

CONTENTS



1.0 Introduction	
1.1 Background.....	3
1.2 Design Concept.....	3
2.0 Project Framework	
2.1 Vision	4
2.2 Coastal Corridor	4
2.3 Landscape and ecological sensitivity	5
2.4 Visual impact	7
2.5 Sustainability	8
2.6 Site Selection	9
3.0 Design Concept	
3.1 Touch the earth lightly	10
3.2 Design Language	10
3.3 Landscape vs. views	10
3.4 Alternatives	10
3.5 Lifestyle	10
3.6 Site Development Plan – alternative 2	11
3.7 Site Development Plan – part plan & section	13
4.0 Architectural Approach	
4.1 House Design Strategy	14
4.2 House Typology	15
4.2.1 Ridge House	
4.2.2 Dune House	
4.2.3 Thicket House	
4.3 Visual imagery	21
5.0 Draft Development & Building Guidelines	23



"we did not receive this land from our forefathers, we have borrowed it from our children"

Statement of primary principles underlying proposed development and providing background information to the design concept.



CARPE DIEM NATURE ESTATE | *draft outline of development principles*

prepared by architecture co-op February 2006

ARCHITECTURE





1.0 introduction

3

Carpe Diem is in the planning and research phase in preparation for application for rezoning and development as a 'nature estate'. A beautiful piece of largely untouched land hugging the Indian Ocean, encapsulating some of the dreams of its new owners. The scenery evokes a lifestyle at once rugged and relaxed, embracing the flora and fauna of the coastal corridor while respecting the balance of the habitat. This image might represent a leisure utopia for some, and a sound investment for others.

The purpose of this document is to provide background information and the principles underlying the proposed Carpe Diem Nature Estate, and to develop an appropriate innovative environmentally driven strategy for building in this unique environment.

1.1 Background

The project background contextualises the development within the **framework** of the overall coastal corridor, and the aims of the developer. From the wider picture, key issues and principles are identified which relate to the topography of the land, management of the area's ecology and an interpretation of a lifestyle focused on nature.

1.2 Design concept

Our **vision** of the nature estate and its setting give direction to the architecture. A particular integrated approach has been deployed which attempts to weave together sustainable environmental, planning, architectural, legal and technical strategies to ensure that the development is in harmony with this spectacular area.

2.1 Vision

The primary aim of the Carpe Diem Nature Estate is to create a project that is in harmony with its environment and which is based on long term sustainable ecological principles. The intention is to research and develop a "world class" nature estate in balance with this pristine environment, which seeks lead through example and heightens environmental awareness.

In order to do this successfully the developers have initiated a process of detailed specialist research, analysis and evaluation of the immediate and surrounding environment. This 'hands on' consultative approach has sought to understand and interpret the landscape and eco systems, identify constraints, minimise impact and propose innovative environmental solutions to ensure the success of the project.

A series of reports and supporting documents prepared by consultants identify the following key issues to be addressed when considering development:

Regional environmental impact
Local Environmental impact

*The coastal corridor
Landscape sensitivity; Ecology; Fauna and Flora; Visual impact*

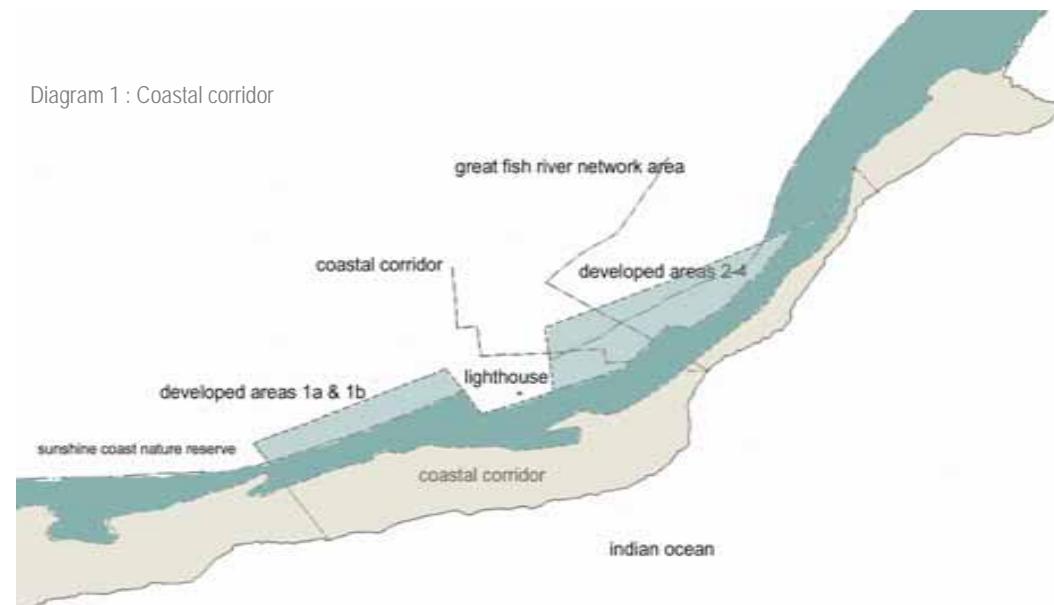
2.2 Coastal Corridor

The nature estate is conceived of as an integral part of the Coastal Corridor and Network areas as defined by the STEP project. Although the development will touch on this area, the development objectives are to provide a substantial net gain to the environment. These include the following: preservation of corridor; Long term management and rehabilitation of corridor eco system; Marine ecology preservation; security; environmentally sensitive approach.

Preservation of the corridor is achieved by primarily locating construction to the least sensitive and damaged areas invaded by exotic vegetation as far as possible, and allowing a continuous broad band of undeveloped land to enshrine the coastal corridor. The estate will be integrated with the Fish River network area and the Sunshine Coast Nature Reserve to the East and West respectively ([see diagram 1](#)). This shall encourage migration and natural ecological processes to continue unhindered.

An environmental fund set out in the Home Owners Association Agreement (HOAA)/Title Deeds shall ensure systematic sustainable long term conservation and management of the flora and fauna and eco system as a whole. The site is currently under threat from exotic invading species as well as grazing animals which threaten the area. The Sunshine Nature Reserve is largely invaded by large stands of alien species and is in a poor condition. The developer shall undertake an immediate long term rehabilitation of exotic invading vegetation from a number of areas as well as reinstatement in line with recommendations and procedure indicated in the specialist report – *Vegetation Assessment* prepared by Jamie Pote, hence the long term management and rehabilitation of the corridor is guaranteed.

Diagram 1 : Coastal corridor



The rich marine area shall be conserved through a **marine ecology conservation** policy enshrined in the HOAA which shall limit activities to those defined 'non invasive'. Furthermore evidence of regular poachers threaten the marine ecology along this strip of coast. A site visit during December with DEAET and Ndlambe Municipality officials revealed perlemoen poachers with a vehicle on the beach. Active vigilant residents shall assist control this growing problem. **Security** shall further be dramatically improved for the area as a whole due to 24 hour on site security and the presence of residents.

All physical structure and cumulative impacts shall be carefully assessed and controlled to **minimise impact** and to fall in line with best environmental practice. Principles commensurate with creating a nature reserve have been deployed including tight control on any domestication of the environment. The Building Guidelines and HOAA shall regulate all development and occupancy issues in line with this. At all times the emphasis is on understanding the environment and creating innovative solutions for the eco system to flourish closely observed by its new curators.

The development shall be integrated with the environment which is seen as the primary resource and the substantial focus and purpose of the development. The creation of this nature estate based on sound, sustainable environmental principles and proper management will help to ensure the integrity and survival of this vulnerable coastal strip.

2.3 Landscape and ecological sensitivity

In considering development possibilities at Palmiet annex 239 the primary objective is to find a solution which "fits" this particular landscape. In order to establish how to approach any development on this site it is important to establish the sensitivity of the environment and ecosystem. The report prepared by Pete M Illgner entitled *Landscape sensitivity assessment of Palmiet annex 239* identifies a series of site specific landscape features including the dune systems, the Littoral active zone, dune slacks, wetlands and vegetation.

2.3.1 No go zones

The report identifies a series of zones of "very high sensitivity" or 'no go zones' which are further elaborated by the Vegetation Sensitivity diagram produced by Jamie Pote (see diagram 2) Hence development proposals have avoided these no go areas which are to be part of the coastal reserve. Zones of "high sensitivity" have also been incorporated into the coastal corridor and development shall be extremely limited and restricted by the most stringent criteria.

2.3.2 Development zones

Other areas have been identified as zones ranging in sensitivity which are suitable for development. Proposals seek to cluster development in these areas and to tailor this to "fit" the different vegetation zones. Thus a sensitive environmentally based planning strategy particular and appropriate to each sensitivity zone has been developed. Broadly speaking density is highest in the least sensitive areas and becomes more and more dispersed with an increase in sensitivity.

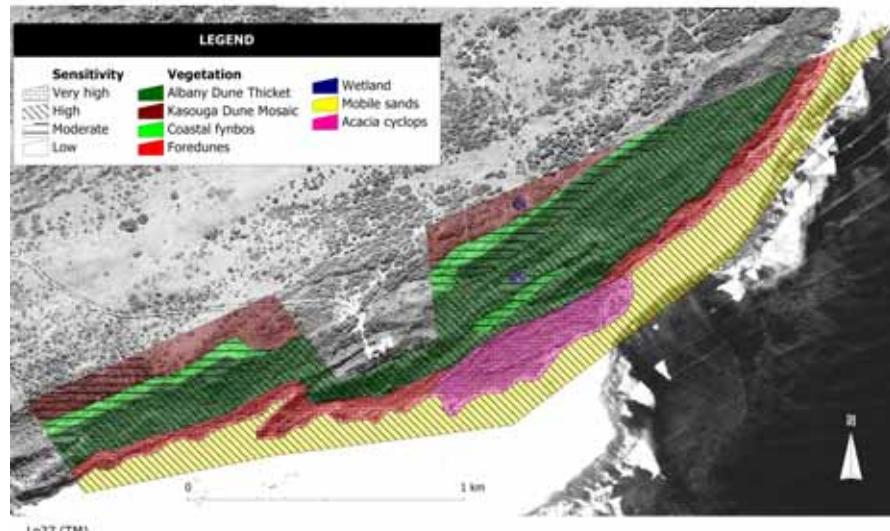


Diagram 2: Vegetation Sensitivity Diagram – Jamie Pote

2.3.4 Topographical features

The detailed and specific variations within the landscape, vegetation and topography shall also inform positioning of sites and infrastructure (see diagram 3). Hence topographical features such as high points, crests, saddles, valleys, slacks level areas etc have been evaluated and all development shall be carefully placed in specific relation to these to ensure a symbiotic relationship with the landscape.

