 proof of compliance with conditions 4.5 and 4.6 and 4.16;
 - 4.10.4 contact details for the main contractor and resident engineer; and,
 - 4.10.5 details (including relevant expertise and contact information) of the Environmental Control Officer (ECO).

Management of the activity/ies

- 4.11 The development must comply substantially with the Woodlands Concept Layout: Option B – Parcel C developed with alternative external access road, prepared by Fiona Garson-Lees & Short, (dated 28/12/2012) and Wetlands Concept Layout, prepared by Fiona Garson-Lees & Short, (dated 28/12/2012). Copies of these plans are attached as Annexure 3.
- 4.12 The Environmental Management Programme (EMPr) prepared by Strategic Environmental Focus (dated 19 April 2012) for the construction and operational phases of this project as submitted for the EA of this project is hereby **approved** and must be implemented.
- 4.13 The EMPr must be kept on site during all phases of the development.

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- 4.14 The ECO has the right to request (in writing) a method statement to be compiled by the contractor in cases where the EMPr may not adequately address the issue or the nature of the activity or site and warrants the need thereof. The method statement must be approved in writing by the ECO prior to carrying out the activity.
- 4.15 Approved method statements must be adhered to by the relevant contractor.

Monitoring

- 4.16 The authorisation holder must appoint a suitably qualified and experienced, independent ECO for the full duration of the construction phase, prior to commencing construction.
- 4.17 Should the ECO for the approved development change at any time, this must be communicated, in writing, to the Department within fourteen (14) calendar days of appointing the new ECO.
- 4.18 The notification in terms of condition 4.17 must include contact details for the ECO, details pertaining to the ECO's relevant experience, and reasons for the change in ECO.
- 4.19 The responsibilities of the ECO must include *inter alia*:
- 4.19.1 performing all tasks assigned to the ECO in the EMPr;
 - 4.19.2 keeping record of all activities on site, problems identified and transgressions noted;
 - 4.19.3 assisting the authorisation holder in ensuring implementation of the EA and approved EMPr; and,
 - 4.19.4 providing guidance/advice that ensures implementation of appropriate environmental management measures and adherence with environmental legislation/regulations.
- 4.20 The ECO must conduct at least one site visit every two weeks during the construction phase. The number of site visits may be reduced in frequency at times where none to minimal construction is taking place on site, but only if agreed to in writing by Ugu District's Control Environmental Officer (CEO): Compliance Monitoring and Enforcement (CME).

Recording and reporting to the Department

- 4.21 The authorisation holder in conjunction with the ECO must ensure records are kept related to compliance and non-compliance with the EA and approved EMPr.

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- 4.22 The records referred to in condition 4.21 must be made available to the Department on written request² within a time span stipulated by the Department.
- 4.23 During the construction phase, bimonthly environmental audit reports must be submitted to the Department.
- 4.24 These environmental audit reports must:
- 4.24.1 be prepared by an independent Environmental Assessment Practitioner (EAP), which may be the ECO;
 - 4.24.2 be submitted as a hard-copy (unless otherwise agreed upon in writing by the Ugu District's CEO: CME);
 - 4.24.3 provide a status update of the construction (e.g. a GANTT chart indicating progress to date versus work still to be done), together with an expected date by which various stages of construction will be completed;
 - 4.24.4 identify actual impacts that have occurred versus those predicted, including an evaluation of the success of mitigatory measures implemented;
 - 4.24.5 evaluate compliance with the EA and requirements of the EMPr;
 - 4.24.6 include supporting documentation needed to confirm compliance with the EA;
 - 4.24.7 include copies of any approvals granted by other authorities relevant to the development; and,
 - 4.24.8 include measures to be implemented to attend to any non-compliances or degradation noted.
- 4.25 Environmental audit reports must continue to be submitted for a minimum of four months (i.e. two reports) following completion of construction, and thereafter once, annually. This is to ensure post-construction requirements are met.

Solid waste removal:

- 4.26 Solid waste skips (containers) will be placed at the entrance of the sites to avoid waste collection trucks from needing to use the internal roads, which would have adverse impacts on the natural receiving environment. These containers will be clearly marked either for recycling purposes according to their waste type or for disposal by uMdoni Local Municipality.
- 4.27 uMdoni Local Municipality is responsible for weekly collection of solid waste for disposal at the nearest registered landfill site.

² Such records may be requested for attending to concerns regarding the proposed development and/or conducting routine compliance audits.

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Heritage resources:

- 4.28 In accordance with the Heritage Impact Assessment (dated 20 July 2007), eThembeni Cultural Heritage stated that the development must proceed with the proposed heritage mitigation.
- 4.29 Amafa aKwaZulu-Natali must be contacted if any heritage objects are identified during earthmoving activities and all development must cease until further notice.
- 4.30 No structures, or part thereof, older than sixty years are allowed to be demolished, altered or extended without a permit from Amafa aKwaZulu-Natali.
- 4.31 No activities are allowed within 50m of a site which contains rock art.
- 4.32 Amafa aKwaZulu-Natali must be contacted if any graves are identified during construction and the following procedure is to be followed:
- a. Stop construction;
 - b. Report the findings to a local police station; and,
 - c. Report to Amafa aKwaZulu-Natali to investigate.

