VISUAL IMPACT ASSESSMENT
RESIDENTIAL DEVELOPMENT
FARM 485/51
STILBAAI

Prepared for

DOUG JEFFERY ENVIRONMENTAL CONSULTANTS

On behalf of

Wonder Deals 4 (PTY) Ltd

by

CNdV africa

environmental planning landscape architecture urban design

JANUARY 2009

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JANUARY 2009

CONTENTS

FIGURES:

EXECUTIVE SUMMARY.

The scope of this report is to assess the visual impact of a residential development on Farm 485/51 Stilbaai, in the Hessequa municipality. According to the municipal SDF the site falls within, and adjacent to, the urban edge.

The no development option and 3 development alternatives are assessed in this report. **Alternative 3** is considered the preferred alternative as it is the layout which implements the findings of the environmental specialists to the greatest degree.

The **No-development Option** has been used as a baseline for this study, it is however believed that, as the site falls within the urban edge some sort of development will eventually take place on the site in the future, the visual impact of which cannot be assessed here.

Alternative 1 consists of 140 residential erven plus 22 units in a group housing site. The bulk of the site will be retained in its natural state and will include ecological corridors that will link the natural areas to the west and east.

Alternative 2 consists of a total of 156 residential erven. The group housing has been omitted and the ecological corridors have been widened.

Alternative 3 consists of a total of 153 residential erven. The row of erven along the western boundary has been removed to accommodate a butterfly habitat and some of these erven have been moved elsewhere on the site.

The local topography means that the site is naturally shielded from most distant views but some erven immediately adjacent to the site will be significantly visually affected to a greater or lesser degree. These include the row of erven along the northern boundary of the site and the Bosbokduin Private Resort along its southern boundary.

The overall significance of the visual impact is very similar for the three development alternatives – medium without mitigation and medium-low with full mitigation.

The intensity of the visual impact will however be higher for **Alternative 1** because of the presence of the group housing cluster central to the site which will be relatively difficult to mitigate adequately, and for **Alternative 2** where the row of erven along the western boundary will incur a greater visual impact on the erven to the west of the site. **Alternative 3** is therefore the preferred alternative.

Some of the mitigation measures have already been taken into account in the layout; other mitigation measures will still need to be implemented. These are included in Section 5 below. Special care will need to be taken that the views of the houses along the northern boundary of the site and those in Bosbokduin immediately adjacent to the site are disturbed as little as possible. This has to be the responsibility of the architects who do the final design for the houses on the affected erven.

It is felt that the overall visual impact that will be incurred by the development is acceptable for a development of this nature provided that the mitigation measures are implemented in full. It will also be a visually fitting cap to the western expansion of Stilbaai. It is therefore recommended that Alternative 3 be allowed to proceed.

1. INTRODUCTION

1.1 VISUAL ASSESSMENT TEAM AND EXPERTISE

The visual assessment team is led by Tanya de Villiers (B.L.Arch (UP) MILASA, Pr. L.Arch) head of the landscape architecture department at CNdV africa. Ms. de Villiers has had more than 10 years experience in preparing visual impact assessments.

The senior technical member of the team is Albert van der Stok who has had extensive CAD and 3D modelling experience and has been responsible for the graphics and text for more than 60 VIA's over the past 7 years.

Ms. de Villiers and Mr. van der Stok have been responsible for several high profile visual impact assessments including such projects as:

The Berg Water Project Franschhoek

The Chapman's Peak Drive toll structures

The One and Only Hotel - V&A Waterfront

Agulhas Golf Estate

Several large-scale Eskom projects

Green Point Stadium.

They have been assisted by the staff of CNdV africa in the areas of GIS and document production.

1.2 STATEMENT OF INDEPENDENCE

Neither CNdVafrica nor any of its staff members are involved in, or stand to gain financially in any way, from the design, construction or future management of the proposed development assessed in this document.

1.3 SCOPE OF WORK

The scope of work included in this specialist study is to assess the potential visual impact of a proposed residential development on Farm Plattebosch 485/51 Stilbaai.

The following methodology was employed:

- Describe the existing visual characteristics of the site and its environs.
- Determine the area from which the proposed development will be potentially visible (i.e. the viewshed).
- Assess the visual impact of the development from key areas within the viewshed.
- Propose measures that will mitigate the potential visual impacts.

1.4 ASSUMPTIONS AND LIMITATIONS

Base information for this document was obtained from 'Proposed Residential Development on Farm Plattebosch 485/51 Stilbaai - Final Scoping Report' by Doug Jeffery Environmental Consultants.

The findings of this report are part of an extended process in which all the environmental specialists were involved. Visual input to the projects was initially given through a 'Visual Baseline Study and Constraints Analysis' report by CNdVafrica dated October 2006.

This report has been compiled in line with the requirements of the 'Guidelines for Involving Visual and Aesthetic Specialists in EIA Processes' issued by the Provincial Government of the Western Cape: Department of Environmental Affairs and Development planning.