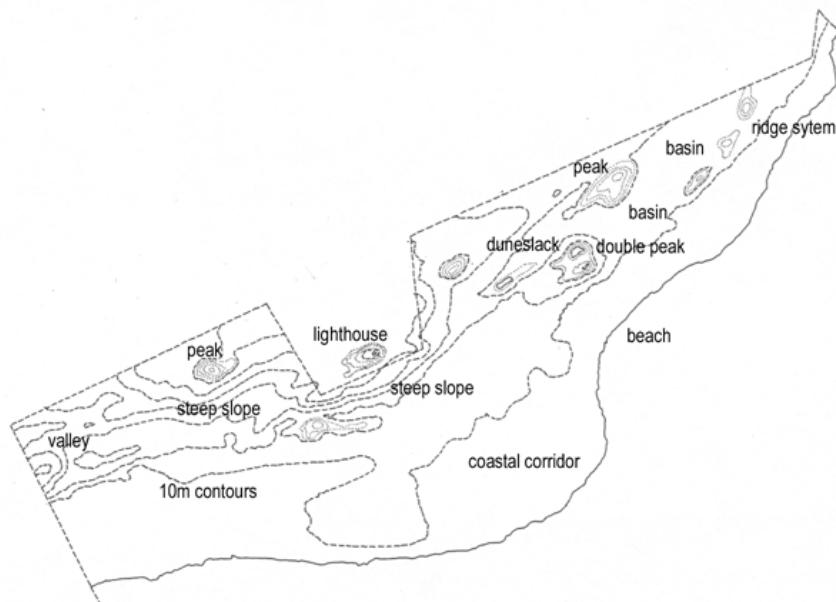


Diagram 3 : topographical features

2.3.5 Vegetation

An impressive range of vegetation occurs on different parts of the site in a roughly banded series of zones, and includes a number of protected species including Milkwood trees. The conclusions of Pete Illgner are that loss of vegetation cover can lead to blowouts, thus careful site selection strategies shall be deployed to ensure that development has minimal impact on the vegetation.



2.3.6 Sense of place

Working with the landscape means siting houses or buildings carefully in relation to natural features and the terrain without dominating it.

2.4 Visual impact

In addition to topographical, vegetation principles of planning, a series of spatial, landscape and architectural concepts have been adopted to further mitigate the impact which development could have on the landscape.

2.4.1 Roads and access

The potential impact of roads on this kind of environment cannot be underestimated and as such need to carefully considered. Roads are conceived of as single width meandering coastal tracks winding along contours between trees and will be experienced as green corridors which will minimise visibility, (see image 4) becoming a positive feature in the landscape. All steep slopes are avoided and no retaining or major earthworks shall be undertaken. Where slopes prohibit roads access shall be provided by elevated timber boardwalks which will float over the natural ground and wrap around trees, vegetation. (see image 5)



Image 4 :



Image 5 :

2.4.2 Infrastructure

Infrastructure and services shall be designed to be lowest impact to the environment in accordance with the relevant regulations and shall be generally grouped below access roads, or fitted below boardwalks hidden from view. Solid waste storage and recycling, water storage, sewerage processing etc shall be discretely hidden using landscaping.

Generally speaking the visual impact of the development when viewed from outside is seen to be of low impact – see report by Albert van der Stok CNdV Africa.

2.4.3 Ridges

However one area which shall be affected is the Southern most boundary of Fort D'Acre. Design considerations made to mitigate this impact include the following; planting of endemic vegetation screen along boundary, minimal development along high points of site in an attempt to ensure that the natural silhouette is preserved. Roof lines of houses sited near ridge shall be restricted to be no higher than the tree/vegetation line along the ridge. (see image 6)



Image 6 :

2.4.4 Light pollution

Lighting shall be tightly controlled to avoid light pollution, only low level lighting shall be permitted and light spill shall be limited to fall within 5m of the building.

2.5 Sustainability

The Carpe Diem vicinity supports a variety of flora and fauna. Diverse ecology coupled with the dramatic landscape reveals the area as a microcosm of the coastal corridor, and represents the estates major resource. Minimising impact on the environment is therefore vital if the natural habitat is to flourish.

Putting in place sound long term, environmentally accountable codes and practises shall assist in developing the sustainability of the development.

An overall strategy as to how the development and individual dwellings fit into the total eco system will go a long way towards developing the sustainable nature of Carpe Diem.

In terms of house design, this means consideration of the total impact of all the services required. Initiatives such as capturing of rainwater, recycling waste, use of solar power where applicable, use of water saving fixtures etc shall be adopted in order for them to be sensitively incorporated into the architectural strategy and aesthetic.



2.0 project framework

9

2.6 Site selection

Pivotal to the success of the development is the meticulous selection criteria of sites. All environmental, ecological and planning principles described shall be integrated with the findings of specialists who shall be mobilised to assist in the final selection process. Further detailed 'on site' evaluation shall take place under guidance of the relevant professionals and experts to ensure environmental imperatives are carried through to final identification and selection.

There are a range of different zones of the property under consideration for development and placing of dwellings. (see diagram 7)

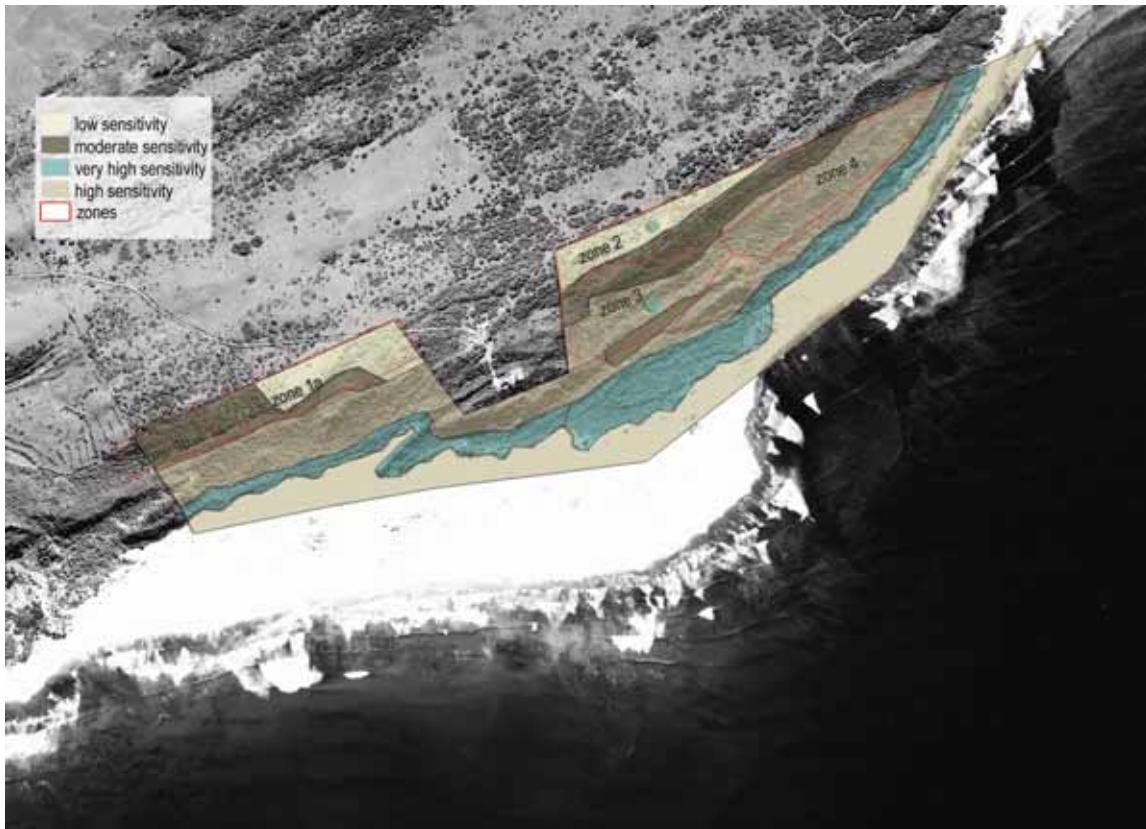


Diagram 7 : sensitivity areas and zones

CARPE DIEM | project framework | site selection

prepared by architecture co-op February 2006

2.6.1 Damaged areas

The first category of site under consideration for development are those which have been denuded of dense vegetation due to grazing. A large portion of Area 2 to the East of the lighthouse site falls into this category as a result of a temporary fence being positioned within the site along the edge of a ridge. The grazing and browsing action of game and cattle have impacted upon the area which is now classified as grassland with bush pockets. A similar condition occurs in a portion of Area 1a which appears to have been used to graze cattle and with similar effect on the vegetation.

As such these areas combined represent perhaps the largest area available for location of development. Sites shall be positioned between the bush pockets in the grassy areas where possible.

2.6.2 Alien invaded areas

The second category of site under consideration are those invaded by alien species. There are three primary areas where there is evidence of invasion.

High density stands exist along the costal dunes, this area straddles the 100m Littoral active Zone and will form part of the coastal corridor and hence has not been considered for development. The area will be carefully rehabilitated and brought back to its original condition, in line with recommendations of the report prepared by Jamie Pote.

Low density stands of aliens exist in zone 1a and 1b, a strip to the north western side of the property, classified as Grassland with bush pockets. The intention shall be to carefully remove the exotic species and locate dwelling sites within these gaps whilst preserving as far as possible any neighbouring pockets of endemic vegetation.

Low density stands in the bush thicket/transitional area on the sea facing slopes of dune in Areas 3 and 4. Small occasional stands of aliens exist interspersed in thicket area which is considered highly sensitive. Extremely limited development is under consideration in this area to be positioned partly in gaps left by removing the alien stands and through identifying natural gaps in the vegetation cover.

2.6.3 Topography and natural features

Identifying the primary natural topographical features and siting dwellings sensitively to these will result in the development being tailored to suit the site conditions which shall assist in achieving a balance between the built and natural environments. Dwellings shall nestle in clearings, and threaded through the natural and topographical site features.

The general strategy has been to group and stagger sites with enough space between them (typically 50 metres.) to try to preserve adequate vegetation between houses to allow continuity of the vegetation and create privacy between units which will be tucked away in the bush. The intention is, as much as possible, for each owner to feel 'alone and at one with the landscape'.



3.1 Touch the earth lightly

The entire approach of the development can be characterised by the idea of "touching the earth lightly". This idea enshrines as primary the natural landscape, ecology and environment and directs that development be tailored to 'fit' this particular place taking care that all measures are taken to minimise impacts and manage the process of development.

The broad planning strategies deployed fall in line with this approach which are further elaborated in the architectural response which follows regional, sustainable, ecological, site specific appropriate principles. A design language shall be developed suitable for this particular locality, the broad principles of this are set out in the Carpe Diem Building Guidelines.

3.2 Design language

Different zones of the property vary in sensitivity and appropriate construction technologies will be selected to suit each zone. Broadly speaking the site is considered highly sensitive and as a result lightweight, minimal impact construction will assist mitigating impact.

Typically dwellings shall be open 'tree house' stilted type buildings set on limited hand excavated pile footings. These light weight steel and timber structures with timber decks inserted between vegetation hover above the natural slopes which are left largely un-touched. Some restricted solid 'wet trade' construction may be allowed in zones considered of low environmental sensitivity following detailed site evaluation. Impact during construction shall be minimised, access roads, boardwalks, storage areas etc all prepared prior to construction which shall be done by hand, with off site pre fabrication techniques being preferred. Construction and delivery vehicles will be small to ensure minimum damage to the environment as a whole.

3.3 Landscape versus views

New owners will understandably wish to maximise their views and may tend to forget about the impact of their house on the landscape and views of others. The house typologies have been conceptualised to minimise the impact on the landscape and to set up a dialogue with site features and views. This will enhance the principles of outdoor living which the environment implies.