Green living space:

- 4.33 The intention of retaining green living space is to impact the land as little as possible, keeping as much as possible in its natural condition.
- 4.34 Even though it is within the developable areas (generally defined by existing vegetation, and a reasonable amount of space around buildings needed for resident related activity, maintenance etc green living spaces around the proposed built footprint must be defined.
- 4.35 All decks, footpaths/boardwalks between houses, washing lines, cultivated gardens, refuse areas etc. must be confined to green living space zones, and the balance of the developable areas must be left undisturbed.
- 4.36 The green living spaces must not be fenced, and neither must individual houses be fenced, as this would have its own impacts, including unsightly visual impact.
- 4.37 The Home Owners Association (HOA) must manage encroachments beyond the green living spaces.

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Roads:

- 4.38 Road widths of the internal roads at both sites must be kept to a minimum (i.e. 3 to 4.5m);.
- 4.39 Concrete strips with a permeable "middlemannetjie" is the preferred method as it will result in low environmental impact with negligible effect on the existing stormwater run-off from the site. Stormwater will maintain its natural path with little impediment or added run-off and will infiltrate into the soil as it would have naturally done, with the exception of the entrance to the Woodlands site, and to allow for passing bays at parking areas
- 4.40 Impacts must, be focused on more degraded wetlands as opposed to more intact systems;
- 4.41 Roads must be constructed in such a way as to have a minimal impact on the flow of water through the wetland (e.g. by using a bridge or box culverts in preference to pipes);
- 4.42 Where a road runs adjacent to a wetland and impedes natural run-off from a hill slope, the road should be separated by an appropriate buffer from the wetland boundary. Feed-off points should be incorporated into the road at regular intervals (at least every 100m);
- 4.43 Stormwater originating from the roads should also not be allowed to enter directly into the wetland areas; and,
- 4.44 Compaction of soils should be limited as far as possible as it would reduce infiltration and result in increased run-off and erosion.

Proposed access from Ifafa Beach/Kirkman Drive:

- 4.45 The internal road through the wetlands must have a piped stormwater system that collects and controls surface water.
- 4.46 The design of this road must ensure that the hydrological functioning of the narrowest portion of the eastern valley bottom wetland is not significantly altered.
- 4.47 this is a statement what are the measures that the must adhere to

Sensitive Areas:

Slopes:

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- 4.48 Geotechnical conditions dictate that no buildings must be built on slopes that are steeper than 30 degrees, or within 4m of the top of such slopes. No platforms must be cut. The use of rafts, piles and stilts must be adopted to mitigate this issue.

Areas of high ecological and conservation importance:

- 4.49 Land contains closed canopy indigenous coastal forest, drainage lines, wetlands and its associated 30m buffer, grasslands in good natural condition and riparian forest.

Forest areas:

- 4.50 The forest buffer width must be informed by:
- 4.50.1 the height of trees at the forest edge to avoid damage to infrastructure outside the forest. The width of the buffer is to be 1.25 x the height of the trees positioned at the forest edge;
 - 4.50.2 the height and position of the intended infrastructure adjacent the forest to minimise shading of the forest edge. Architects to calculate the length of shadow cast by proposed infrastructure. Buffer width to be the longest shadow length calculated from 08h00 to 17h00 for the growing season (October – March).
 - 4.50.3 Buffer width to be the higher value calculated above. If the calculated buffer width (a or b above) is less than 10m, then a minimum buffer width of 10m is enforced to allow a 'soft' edge and shrub-dominated ecotone to develop. The minimum width will account for the extent of forest tree roots which have been calculated to be 1.5 x the extent of the crown.
- 4.51 A 20m buffer from the edge of the forest must be adhered to.

Wetland areas:

- 4.52 These areas include:
- 4.52.1 Floodplain wetland associated with the Mvuzi River (Wetlands Site)
 - 4.52.2 Estuary wetland associated with the Mvuzi River (Wetlands Site)
 - 4.52.3 Inter-dune valley bottom wetlands within the Woodlands Site comprising of the following:
 - 4.52.3.1 western valley bottom wetlands (drain into the Mvuzi River Catchment);

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4.52.3.1.2 south-central valley bottom wetland (drains into the Mvuzi River Catchment);

4.52.3.1.3 eastern valley bottom wetlands (drain into the Woodlands Sub-catchment).

4.53 Wetland and buffer zone statistics within the two portions of the study area.

Description	Site portion	Hectares
30m buffer zone	Wetlands area	1.80 ha
30m buffer zone	Woodlands area	7.42 ha
Wetland area	Wetlands area	4.99 ha
Wetland area	Woodlands area	9.06 ha
Total wetland and buffer area		23.27 ha

Conservation management:

4.54 The conservation management plan must be compiled for the management of the open space areas which contain sensitive habitats of conservation value. This plan must be part of the EMPr and must include:

- 4.28.1. alien control plan details, including timeframes for completing the programme and then undertaking maintenance clearing;
- 4.28.2. burn programme for the grassland areas and how this will be managed with the residential properties and local municipality bylaws;
- 4.28.3. location and management of walking paths and;
- 4.28.4. management of access.

Storm Water management:

4.55 A storm water management plan, which ensures detention ponds are situated outside the wetland and associated buffers, must be in place and approved by the local authority prior to commencing construction.