3.4 Alternatives

A series of approaches to structuring development at Palmiet annex 239 have been looked into and assessed for viability. Coupled with this detailed on site investigation and analysis an identification of constraints and preparation of recommendations have been supplied by specialists and consultants. A process of detailed consultation and interaction with specialists has been undertaken to ensure development proposals are in keeping with research findings. It is envisaged that this process of detailed consultation and research will continue for the duration of the project.

The coordination and input of constraints and recommendations form the basis for current proposals and have been increasingly adopted when looking into alternative Site Development layouts. Current Site Development layouts are speculative and the intention is to demonstrate the basic principles of the approach as opposed to resolving detail which shall be looked into and refined following further research.

3.5 Lifestyle

The lifestyle implied by the area and the brief is primarily based on spending time in a protected pristine intricate eco system on an untamed part of the coastline. The particular attraction of the Carpe Diem has to do with being 'close to nature' - the unpretentious, sublime and sometimes harsh character of the landscape. At the same time individual homes will facilitate a comfortable and relaxing leisure lifestyle, providing shade from the sun, cool environments in the heat and shelter from the South West winds.

Freedom in nature

'Getting away from it all' is heightened in isolated settings by the sense of being close to nature. This quality of experience can be enhanced in the design by prioritising the connection between inside and outside creating a sense of 'being in the landscape'.

Privacy

Privacy between stands will be achieved through the orientation and siting of the footprint. Combining diverse orientations with a single environmental design strategy requires variants from one house to the next in terms of layouts, depths of eaves and sun protection elements. Privacy within the house is also an important to consider in the design.

3.6 Site development plan

3.6.1 Alternative 2

The proposal is based on 160 dwellings units on the 200 hectare property. All dwellings fall within approximately 34 hectares which represents 17% of the total site area. The remaining undeveloped 80% is designated private nature reserve.

Dwellings

There are 132 dwellings arranged in a fragmented low impact layout within three low to moderate sensitivity areas. The remaining 28 units are carefully threaded into the transitional zone of the coastal thicket.

3.6.2 Alternative 3

The proposal is based on 160 dwellings units on the 200 hectare property. All dwellings fall within approximately 30 hectares which represents 15% of the total site area. The remaining undeveloped 85% is designated private nature reserve.

Dwellings

There are 140 dwellings arranged in a fragmented low impact layout within three low to moderate sensitivity areas. The remaining 20 units are carefully threaded into the transitional zone of the coastal thicket.

Due to the dispersed layout, preservation of vegetation, tightly controlled dwelling sizes and low impact infrastructure it is anticipated that the total area of the site disturbed by the development shall be less than 10% of the total. Thus a minimum of 90% of the site shall remain untouched and shall be integrated with the unique coastal corridor and network areas.

Dwelling typologies have been developed and tailored to suit particular locations of varying sensitivity. The basic principle which has been deployed is that houses become lighter (light weight structure touches the earth lightly) and more fragmented (houses made of parts threaded into the landscape between the trees) the higher the sensitivity of an area.

3.6.3 Roads and access

A narrow winding open concrete interlocking block road planned at grade and following contours links the different parts of the site granting discrete access to the majority of the dwellings. In highly sensitive areas access is granted by raised timber boardwalks. Beach access is granted at 3 new points with raised timber boardwalks, access to beach area in a South West direction to mitigate blow outs. The existing path from the lighthouse to the beach shall also have a boardwalk installed to minimise impact of foot traffic on the area.

The site development plan aims to coordinate and integrate all the preliminary input of the specialist professional team to form a viable proposal.

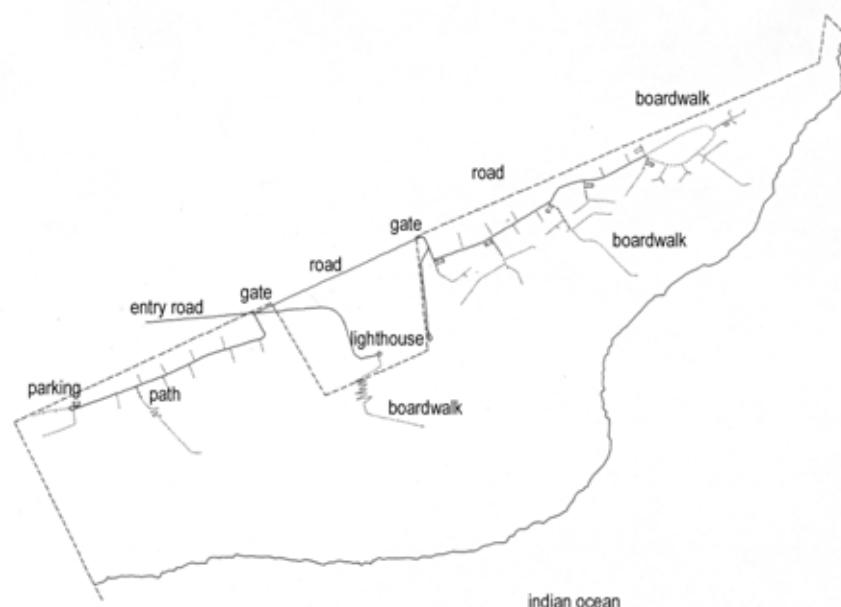
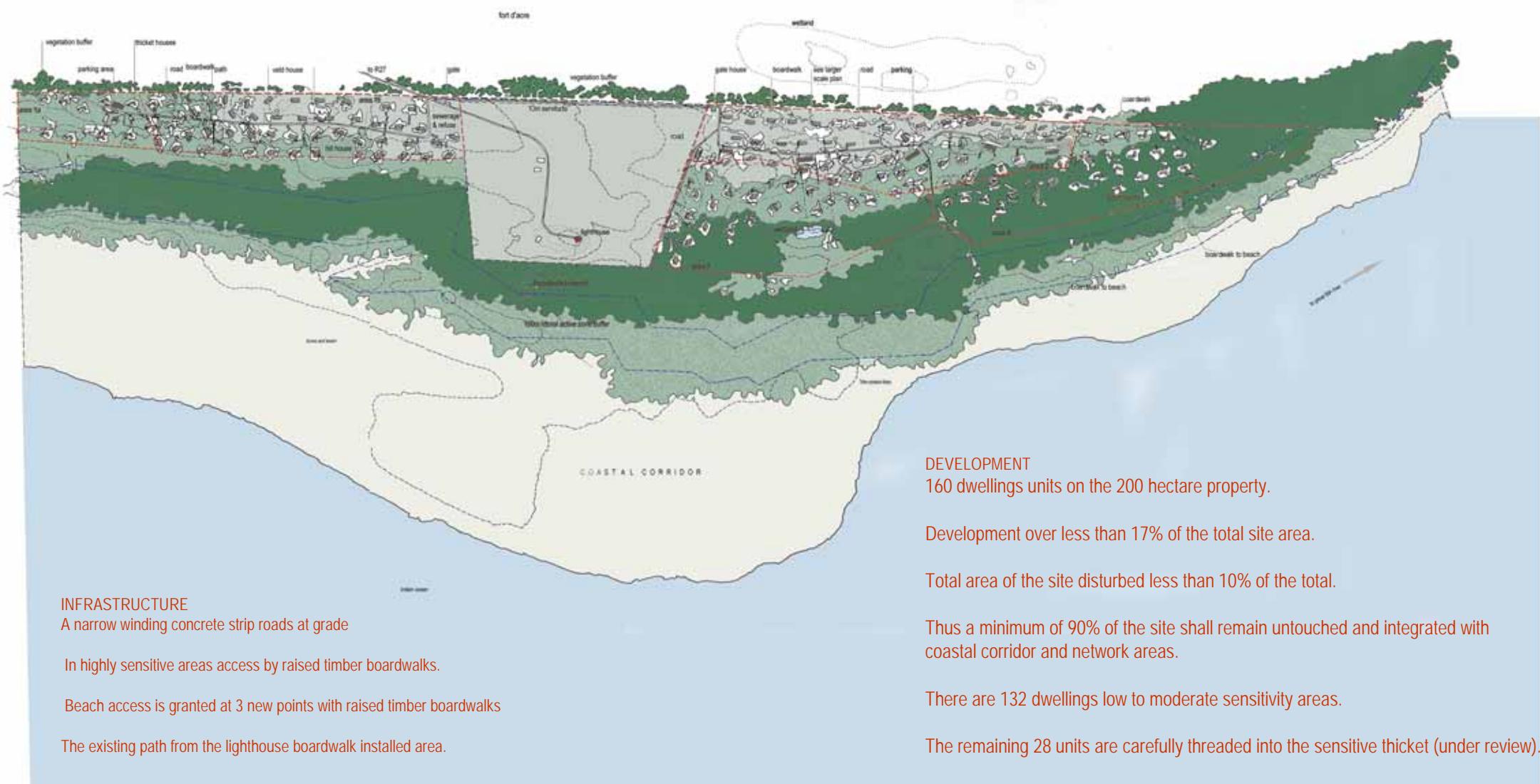
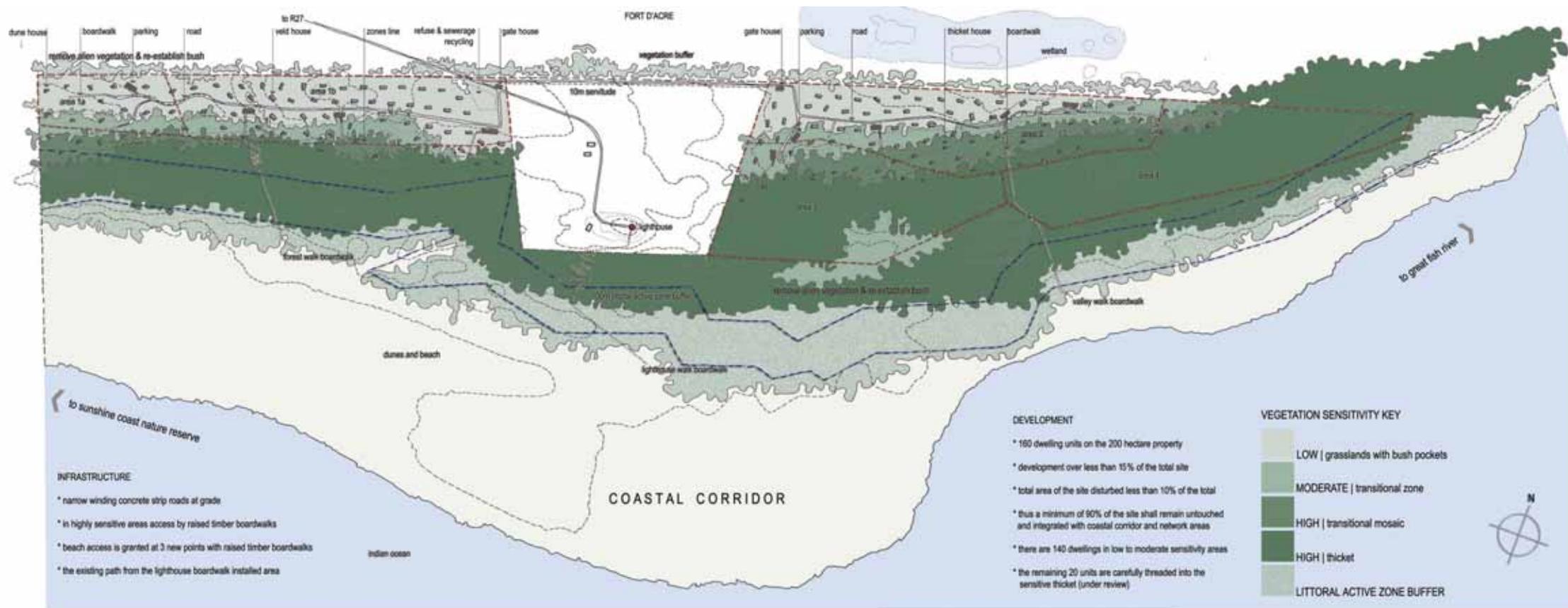
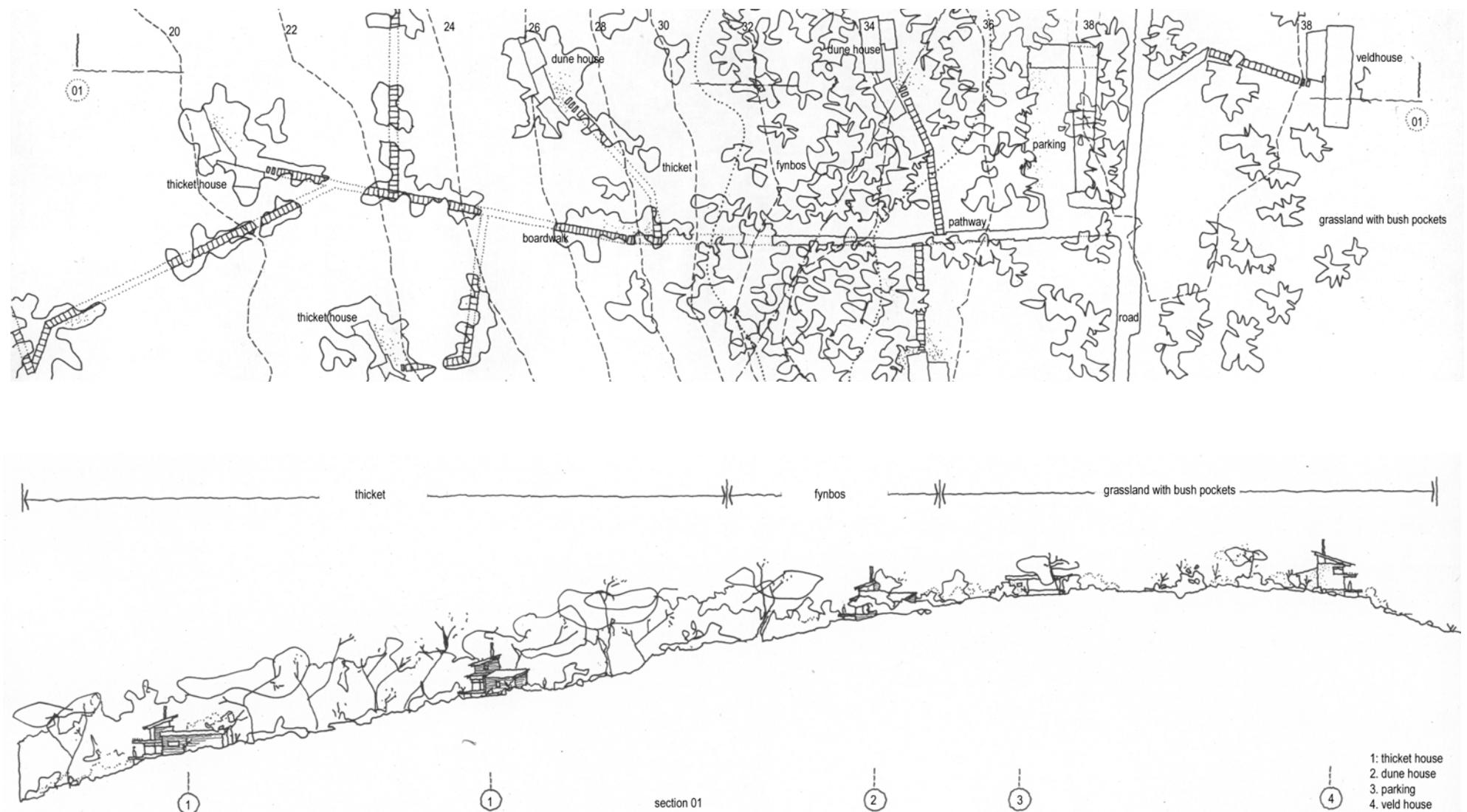