4.56 The release of stormwater must be outside the wetland buffers and release points must be attenuated. Failure to do so may cause gully erosion or negatively impact on the hydrological functioning of the wetlands located on site

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- 4.57 The storm water management system must ensure that the post-development storm water runoff approximates pre-development conditions in terms of water quality, intensity of release and spatial distribution of release point.
- 4.58 Stormwater mitigation measures, such as stormwater retention structures, must be constructed outside the wetland areas.
- 4.59 Stormwater must not be allowed to enter directly into wetland areas, but must be well buffered by vegetation and accompanied by energy dissipating interventions. Stormwater flows from outlets must therefore not be concentrated, but be spread out as far as possible.
- 4.60 Stormwater attenuation and control structures must as far as possible, focus on collecting water at the point where water contacts the earth for filtering, collecting, dispersing and using water.

Sewer:

- 4.61 Traditional septic tanks and soakaways will be used.
- 4.62 Sewage from all units must be collected and discharged into a piped network that will discharge to a septic tank.
- 4.63 The septic tank must be sized to satisfy a minimum storage of 24 hours in-flow from the contributing units, as well as the volume of sludge accumulated between de-sludging.
- 4.64 One septic tank will service a number of units, dependent on the topography of the site.
- 4.65 The septic tanks will then discharge to soak-away trenches positioned such that they, and the evapo-transpiration areas, are outside of the wetland buffers.
- 4.66 Several septic tanks must be used, as opposed to one large tank, so that the impact on the natural environment is lessened as the volumes of effluent are not concentrated in a single area.
- 4.67 Septic tanks will require maintenance in that de-sludging must be carried out approximately once every 2 – 5 years.
- 4.68 The septic tanks must be positioned so that all are accessible to sludge pumping trucks from the access road. However, due to the locality of some clusters, the most suitable position for the tank is away from the road.
- 4.69 The tanks are typically brick-built with two separated chambers. They will discharge to a soak-away or a French drain.

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- 4.70 All development and infrastructure must be located outside of the 1: 100 year floodline (mainly due to the dangers of flooding).
- 4.71 Biannual biomonitoring of the Mvuzi River must be undertaken prior to development taking place to ascertain baseline conditions.
- 4.72 The Wetland Delineation Report prepared by Strategic Environmental Focus (dated April 2007) must be strictly adhered to, including the following mitigation measures:
- 4.72.1 a properly designed and implemented stormwater management plan must be compiled to ensure the wellbeing of the wetlands (including stormwater mitigation measures and stormwater attenuation and control structures;
 - 4.72.2 a wetland monitoring plan must be developed for the wetland sites, in order to observe the response of different water resources on site. Potential measures that can be put in place to monitor specific activities by means of routine investigations must include:
 - 4.72.2.1 on-site signs of erosion, specifically adjacent to roads and at stormwater discharge points;
 - 4.72.2.2 inspecting sewage infrastructure near wetland areas for signs of blockage and/or leakages, in order to prevent spillages;
 - 4.72.2.3 examine the efficiency of stormwater retention structures after flooding events;
 - 4.72.2.4 monitoring and eradicate alien plant encroachment within wetland habitat areas;
 - 4.72.2.5 monitor water quality upstream and downstream of important on-site watercourses, such as the Mvuzi River and the estuary wetland and;
 - 4.72.2.6 identified problem areas.
 - 4.72.3 No roads must be constructed through wetlands, but in areas where this is unavoidable planning must be done to ensure minimum impact
 - 4.72.4 A 30 metre buffer must be adhered to, to protect the intact hydrological regime and wetland functioning. The recommended wetland sensitive approach must exclude any development inside any delineated and buffered wetland areas
- 4.73 Ezemvelo KZN Wildlife requires a buffer around forest areas to ensure that edge effects are mitigated and to allow for an ecotone between the grassland and forest. The Forest Assessment Report prepared by Strategic Environmental Focus (January 2012) must be strictly adhered to.

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- 4.73.1 the EMPr must stipulate best practice guidelines for construction and post-construction phase to account for: (i) removal of vegetation and subsequent earthworks; (ii) road construction; (iii) transport of construction materials and equipment; (iv) dust control and (v) off-site disposal of construction waste.
- 4.73.2 Pollutants and water run-off from hard surfaces must be discharged beyond the extent of the forest. A Civil Engineer must design appropriate structures;
- 4.73.3 Canopy trees must not be removed;
- 4.73.4 Forest edges must be allowed to develop;
- 4.73.5 No planting of trees or shrubs is allowed unless indigenous and the genetic material is sourced from the Ifafa site and;
- 4.73.6 No pets are allowed.
- 4.74 Septic tanks and evapo-transpiration beds must be located 50 metres away from watercourses.
- 4.75 A building restriction of 12 metres on either side of any reticulation line must be adhered to
- 4.76 Work cannot commence prior to all necessary Eskom permissions/permits being obtained, regarding power/electricity supply.
- 4.77 Construction of the Chiba Ring Development must be executed in a manner that will ensure minimum interruption of the stream flow and exposure of the excavated sediment to the flow to minimise the risk of soil and bank erosion.
- 4.78 An agreement between the Applicant and the owners of Portion 148 of the Remainder 107 of the farm Pierre d'Or No 6517 must be reached pertaining to the establishment of an access road across this neighbouring property (owned by the Church) in order to access Parcel C of the Woodlands Site. This agreement must be reached, and proof provided to the Department thereof, prior to construction commencing on Parcel C.
- 4.79 The development of Parcel C cannot commence until access is granted through the neighbouring Portion 148 of the Remainder 107 of the farm Pierre d'Or No 6517 owned by the Catholic Church (the Diocese of Marianhill).
- 4.80 Parcel H of the Wetlands Site must be constructed on stilts to minimise the increase in surface area of hard structures and also minimise the removal of vegetation as this parcel is located partially within the dune forest.
- 4.80.1 Hand excavation is the preferred method for the construction of stilts for the guest house and;
- 4.80.2 Internal roads within the Wetlands site must be constructed of permeable paving in flat areas and in steeper areas, there should be adequate stormwater attenuation to decrease run-off and minimise vegetation clearance.
- 4.81 Raised boardwalks must lead to the guesthouse, thereby decreasing run-off and minimising vegetation clearance.

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- 4.82 Erosion control measures must be implemented in areas highly susceptible to erosion to ensure reduced sediment loading to surrounding watercourses and streams.
- 4.83 Measures (e.g. hessian sheets, sand bags etc) to prevent excessive soil erosion must be implemented.
- 4.84 Banks must be stabilised to prevent collapse and erosion.
- 4.85 Any erosion scars found on site during monitoring and maintenance inspections must be rehabilitated immediately.
- 4.86 Once rehabilitated, the affected areas must be monitored for an appropriate amount of time to ensure no further erosion risks.
- 4.87 Waste management on site must be done as to ensure that:
- 4.87.1 any form of waste material and rubble generated during construction is disposed of at a facility registered in terms of **section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)**, if it cannot be responsibly re-used on site or off site;
 - 4.87.2 no waste material of any kind (bar vegetation) is to be buried or burnt on site for the sole purpose of final disposal;
 - 4.87.3 waste must be stored in bins or skips while on site;
 - 4.87.4 no littering is allowed; and,
 - 4.87.5 recycling of recyclable material is encouraged, provided that the activity does not create any secondary pollution.
- 4.88 Temporary chemical ablution facilities must:
- 4.88.1 be placed along the edge of the municipal road only;
 - 4.88.2 be cleaned regularly, with associated waste disposed of at a registered waste site;
 - 4.88.3 be removed from the site when the construction phase is completed;
 - 4.88.4 be no closer than 50m from any watercourse; and,
 - 4.88.5 not cause any pollution to any water resources or pose health hazards.

Operational Phase

- 4.89 Alien invader species must be removed to protect the biodiversity of the wetlands and improve their hydrology.
- 4.90 No future expansions to the Chiba Ring Development may occur without first obtaining written approval from the Department.

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- 4.91 Annual wetland biomonitoring must be undertaken.
4.92 The authorisation holder must ensure appropriate maintenance of infrastructure.

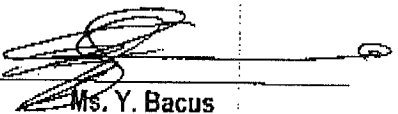
Site closure and decommissioning

- 4.93 Once rehabilitated, the affected areas must be monitored for an appropriate amount of time to ensure no further erosion risks.
4.94 Should the activity ever cease or become redundant, the authorisation holder must contact the Department to determine the required actions for the rehabilitation and closure of the site.
4.95 Degradation caused by the construction of the Chiba Ring Development on the forest, grassland or wetland areas must be repaired at the cost of the authorisation holder.

Availability of this EA

- 4.96 A copy of this EA must be kept at the premises where the activity/activities will be undertaken.
4.97 The EA must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the authorisation holder who works or undertakes work at the premises.

Date of issue of Environmental Authorisation: 18/10/2013

For 
Ms. Y. Bacus
Acting Head of Department
Department of Agriculture and Environmental Affairs

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Annexure 1: Reasons for Decision

1. Background

CHIBA RING DEVELOPMENT (PTY) LTD applied for environmental authorisation to carry out activities 9, 11, 18, 23 and 24 (v) of Government Notice No. R544 (18 June 2010) and activities 4, 6, 12 and 16 of Government Notice No. R546 (18 June 2010).

CHIBA RING DEVELOPMENT (PTY) LTD appointed an Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment process (BAR). The details for the EAP are as follows:

Company: Strategic Environmental Focus

Contact person: Ms. Jackie Von Maltitz

Postal address: P.O. Box 277

Pavilion

3611

Fax number: 031 266 6880

Tel number: 031 266 1277

1.1. Site locality

Woodlands site: occurs on the Remainder of Portion 3 of the farm Darlington South No. 14361

Wetland site: occurs on the Remainder of the farm Elysium No. 15582

Both sites are under the jurisdiction of Umdoni Local Municipality.

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Directions to the site:

- The sites are accessed from the N2 (south) by taking the Ifafa Beach/Ifafa/Elysium turn-off and turning towards Ifafa Beach. Wetlands Site is located at 1 Kirkman Drive and Woodlands is accessed approximately 300m down the Ifafa Beach Road.

Co-ordinates to the site are as follows:

Woodlands Site:

Latitude/Longitude	Degrees	Minutes	Seconds
South	30°	27'	57"
East	30°	38'	50"

Wetlands Site:

Latitude/Longitude	Degrees	Minutes	Seconds
South	30°	28'	06"
East	30°	38'	42"

1.2. Public Participation Process

Notification of potential interested and affected parties was done by way of:

- A newspaper advertisement in the South Coast Herald dated 31 October 2008;
- Notice of Basic Assessment for the Proposed Chiba Ring Community Development dated 30 October 2008 and;
- Comments and responses report during the public notification of the Basic Assessment process.