Diagram 8: infrastructure







4.1 House design strategy

4.1.1 Each site is unique

Within the umbrella theme of a shared design language, individual units will adapt to the particulars of a setting. Each site is unique and as such houses will be tailored to suit the particular conditions, trees, site features of the site. Houses shall generally be subtle, light weight and shall be designed to suit the particular sensitivity of its specific locality. Some houses will be located in thick bush with close views and a main outside room made in the form of a 'clearing'; others may perch on the slope of a dune with a partly cantilevered deck appearing to teeter over the slope edge.

4.1.2 House which breaths

The houses will be designed so that they 'breath' in response to the seasons and the weather, and adapt to the particulars of the site. Technically this relates to doors, shutters, spaces which allow airflow and flexible use; in terms of the plan, the range of indoor and outdoor spaces which provide settings for activities at different times of the day or year.

4.1.3 Inside/Outside

The principle of harmonising with nature resides as much in facilitating a lifestyle in dialogue with the landscape as with materials and architectural style. The motif of ambiguous inside/outside space and outdoor living will be an important factor in the development of a design concept.

4.1.4 Style

It is important to create regionally appropriate site specific sensitive architectural proposals which responds innovatively to all issues of the context, particularly to the special unique character of each site. For this reason no historical references or imported styles will be allowed. The development is seen as a coastal nature reserve. Houses are visualised as touching the earth lightly, carefully nestled into the thick vegetation and clearings, looking outwards to obtain dramatic views.

Generally, this implies, single storey houses comprised of different parts connected by decks and raised walkways set purposefully in the landscape amongst the vegetation. These dwellings shall be carefully made, lightweight, steel and timber frame structures with sheltering eaves, wide openings onto timber decks, hovering over the landscape.

To this end all individual housing proposals will be scrutinised in detail in the design review process to ensure that these are in keeping with the ethic of the environmental and landscape ethics.

4.1.5 Size

The size of the footprint of each house typology, along with the associated external areas, access, services and infrastructure is to be carefully restricted. Limiting the footprint is crucial in mitigating impact on sites and hence the environment. These will all be controlled by an accommodation circle of 12 m radius within which all building work shall be located. In certain instances flexibility of this may be required when planning in detail around prominent site features and vegetation.

'Veld houses' are limited to a maximum of 280m² which includes, verandas, walkways, open passages etc with 100m² decks, terracing etc including pools. The maximum building footprint at ground level is 200m² remainder on 1st floor.

'Dune houses' are limited to a maximum of 240m² which includes, verandas, walkways, open passages etc with 100m² decks, terracing etc including plunge pools. The maximum building footprint at ground level is 170m² remainder on 1st floor.

'Thicket houses' are limited to a maximum of 200m² which includes, verandas, walkways, open passages etc with 100m² decks, terracing etc. The maximum building footprint at ground level is 140m² remainder on 1st floor.

4.1.6 Height

Limiting height is also an important factor in controlling visual impact. Vegetation is generally 3-5 m high and as such will mask much of the development from view.

Heights will be restricted to no more than 7 m from natural ground level at any point. As such a line running parallel to the natural ground line will determine the maximum height of any part of a building, excluding chimneys which can be 1m higher than this to comply with National Building Regulations.

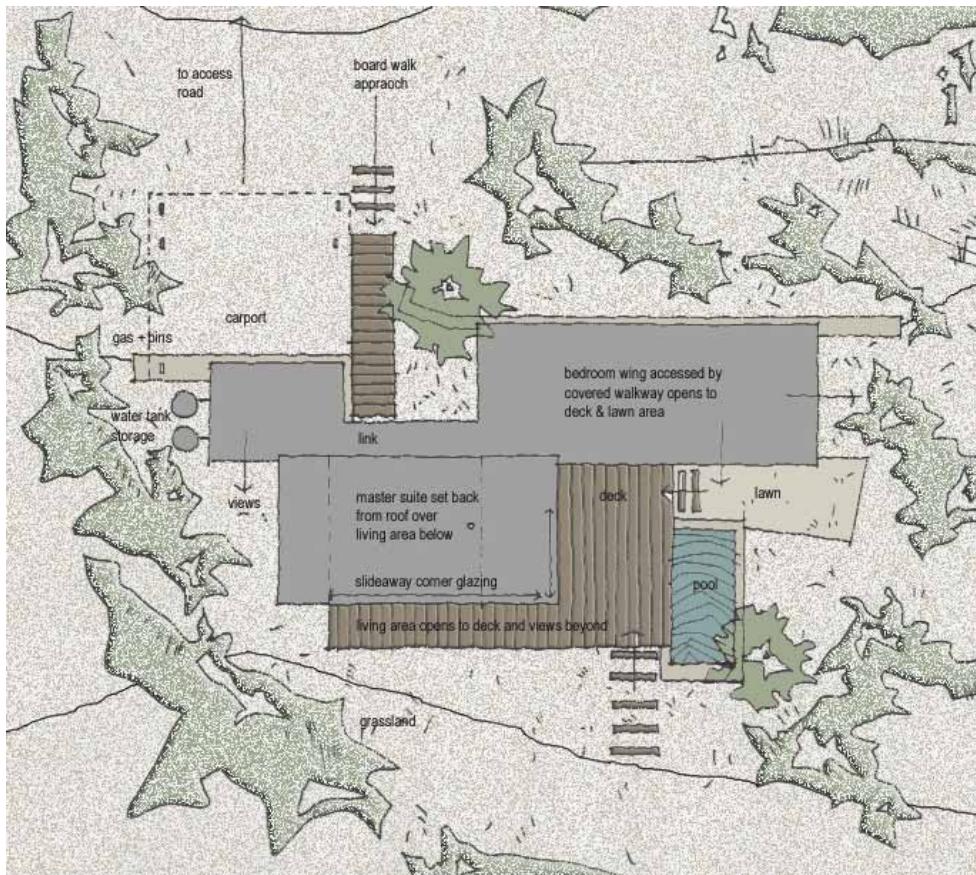
Buildings sited near the ridges shall be further limited so that all roofs are lower than the tree line along the ridges.

4.1.7 Materials

A limited range of materials that refers to the vision of the development has been developed, including natural timber clad walls, shutters, and wide areas of glazing, floating low mono pitch roofs and overhanging eaves, verandas, timber decks and balconies all creating a light weight and intricate ensemble. This palette links the house into the landscape, while allowing for a balance to be struck between sameness and difference.