Registered I&APs including State Departments were given opportunity to comment on both the draft and final Basic Assessment Reports (BARs). Comments were received from the following departments: Department of Transport; Department of Water Affairs; Ezemvelo KZN Wildlife; Department of Water and Forestry; Wildlife and Environment

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Society of South Africa; surrounding community members, Umdoni Local Municipality; Amafa aKwaZulu-Natali; Department of Agriculture, Forestry and Fisheries and Eskom.

The final amended BAR was received by the Ugu District Office of the Department on 16 January 2013 and subsequently acknowledged on 30 January 2013. The final amended BAR was rejected by the Department and additional information was requested on 13 March 2013. A meeting was held between the EAP, the Department, the Project Architect and a Chiba Ring representative on 22 April 2013. Additional information was received via e-mail on 28 May 2013 and the final BAR was accepted on 09 September 2013.

The Department is satisfied that the public participation process was followed as per the requirements of the 2010 Environmental Impact Assessment (EIA) Regulations.

2. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration:

- a) Amended final BAR prepared by Triplo4 Sustainable Solutions received on 16 January 2013;
- b) Wetland Delineation Report prepared by Strategic Environmental Focus, dated April 2007;
- c) Vegetation Based Ecological Sensitivity Assessment prepared by Strategic Environmental Focus, dated March 2007;
- d) Forest Assessment prepared by H. Adie, dated January 2012;
- e) Occurrence of the Black-headed dwarf chameleon and the ringed millipede specialist report prepared by Jason Londt, dated 11 January 2010;
- f) Geotechnical and geohydrological assessment, prepared by GCS Water, Environmental, Engineering and Earth Science Consultants, dated 27 July 2007;
- g) Traffic Impact Assessment prepared by Arup (Pty) Ltd, dated 02 August 2010;
- h) The findings of the site visit undertaken by Ms. Sibaphiwe Gumede (of the Department), Ms. Wendy Radebe (of the Department) and Mr. Mark Ryan (EAP) on 25 February 2013;

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- i) The objectives and requirements of the relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

3. **Key factors and findings considered in making the decision**

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

a) **Need and desirability of the activity:**

- The Chiba Ring Development Company was formed in 2004, for the purposes of buying and developing land in Ifafa Beach, with the intent of offering an alternative retirement lifestyle to that of a commercial retirement home.
- The Chiba Ring members will bring considerable and varied expertise and resources that will contribute to local economic and social development while ensuring environmental integrity and sustainability.
- Housing clusters have been selected, bearing in mind the environmental sensitivities and utilizing areas of developable land.
- The density of the proposed development is very low, and building footprints will be limited to less sensitive areas of the site (out of the wetlands and drainage lines, grasslands etc.) to minimise environmental impact.
- In future, there is the possibility that parts of the land could be put to some small-scale economic activity or social development initiatives that would bring benefit to the community as there is currently a lack of retail outlets, services or recreational facilities to cater for the local populace and residents are forced to travel approximately 25 kilometres for such.

Site alternatives:

Option 1 (Preferred option):

- No alternative sites were considered as the Wetlands and Woodlands Sites were purchased by the authorisation holder in 2004 (Wetlands) and 2007 (Woodlands);

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- There has been a thorough and continued land development programme, in particular, for the removal of invasive alien vegetation;
- A plant nursery has been established with the aim of post construction regeneration and land improvement and;
- All protected species have been mapped by GPS to ensure their protection.

No-go alternative:

- The site will remain unutilized and kept as open space within Ifafa ;
- Alien invasive species will colonise and eventually cover the entire site, particularly obstructing sub-surface water flow to the drainage lines, rivers and wetlands in the long-term.
- uMdoni Local Municipality will lose out financially as the proposed development would generate substantial revenue from land transfer fees, rates and taxes, building plan approval fees, electricity etc.
- Local entrepreneurial initiatives such as facilitating and assisting the establishment of domestic, maintenance and security services, solid waste collection and recycling, possible retail facilities, market gardening for local consumption would not be encouraged.
- Failure to realise this development would jeopardise the future ownership and residence of the historical owners – the Goldstone family – on part of the land (Parcel F).

b) Wetland Delineation Report:

- The wetlands on site are in a good functioning condition with few current impacts that threaten or significantly disrupt their functioning;
- The lack of hardened surfaces and few hydrological barriers within the catchments facilitate subsurface and surface water movement through the wetlands;
- Mitigation measures (such as the incorporation of a wetland sensitive stormwater management plan) must ensure the protection of identified wetland habitat and its associated functions from local disturbances;
- There is a great urgency to ensure that future development initiatives within the upper reaches of the Mvuzi River Catchment do not result in external pressures that will eventually destroy or severely

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degrade the local wetlands (floodplain and estuary wetlands), in spite of on site preventive measures. A total of 14, 05 ha of wetland habitat was delineated within the study area, which forms 36, 97 % of the 38 ha study area;

- The proposed development will cause a hardening of surface area inside the catchment and this is expected to impact negatively on the wetlands within the site in various ways;
- A properly designed and implemented stormwater management plan is consequently essential to the well being of the wetlands. Specialist input from a hydrologist, landscape architect and/or a civil engineer is required to design an adequate stormwater management system, which makes provision for wetland protection;
- Wetlands within the Ifafa Beach study area are in a good functioning condition with few current impacts that threaten to significantly disrupt their functioning.
- Wetlands within the Wetlands Site are in a more pristine condition, with impacts restricted to hydrological modifications caused by a railway line construction along the coast and a road crossing to the east. The floodplain wetland has, however, adapted well to these impacts and, along with the other wetlands in the site, performs important ecosystem related functions such as the ability to maintain biodiversity, improve water quality, attenuate floods, facilitate sedimentation and control erosion

c) Vegetation Based Ecological Sensitivity Assessment:

Woodlands Site:

- The forested drainage lines, intact grasslands and the indigenous forests have the highest sensitivity as these provide the most contiguous natural habitat to the faunal and floral species on the site. Of these, the most sensitive are the forested drainage lines which provide movement corridors onto the site and between other areas of natural open space;
- Areas of high ecological sensitivity habitat amounts to 54% of the site (14.6652 ha), areas of moderate ecological sensitivity amounts to 13% (3.5688 ha) while non ecological sensitive habitats amount to 33% (9.0475 ha).

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- No development must occur within these or any buffer zones allocated to them and;
- Development allocated to the grasslands and the indigenous forests must be low density and sensitively planned.

Wetlands Site:

- The *Brachylaena discolor* – *Carissa Macrocarpa* Thicket, *Phoenix reclinata* – *Phragmites australis* Estuarine Flood Plain and Coastal Dune Forest have the highest sensitivity as they have the highest ecological function and medium conservation importance.
- Areas of high ecological sensitivity habitat amounts to 81% of the site (9.0174 ha), while non ecological sensitive habitats amount to 19% (2.0901 ha).
- Development must be restricted to areas not considered ecologically sensitive and;
- The estuarine environment of the Mvuzi River is considered to be very sensitive and no development must be considered within this area and;

d) Forest Assessment:

- Canopy cover was 38%, substantially less than the accepted crown cover for forest. Even though true canopy gaps (extending from the canopy to the understorey) amounted to 22%, the extent of canopy was largely broken and a low 'thicket-like' mid-canopy dominated the forest.
- Grass characteristic of shaded environments (*Oplismenus hirtellus*) was common (mean cover = 46%, range: 10-90%, n = 5) within the forest. The extent of grass, while unusual for forest is consistent with the extensive broken canopy.
- Twenty six tree species, of which 20 were large (dbh > 10 cm) were recorded in five plots in the Ifafa forest. The forest canopy is dominated by *Schefflera umbellifera*, *Trichilia dregeana*, *Syzygium cordatum* and *Albizia adianthifolia*.
- The Ifafa forest site has marginal to low ecological integrity when compared with dominant ecological criteria for coastal forest.

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- There is no evidence of widespread treefall or other damage characteristic of catastrophic disturbance such as illegal harvesting, cyclone or fire storms. The habitat is, therefore, not degraded due to natural or human disturbance.

e) Occurrence of the Black-headed dwarf chameleon and the ringed millipede specialist report:

- *Centrobolus annulatus* (Ringed Millipede) occurs on the Wetland Site.
- The presence of *Bradypodion melanocephalum* (Black-headed Dwarf Chameleon) could not be confirmed on either of the sites.
- Chameleons have been seen on the Woodland Site during alien plant eradication activities and environmental conditions suggest the presence of at least one species of *Bradypodion*.
- Every effort must be made to retain as much of the natural vegetation as possible and that the natural areas must be properly managed in association with adjoining areas, particularly matters of connectivity of natural areas need special attention.
- While six separated clusters may allow connectivity between the undeveloped parts of the site and allow for the preservation of the best natural areas, it must be noted that the provision roadways, fences, telephone lines may prove problematic.

f) Geotechnical and geohydrological assessment:

- The elevation of the development areas varies between about 4 and 42 metres above mean sea level within the Wetland site and between about 18 and 58 metres above mean sea level within the Woodlands Site.
- To ensure stability, it is essential that great care is taken to preserve the natural vegetation, structures must be located on areas with as gentle a slope as possible and to take preventative measures to safeguard against slides.
- Stormwater from roofs must be taken to soak pits constructed entirely behind and below the slip plane, or taken directly to the bottom of the slopes in open channels which must be well keyed into the ground.

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- There is the presence of two boreholes within moderately close proximity to the site. However, no water level or yield information was available at the time that this study was conducted
- Erosion control measures are required on all slopes exceeding 2% and engineered erosion control measures are required on all slopes exceeding 15%.
- In order to effectively dispose of effluent at the Wetland site, an evapotranspiration area of at least 375m² is required for effluent loading as there is more than sufficient area down slope of the soak way for effective evapotranspiration of effluent. Also, the soak way is located approximately 35 metres distant from the edge of the wetland buffer zone.

g) Traffic impact assessment:

- The proposed development will have no significant impact on the existing road network and/or intersections. The current intersection geometry will be able to accommodate the development generated traffic and therefore no road upgrades are required.
- Each site will be served by two access points. The access must also allow for the free movement of emergency vehicles;
- A speed hump, as a traffic calming measure, must be provided on either side of the proposed access point to the Wetlands Site, at least a 20 metres spacing.
- From a traffic engineering perspective, it is expected that the proposed development will have no significant traffic impact on the existing road network and/or intersections, provided that all above-mentioned recommendations are adhered to.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity as authorised will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. **The application is accordingly granted with conditions.**