4.1 House typology

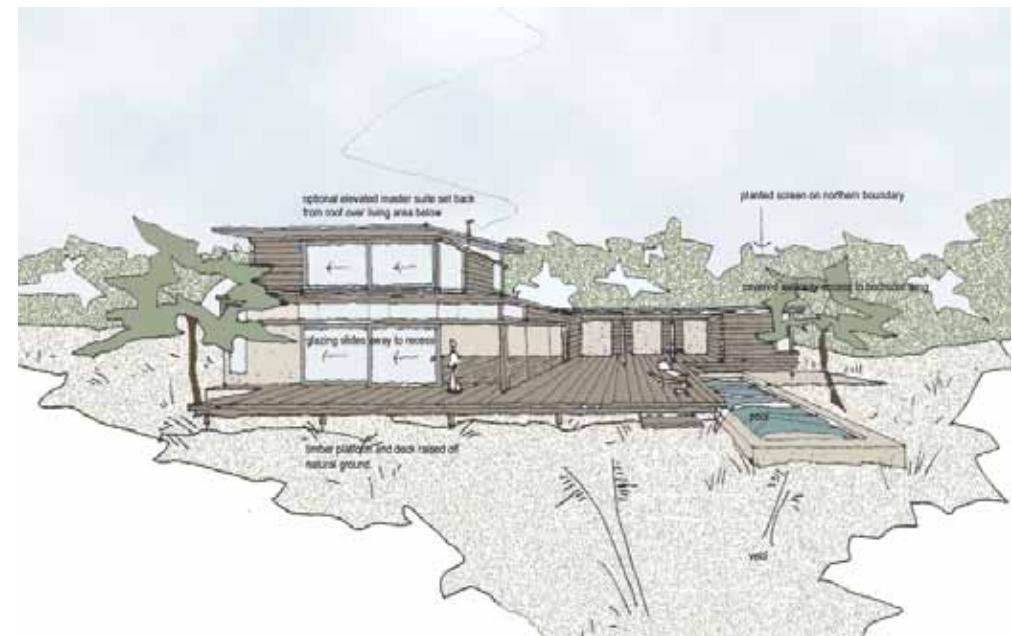
A series of three unique house typologies have been developed to suit the specific vegetation, topographical and sensitivity zones. These types are illustrations of a set of design principles rather than a prescriptive built form. Each site is unique and the specific design of a dwelling to suit the particular nature of each site shall be encouraged. The vegetation zones are not clearly defined so the typologies developed are intended to be informative of an appropriate approach.

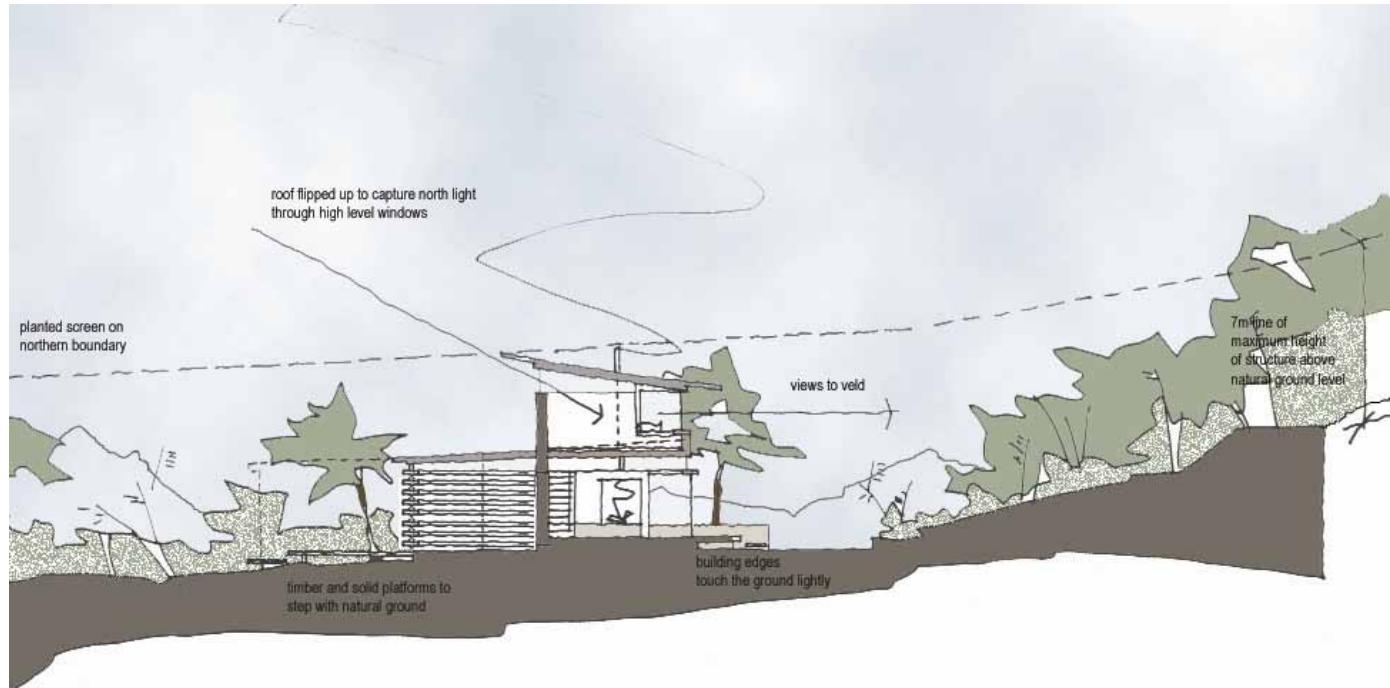


4.1.1 Veld house

Houses with road access set close to the rear northern boundary in the least environmentally sensitive areas of Areas 1a and 2 can have greater flexibility in siting and construction technology. These gently undulating grassy areas with bush pockets have generally stable ground conditions and can handle the highest density of dwelling units. These houses shall be inserted into existing clearings in the bush, with parts of the houses peep over the bush catching distant views & north light.

Due to the low sensitivity of these sites, a more simple linked form of house and a relatively conventional construction technology can be used in part. The site conditions might allow for a masonry and concrete base however any elevated levels should be lightweight to minimise the visual impact.





CARPE DIEM | architectural approach | house typology : veld house

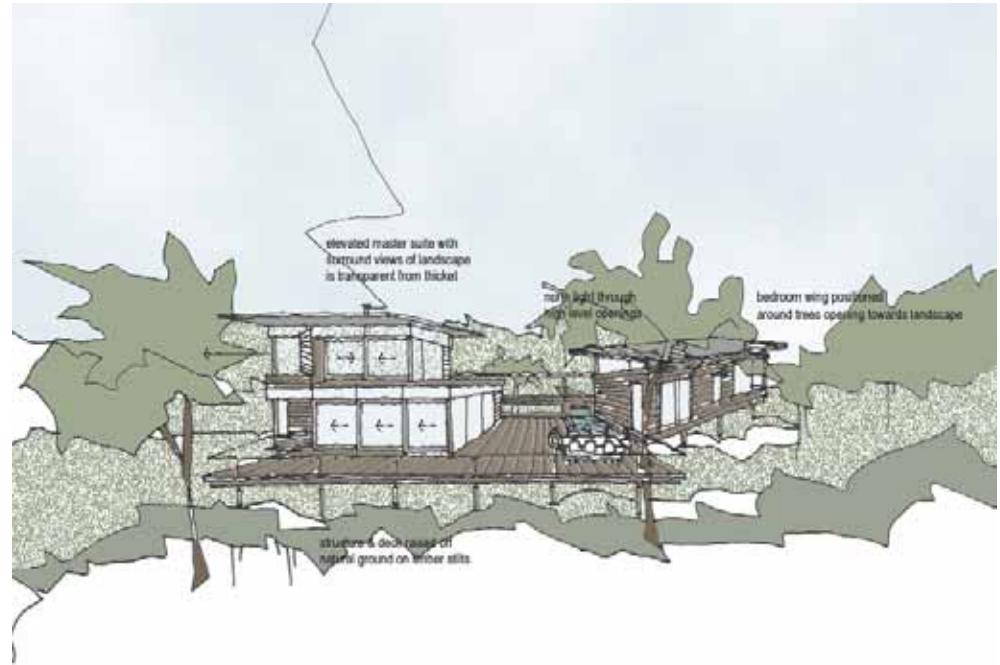
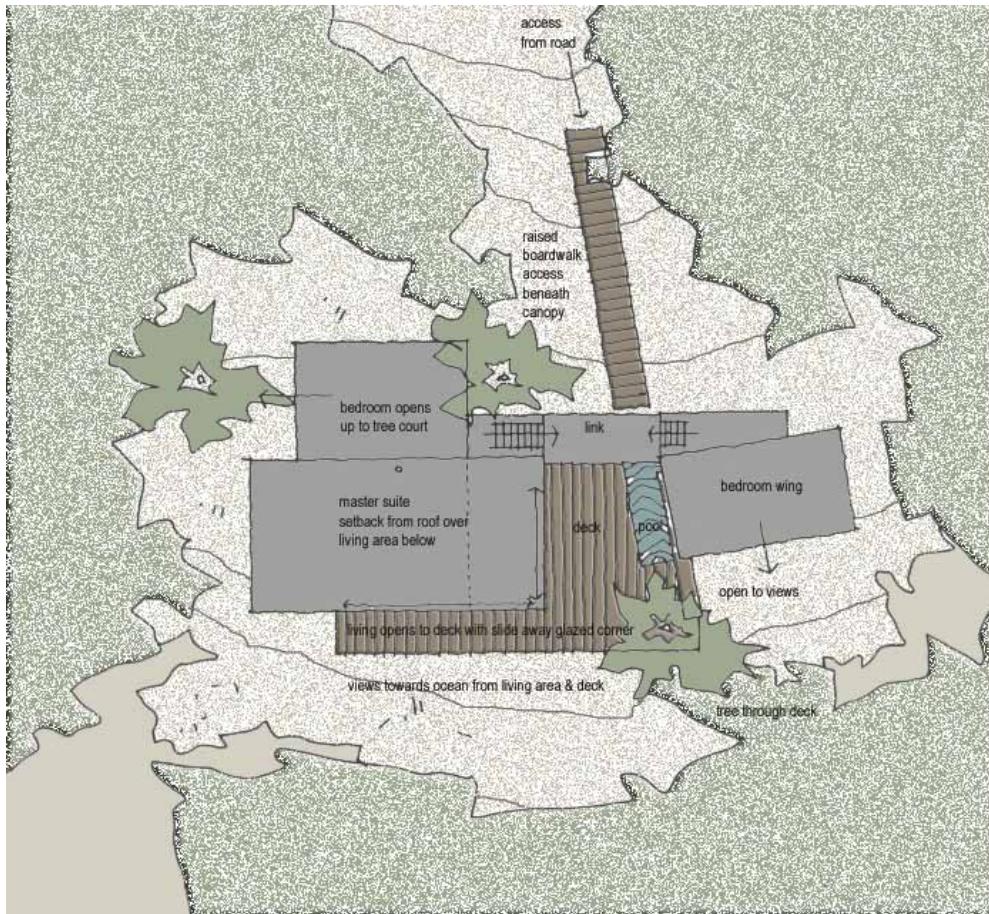
prepared by architecture co-op February 2006

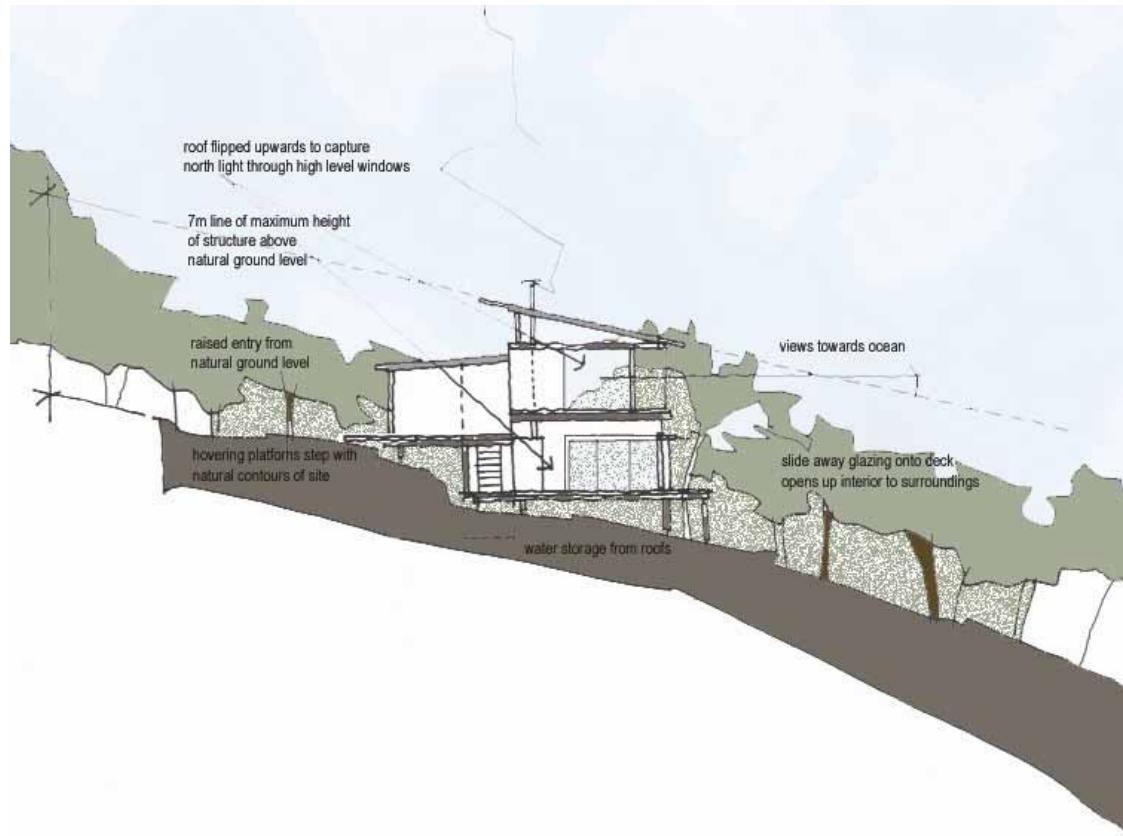
ARCHITECTURE



Dune house

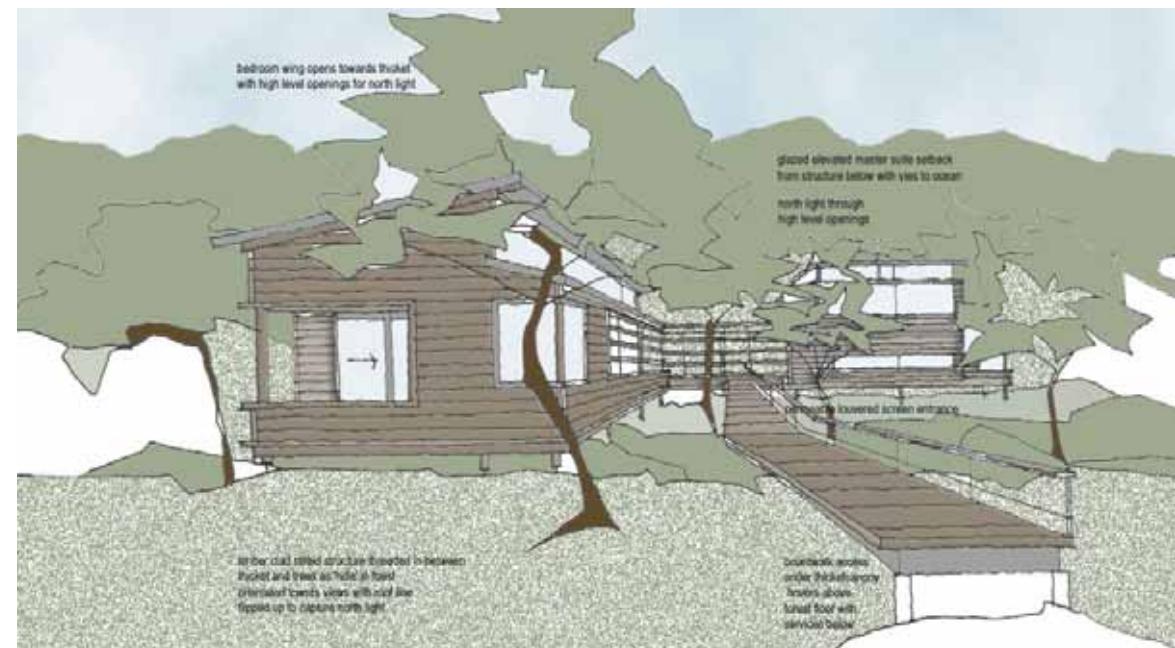
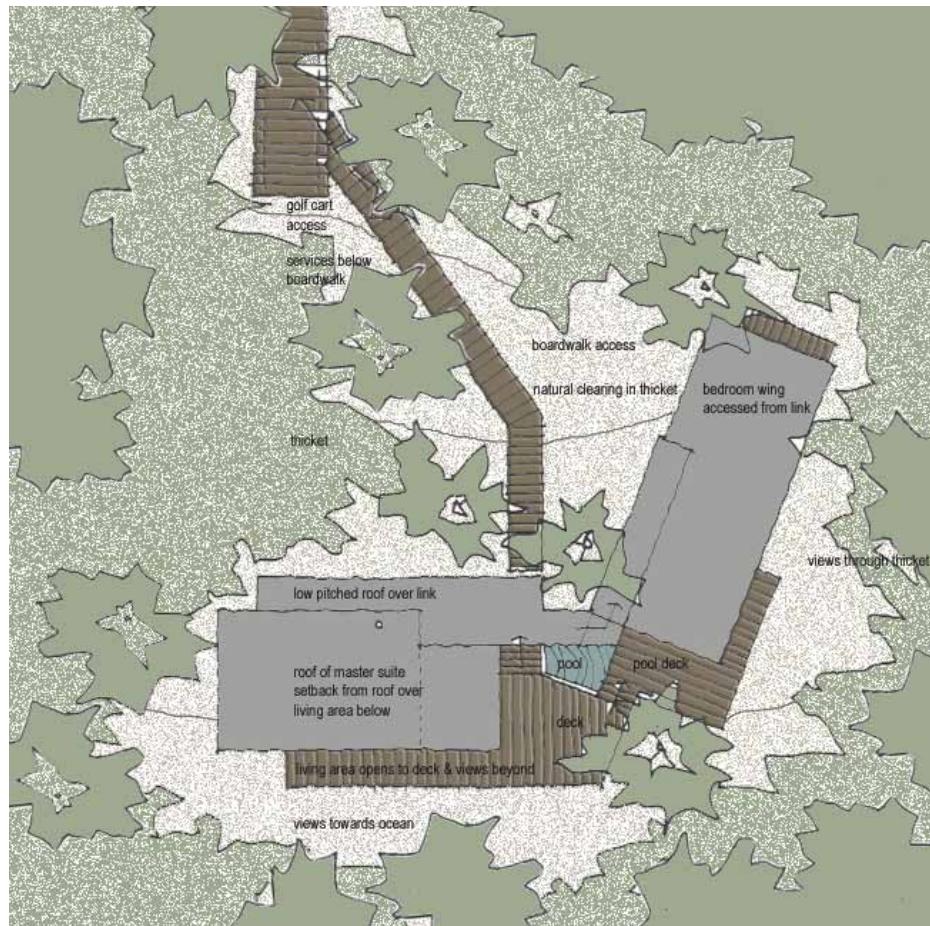
This typology is for a house set on a steeper slope which hovers and steps with the landscape with wide open views. Since the area is specified as moderately sensitive, the typology is conceived of as a largely lightweight building. These sites border in parts on the thicket areas and as such will be close to and around some mature vegetation. Thus this unit is conceptualised as parts inserted between vegetation, touching the natural ground lightly. The fragmented form will allow flexibility in sensitively siting these amongst the existing vegetation.