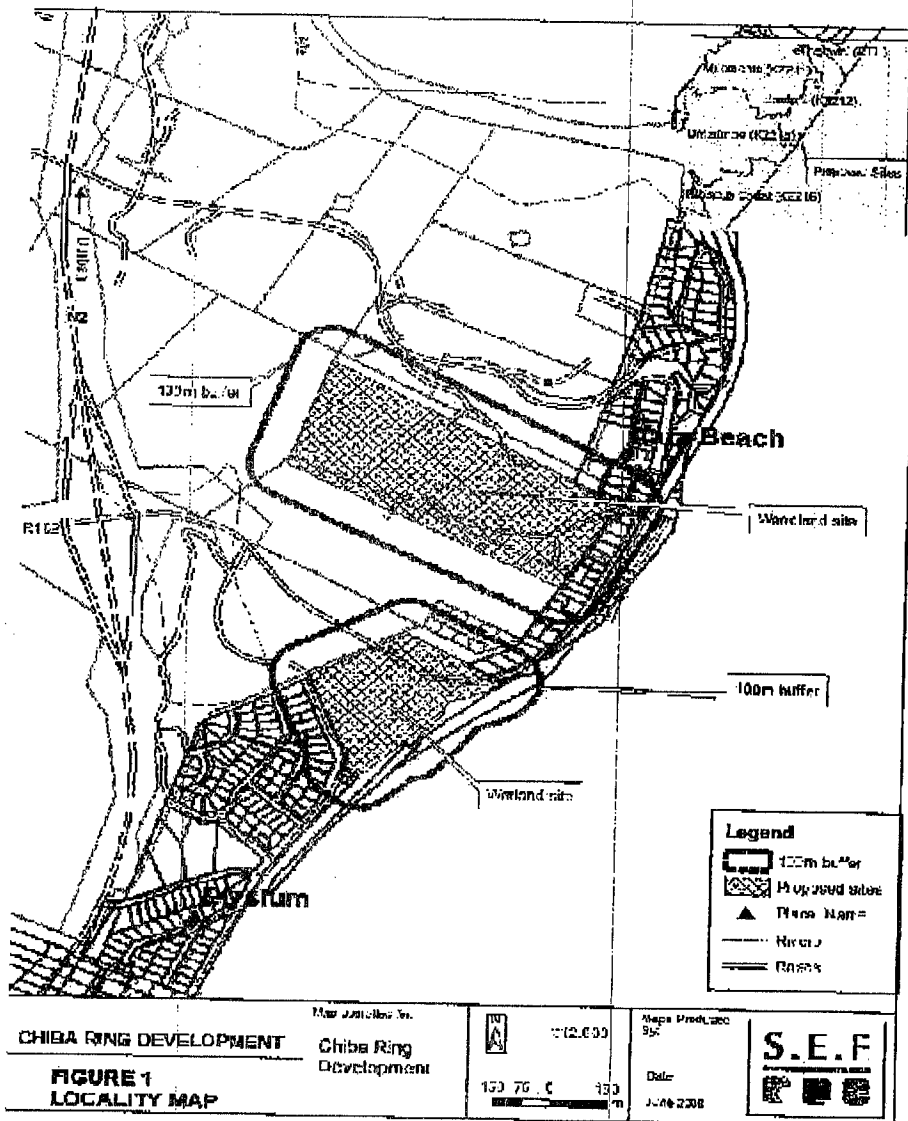
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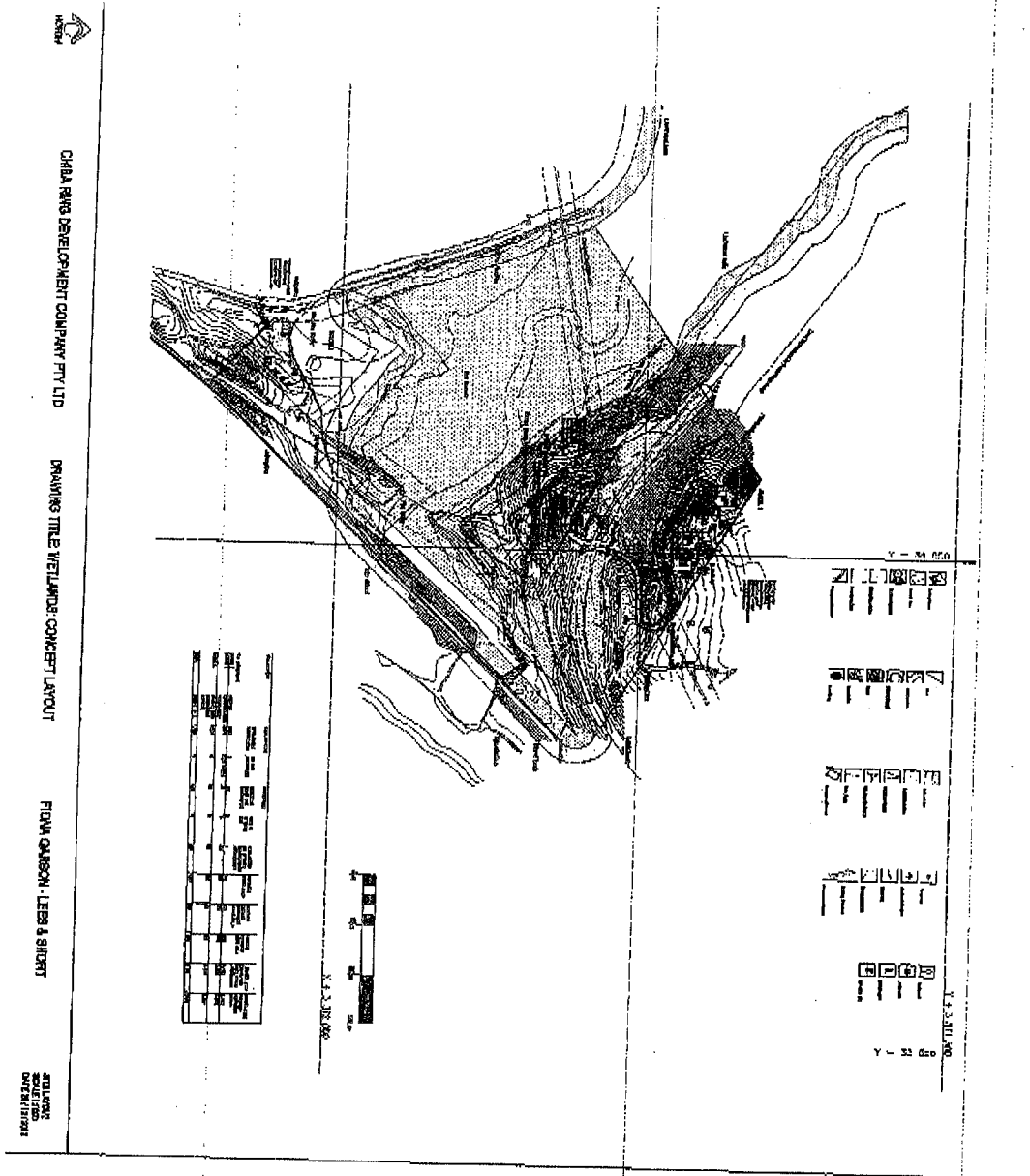
Annexure 2: Locality Map