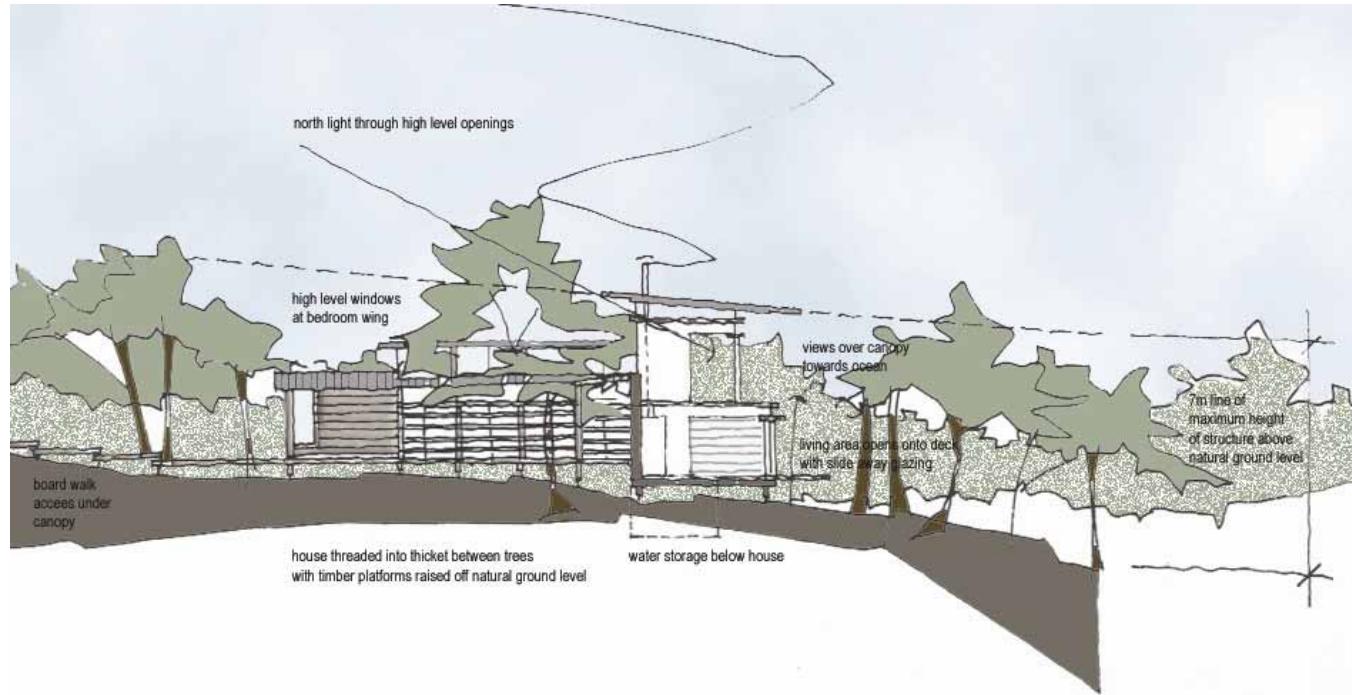


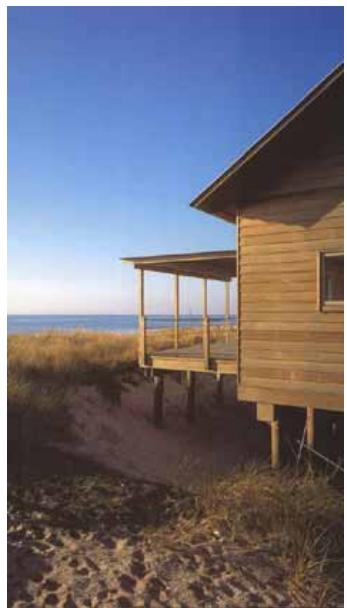


Thicket house

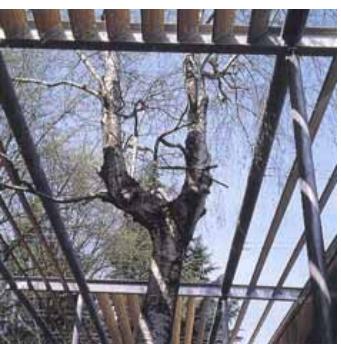
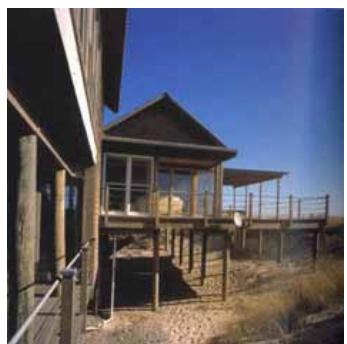
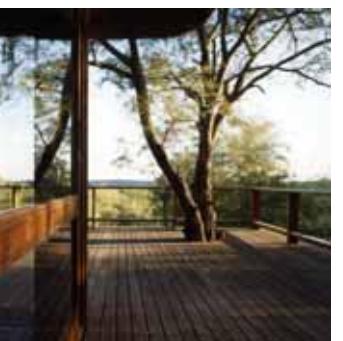
These houses are in the most sensitive areas, sited in clearings between trees carefully identified on site by specialists. The houses also have a fragmented form and are threaded into the transitional thicket areas where possible. This shall allow continuity of the vegetation in and around the houses which shall be submerged in the vegetation. These dwellings are entirely light weight steel and timber frame construction and shall touch the earth in the minimum number of places. Access shall be by raised boardwalks which allow game to wander freely below. Services shall run below access boardwalks.







- Touch the earth lightly
- Allow the landscape/environment to flourish
- Plan buildings to fit each site between trees & vegetation and to suit specific development zones
- Impact minimised through careful planning of services, siting houses etc.
- Control visual impact by adopting appropriate height restrictions and a careful siting allowing continuity of vegetation



CARPE DIEM | architectural approach | images

prepared by architecture co-op February 2006

ARCHITECTURE





22

- Materials are in harmony with landscape.
No contrasting materials, colours, shiny surfaces etc.
- Single lane access roads winding between trees and vegetation following least sloping areas
- Hovering boardwalks meander through vegetation
- Forest and wetland boardwalk



CARPE DIEM | architectural approach | images

prepared by architecture co-op February 2006

ARCHITECTURE



Development & building guidelines : draft

This development and building guideline document has been prepared to identify key principles and parameters for control and regulation of all proposed development at Carpe Diem Nature Estate. The purpose of this document is to give form to the approach, ideas and principles which underlie the development as set out in Architecture Coop document dated 27th January 2006 entitled *Carpe Diem - Outline principles for development*.

This document shall be read in conjunction with all relevant *Municipal and Provincial by-laws*, *National Building Regulations (NBR)*, *SABS*, as well as the *Carpe Diem: Home Owners Association Agreement (HOA)* and *Carpe Diem: Environmental Management Plan (EMP)*.

These development and building guidelines are preliminary in nature and shall be updated from time to time to incorporate on going research by specialists and consultants into the environmental and ecological aspects of the proposed development.

Vision

The overall vision for the project is to create a private Coastal Nature Estate. This estate shall offer owners unique opportunities to live within the pristine coastal environment in harmony with nature.

The Development and Building Guidelines are set out to ensure that all buildings and development are planned around strict environmental criteria and incorporate a sensitive low impact approach. The intention is to guide the individual design process to achieve appropriate innovative responses to building in this extraordinary environment.

Design approach

Due to the fact that each site has unique features and conditions each design shall be tailored to suit the 'particular nature' of each site. A variety of architectural strategies and types of houses are imagined, these shall be linked by adopting a similar environmental approach, commencing with detailed *Site Evaluation*, developing an appropriate site and building strategy and culminating in detailed design.

Three typologies of dwellings have been conceived of in order to cater for sites of varying conditions and sensitivity (see house typologies). These are illustrations of the environmental, architectural and spatial principles intended for houses set in different parts of the site.

In an effort to mitigate impacts and 'touch the earth lightly', dwellings shall be predominantly silted lightweight timber and steel frame structures linked by timber boardwalks and decks, with solid 'wetworks' limited in scope. The use of a similar palette of materials, elements and components will further coordinate the architectural language and allow houses to be unique but have a common thematic basis.

The Development and Building Guidelines further seek to place a series of broad controls to regulate the impact on the landscape as a whole. Issues such as size, height, materials and form are hence included in this document. Infrastructure including roads, boardwalks, common parking areas, services, waste management shall also be subject to stringent environmental and design regulation.

Site evaluation

Owners shall commission at their cost a detailed *Site Evaluation* prior to commencing any design work. The evaluation shall require input from the Environmental Control Officer (ECO), Land Surveyor, Botanist, and Geotechnical Engineer, possibly other specialists in highly sensitive areas. A detailed *Site Evaluation Plan* typically at a scale of at least 1:50 indicating the following shall be submitted, to the *Carpe Diem: Design Review Committee (CDRC)*:

- All topographical information
- All adjoining sites and sites which may be visually affected
- All vegetation identified and recorded in detail with special reference to protected species.
- Infrastructure and access

Once the information has been collated, possible locations and a site development strategy shall be discussed with the ECO and an appointed member of the CDRC and any other relevant specialists.

Design review

This process forms a critical part of ensuring that all environmental and design issues have been integrated into the design from concept to completion.

A four stage of review process shall be followed. Each stage shall require submission of drawings for comments and input by the *CDRC*, comprising of relevant specialists and consultants as required. Once comments have been integrated into the design two sets of drawings shall be supplied to CDRC for approval, once stamped by the CDDRC the architect may proceed to the next stage of review.

All design review/scrutiny fees as set out in the HOA shall be paid upon submission at each stage of review. Review or comments shall not be commenced without payment in full. It shall be arranged that the CDRC responds to written submissions within a prescribed maximum period to be finalised.

Concept

Establishment of site development strategy and principles including: location of buildings, exterior spaces and access; defining the building envelope; relationship to vegetation and site features; relationship to levels; relationship to neighbouring sites.

This meeting shall be held on site.

Detailed design

Further detailed information required which shall include: space standards - plan sizes, heights in relation to natural ground levels and vegetation; materials identification; servicing reticulation; water storage system; detailed area schedule;

Dwelling shall be pegged out on site, with profiles to be erected if required to assess proposal in detail.

Technical documentation

Full local authority approval plans prior to submission to Ndlambe Municipality shall be submitted to the CDRC. Once these have been approved, submission to Ndlambe can be effected.

Construction

Detailed setting out on site prior to commencing the works. Identification and protection of trees and vegetation. Materials storage; site levels and datum; Certification by registered land surveyor shall be required upon completion that dwelling is constructed in accordance with approved design.

Professional team

All owners shall appoint professional team not limited to but including the following:

Architect

All owners shall be required to employ an Architect from the Carpe Diem selected panel of approved architects all of whom shall be registered with the South African Council of Architects (SACA). The appointment shall be for a 'full service' from inception to contract administration in terms of the Institute of Architects Procedural guide (PROCAP).

Engineer

All owners shall be required to employ a Structural Engineer from the Carpe Diem panel of approved Engineers all of whom shall be registered with the South African Association of Consulting Engineers (SAACE) and shall be professionals registered with the Engineering Council of South Africa (ECSA). The appointment shall be for a 'full service' including site inspection in terms of including level 3 site supervision in terms of the model form of agreement for Consulting Engineers as produced by the SAACE.

Botanist

All owners shall appoint a Botanist from the selected panel of approved Carpe Diem Botanists.

There shall be three areas covered by the appointment from concept to completion:

Site Evaluation

Identification, mapping and location of all vegetation in detail (type, height, canopy, trunk type and size, etc) for inclusion in the Topographical Plan.

Site Works

Inspection and protection of vegetation during site works,

Completion

Inspection and rehabilitation of site and vegetation after completion.

Land Surveyor

All owners shall be required to appoint a Land surveyor from the Carpe Diem selected panel of approved Land Surveyors.

The appointment shall be primarily cover three areas:

Site Evaluation

Preparation and production of a detailed topographical plan of the site including the following: all levels shown as contours at 500mm intervals in relation to Mean Sea Level; all adjoining sites, access roads and services; all high points and areas or sites which may be within the visual field; all vegetation; The Site Evaluation Plan shall be supplied in electronic format to CDRC prior to proceeding with the Concept phase.

Site Works

Verify setting out and levels correct on site prior to commencement of the works.

Completion

Verify in writing that the works comply in all ways with the approved plans.

Contractors

All owners contracting teams shall be subject to the Carpe Diem: Building Process Regulations; Rules for Contractors and any related documents or annexures as set out in the HOA and *Carpe Diem: Environmental Management Plan (EMP)*

Construction protocol

The construction process shall be carefully managed and controlled in order to limit damage to the environment during construction. Prior to commencement of construction of dwellings, roads, access and infrastructure shall be installed by the developer.

All construction companies shall be required to enter into a detailed written Agreement - *Carpe Diem: Rules for Contractors* which shall establish all conditions pertinent to the Estate as set out in the HOA and EMP. This shall include the following controls: defining the site area; protection of vegetation; provision of on site ablution facilities and services; transport vehicle restrictions; materials storage and delivery; access times; location of wetworks; site cleaning; codes of conduct for staff etc.

Infrastructure

All roads, boardwalks, lighting signage, gate houses and services shall be subject to same principles as set out in Building Guidelines. For further detail see the relevant SABS 1200 specification.

Roads: external

To be finalised

Roads: internal

Roads shall be located carefully, where possible these shall run along contours, meander through vegetation preserving the canopy. These narrow 3m wide country roads shall run at grade, with strategic widening to facilitate passing as required, constructed to Civil Engineering specifications using "armaflex" interlocking block system shall be constructed to within 20m of site peg, if not see Boardwalk: Access to Dwellings below. This "open" block system shall be set flush with the natural ground levels and shall be coloured to match the natural ground, shall allow existing ground water drainage to continue across roads and through the surface hence minimising erosion. No kerbing, pavements, road markings or street lighting shall be constructed or installed. Topsoil removed to create road area shall be worked into the top 100mm of block, which shall allow endemic vegetation to take root.

Boardwalks: to houses and beach

Raised lightweight steel and timber boardwalks shall be threaded between vegetation for access to some dwellings and to beach areas. These shall be planned to minimise impact on the landscape and allow continued free movement of fauna.

Boardwalk: Access to dwellings

Where only boardwalk access is possible the developer shall supply boardwalks within 20m of site peg. Owners shall construct remainder to match to approval of CDRC. Boardwalks shall be utilised during construction of houses for access to those sites not accessible by road and shall be the only means of access. These shall be constructed to allow for golf cart loading.

Boardwalk: Beach access

Three 1,2m wide boardwalk access points to beach areas are planned. One along the existing lighthouse path "lighthouse walk", one on the Eastern side "valley walk" and one to the Western side "forest walk". All foot traffic is to be limited to boardwalks to ensure impact on environment minimised.

Common parking areas

These areas shall be carefully sited to ensure that they are, where possible, screened from view and paved as for internal roads. These shall be utilised by houses with boardwalk access only. Owners shall be entitled to two parking bays where they are entitled to construct a garage to design as supplied by CDRC and to comply with *Carpe Diem: Building Guidelines*.

Electricity Lighting

Electrical reticulation, underground, routed adjacent to roads, access boardwalks and brought up to 20m of each site. All meter boxes to be hidden from view. Owner to connect to supply.

Waste recycling

Storage area constructed as designed by *Carpe Diem: Project Architect*.

Sewerage

In accordance with *Carpe Diem: Engineering specifications*

Gate houses

2 gatehouses shall be constructed at the entry to Estate as designed by Carpe Diem : Project Architect.

Fencing

To be finalised

Fire protection

Fire protection in line with SABS, and any relevant regulations, as set out in the HOA.

Accommodation restrictions

The variety of vegetation, topography and sensitivities may determine certain areas are more restricted than others. The Building and Development Guidelines set out the broad parameters of control and regulation. However, detailed site information and sensitivity may lead to 'additional restrictions/relaxations or conditions of development' being established for specific sites. This may not be evident at time of site selection and as such may have implications for the kind of services, access and generally the type and size of accommodation possible on these sites.

Height

Limiting height is also an important factor in controlling visual impact. Vegetation is generally 3-5 m high and as such will mask much of the development from view. Care shall be taken to preserve vegetation, trees and branches where possible. Building shall be located wherever possible within clearings and gaps with minimal impact.

Heights shall be restricted to no more than 7 m from natural ground level at any point. As such a line running parallel to the natural ground line adjacent to the elevation shall determine the maximum height of any part of a building, excluding chimneys, which can be 1m higher than this to comply with National Building Regulations.

Dwellings shall generally be maximum double storey, maximum of 40% of the accommodation shall be permitted at first storey level. This portion of the house shall appear to 'grow out' of the roof of the ground floor and shall be minimum 50% glazed.

Buildings sited near the ridges shall be further limited so that all roofs are wherever possible lower than the tree line along the ridges.

Size

The size of the footprint of each house typology, along with the associated external areas, access, services and infrastructure is to be carefully controlled. Limiting the footprint is crucial in mitigating impact on sites and hence the environment. These shall all be controlled by an accommodation circle of 12 m radius from the site peg within which all building work shall be located. In certain instances flexibility of this may be allowed when planning in detail around prominent site features and vegetation.

No double or second dwellings or 'granny flats', one kitchen only, all staff accommodation and storage to fall within area of the house.

Veld houses

- Maximum gross internal floor area 280m² (includes all accommodation, storage, any garaging, carports, verandas, walkways, open passages etc).
- Maximum external areas shall be 100m² (includes all decks, terracing, paving, pools, braai areas etc). A maximum of 40% of this shall be covered or roofed.
- The maximum building footprint at ground level shall be 200m² excluding external areas.

Dune houses

- Maximum gross internal floor area 240m² (includes all accommodation, storage, any garaging, carports, verandas, walkways, open passages etc).
- Maximum external areas shall be 100m² (includes all decks, terracing, paving, pools, braai areas etc).
- The maximum building footprint at ground level shall be 170m² excluding external areas. A maximum of 40% of this shall be covered or roofed.

Thicket houses

- Maximum gross internal floor area 200m² (includes all accommodation, storage, any garaging, carports, verandas, walkways, open passages etc).
- Maximum external areas shall be 100m² (includes all decks, terracing, paving, pools, braai areas etc).
- The maximum building footprint at ground level shall be 140m² excluding external areas. A maximum of 40% of this shall be covered or roofed.

Structure

Dwellings shall generally be lightweight structures set on stilts which float slightly above the natural ground. These structures shall typically be timber/steel frame construction. All building components and element shall also be lightweight (suspended timber floors, or hand installed 'rib and block' concrete or similar approved flooring system, extensive glazing, timber or profiled steel clad insulated dry walls, profiled sheet and timber roofs, timber decks etc).

The stilted base shall limit contact with the ground which shall help to reduce impact on root systems, vegetation, and the topography.

Traditional 'wet works trades' shall generally be limited. Certain areas of the site are of low sensitivity and it may be possible following Site Evaluation to allow limited wetwork construction.

Natural levels

The natural topographical form and levels of every site shall be kept intact which shall ensure natural run off processes continue and any possibility of erosion is minimised. No 'cut and fill' or levelling of sites or terracing shall be permitted on moderately or highly sensitive sites.

Foundations

Generally speaking, hand excavated pile type footings set below the natural ground levels shall be used. It is important to minimise the number of contact points and the size of these to mitigate environmental impact. To ensure this a steelwork base structure for dwellings and decks is preferred over timber as spans are greater which will reduce the number of pile footings required.

The design and detail of these shall be determined by a Structural Engineer.

In certain low sensitivity areas, predominantly on the Northern edge of Carpe Diem some traditional strip footings may be allowed.

Walls

The open light weight theme is further developed by the walls. Framed open glazed structures allow glimpses through buildings which seem to merge with parts of the landscape. This blurring of boundaries between interior and exterior helps to fragment dwellings and create permeable structures, bringing nature and buildings closer together and hence minimising visual impact both for adjacent owners as well as for the dwellers themselves.

Walls shall generally be finished as follows:

- Horizontal or vertical ship lap boarding in natural timber, matt finish or untreated, or painted approved colour palette.
- Standing seam or "Victorian" profiled aluminium/ steel sheet to approved colour palette.
- Horizontal or vertical fibre cement boarding, painted to approved colour palette.

Where solid wet works may be deemed appropriate walls shall be finished as follows:

- No brickwork shall be permitted higher than 2.5m above natural ground level at any point, i.e. ground floor only.
- No more than 30% of any elevation shall be constructed of solid brickwork, concrete or genuine stonework.
- All brickwork to be plastered to a wood floated finish, tinted natural plaster or matt finished paint to approved natural tones.
- Use of genuine stonework shall be encouraged and shall be light coloured 'dry pack' stone to approved samples. No quoins, rusticated, keystone, dressed or 'historic' style stonework shall be allowed.
- No ring beams, concrete cantilevered elements shall be permitted.

Roofs

Roofs shall be extremely visible and as such need to be carefully designed and elegantly constructed.

- The roof forms shall be simple low mono pitch to minimum pitch of 5 degrees and max of 20 degrees which follow the natural contour of the ground and reduce the overall height of dwellings.
- Individual roofs should be connected by wrap around veranda type elements.
- Roofs structures to be carefully made with exposed rafters and roof construction. Roofs designed to float and overhang walls
- Standing seam profiled roof sheeting in charcoal colour or similar approved.
- Slate to approved samples.
- No dormer windows
- All rainwater goods to match roof sheeting, or wall finish, shall be discretely positioned.

Doors and windows

- Doors and windows to be either natural timber or powder coated aluminium to approved charcoal colour.
- All doors and windows to be full glazed, no cottage pane allowed.
- All glazing to be clear.
- Exposed solid timber doors to be horizontally or vertically slatted timber
- Garage doors to be single or double (maximum 4880mm wide) to be natural finish horizontally or vertically slatted timber.

Decks and handrails

- All timber used to be from a Certified renewable resource.
- Decks designed to float over landscape and appear slender, decks to cantilever minimum 750mm from post supports.
- Decks to be located to avoid damage to vegetation, where possible allow trees to grow through decks.
- Walkways to be elevated above ground to allow small mammals to move about unhindered.
- Handrails to be simple and minimal.
- Steel painted charcoal grey or non reflective stainless steel.
- Simple timber posts and rail with steel or cable infill

Floors

- Generally lightweight timber construction, solid where appropriate. Where solid floors to be constructed method of construction all to occur within the envelope of dwelling as determined in HOA and EMP.

Terracing and paving

- All terracing and paving to be limited and subject to approval in principle at Site Evaluation stage.
- Max 30% of external areas to be terraced or paved.
- All natural slopes to be preserved so paving to follow natural topography.
- Any terracing shall be contiguous with dwelling
- No terracing of site outside footprint of building shall be allowed.
- Terracing finished with natural coloured tinted screed, natural stone of an approved colour set in random or stretcher bond pattern, or cobble or approved rustic half brick random pattern. No ceramic or clay tiles allowed.
- Driveway area to be as per all estate roads. Paved turning area at house where permissible limited to max 50 m² finishes as for Estate internal roads.

Pools

- Swimming pools and plunge pools subject to findings at Site Evaluation stage.
- Pools to be directly linked to deck areas, paving surrounding pool forms part of outside areas.
- Type, size, position and performance of pools subject to adherence with best environmental principles.
- Pool colours to be dark grey or similar approved.
- Pools to have covers in keeping with the natural palette of materials when not in residence.

Out buildings

To comply with all guidelines and be integrated with layout and design.

Pergolas, canopies, awnings

- To be attached and integrated with house design.
- Pergolas with integrated horizontal natural coloured fabric covers. No scalloped awnings, all subject to approval.

Shutters and screens

- Louvered or slatted screens or shutters of matt finished natural timber or charcoal grey anodised aluminium.

Fire

- All dwellings shall comply with relevant NBR and SABS Fire and Safety regulations and the *Carpe Diem: Fire and Safety Agreement* and fitted with requisite equipment.
- All fireplaces fitted with spark arrestors and painted galvanised steel flues with cowls.
- All braai areas fitted with fire fighting equipment and sited in protected areas away from bush to avoid possible spread of fires.

Signage

No signage or names or sculptures allowed adjacent road only discrete unit number on board made in accordance with *Carpe Diem: Nature Estate Signage*. House names to be integrated with structure of house, no larger than 500mm x100mm in non reflective material, no lighting of signs, all signage made using approved palette of colours.

Services

All services shall be looked at closely and minimise impact and based on sound ecological principles. This will include recycling of all waste and grey water, collection of rain water, solar power etc.

Rain water collection

Each house shall have a minimum of 20 000l rain water storage tanks. These shall be integrated into the design of the house and shall be screened from view or integrated into the structure of the house where possible. Platform off ground; overflow to lead to waste system

Solid waste

Monkey and vermin proof bins installed at all dwellings and hidden from view.

Washing lines and service areas

All screened from view.

Colours

All houses to comply with *Carpe Diem: Approved Palette of Colours*. All finishes externally to be non reflective.

Ironmongery

All ironmongery to be non reflective no polished brass, chrome or stainless steel.

Landscaping

Dwellings to integrate with the environment. It is a pristine nature estate so all planting to be endemic indigenous in keeping with the immediate surrounds and to be consistent with species identified by the resident botanist. All planting done under supervision of Carpe Diem botanist.