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Annexure 3: Site Plans Wetlands

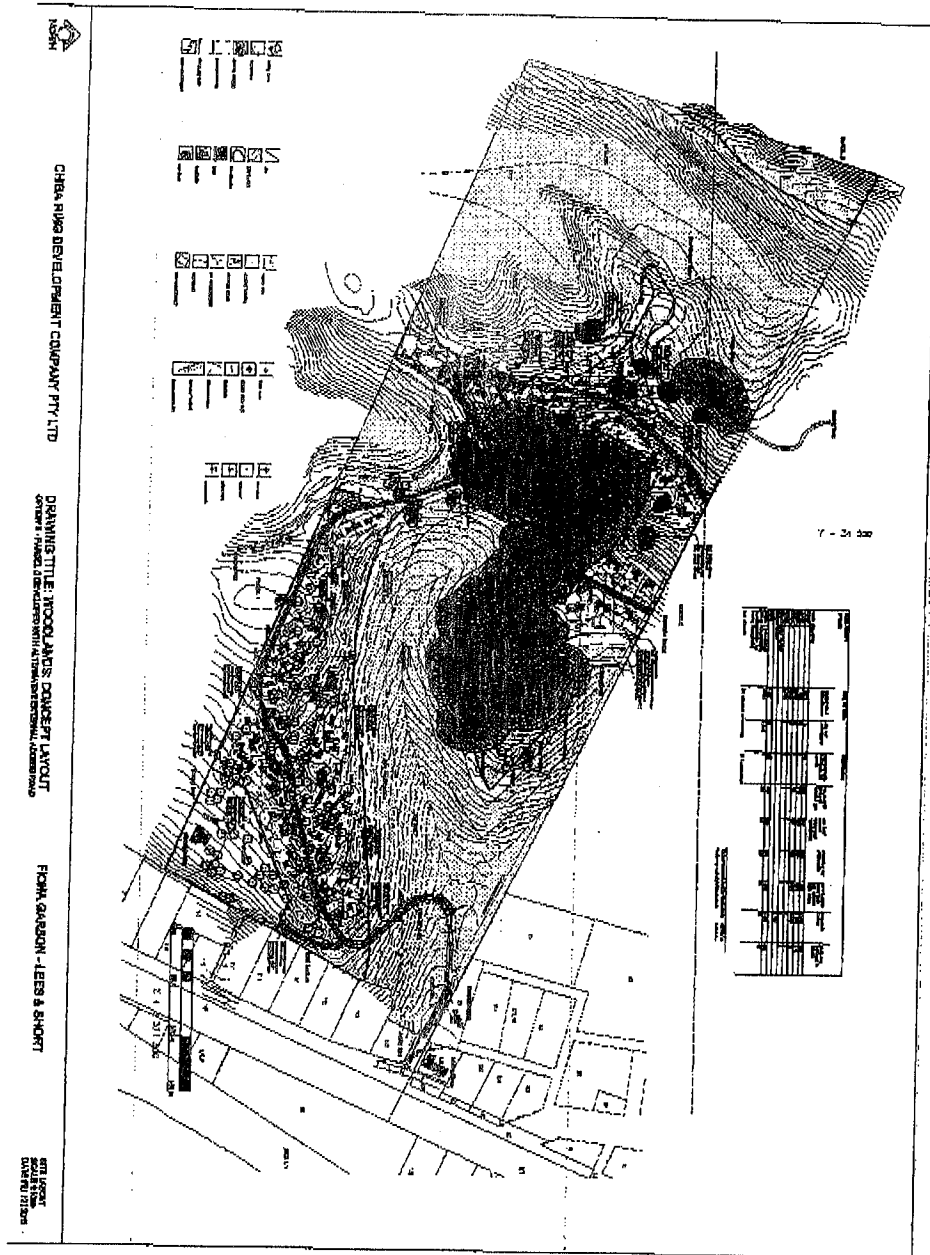


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