1.5 METHODOLOGY

The following sequence was employed in this report:

- A desktop survey was made using 1:50 000 trigonometrical survey maps, 1:250 000 geological survey maps and 1:10 000 aerial photographs. These were used to identify landforms and landscape patterns, as well as to determine the viewshed.
- A photographic survey of the site and surrounding area was conducted which determined the visibility of the site from various viewpoints that may be visually affected by the development.
- Potentially visual impacts were identified using standard criteria such as geographic viewsheds and viewing distances.
- Mitigation measures were proposed to aid in minimising the visual impacts.

2. STATUS OF THE STUDY AREA

(See Figures 1 – 5)

The site on which the proposed development is planned is designated Farm 485/51 Stilbaai. It falls within the Hessequa Municipality.

It is approximately 49 Ha. in extent and is situated along the western boundary of Stilbaai West. The property is unused at present.

It is zoned Open Space Zone II, (Public Open Space,) but permission is being sought to rezone the property to accommodate about 150 single residential erven, (Alternative 2 and 3,) or a mixture of single residential erven with a group housing component, (Alternative 1).

Only a portion of the site is to be developed with the intervening areas being used for conservation and being zoned private open space.

According to the Hessequa Municipality Spatial Development Framework the site falls within the urban edge and has been designated 'extensive residential.' (See figure 5)

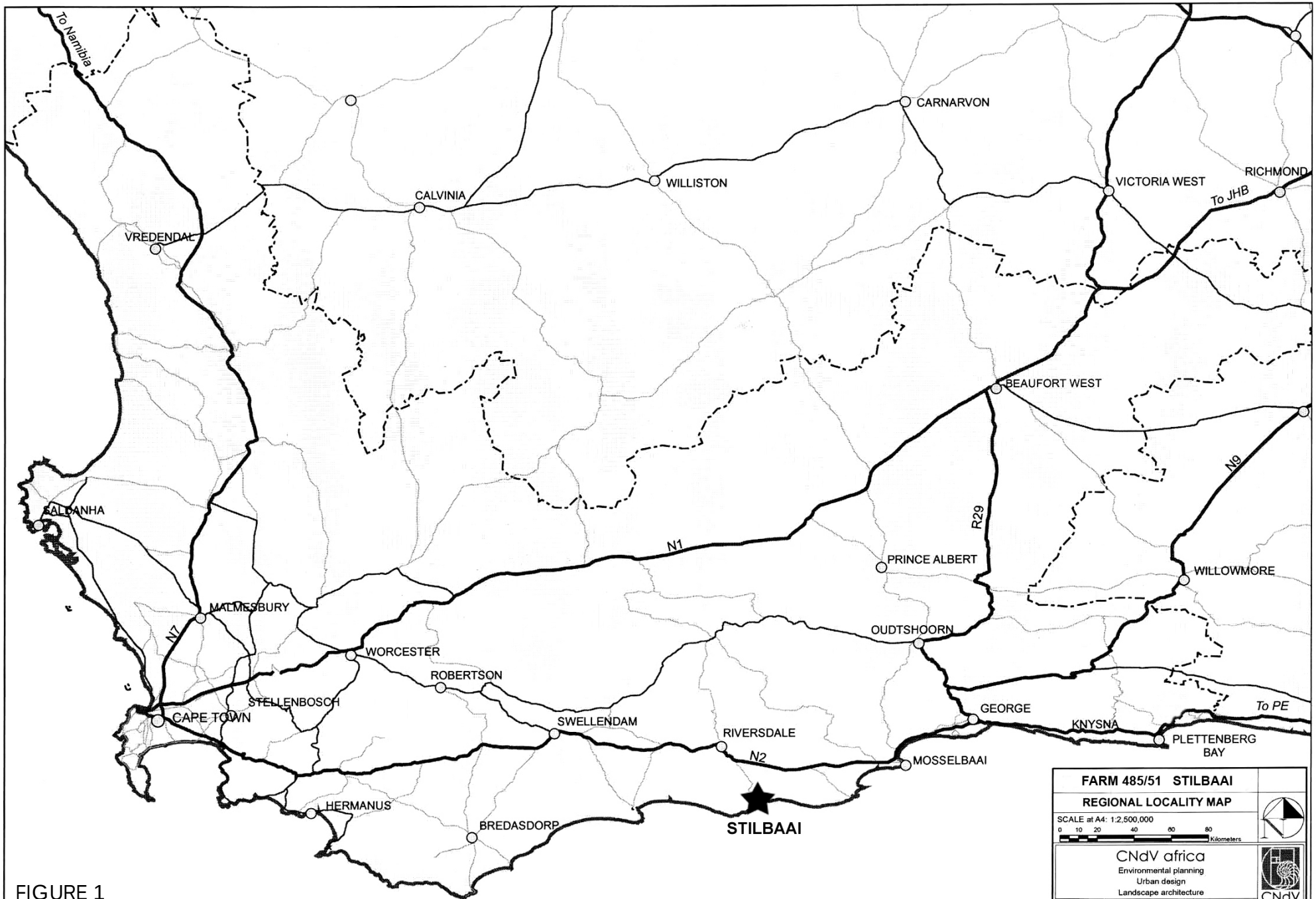
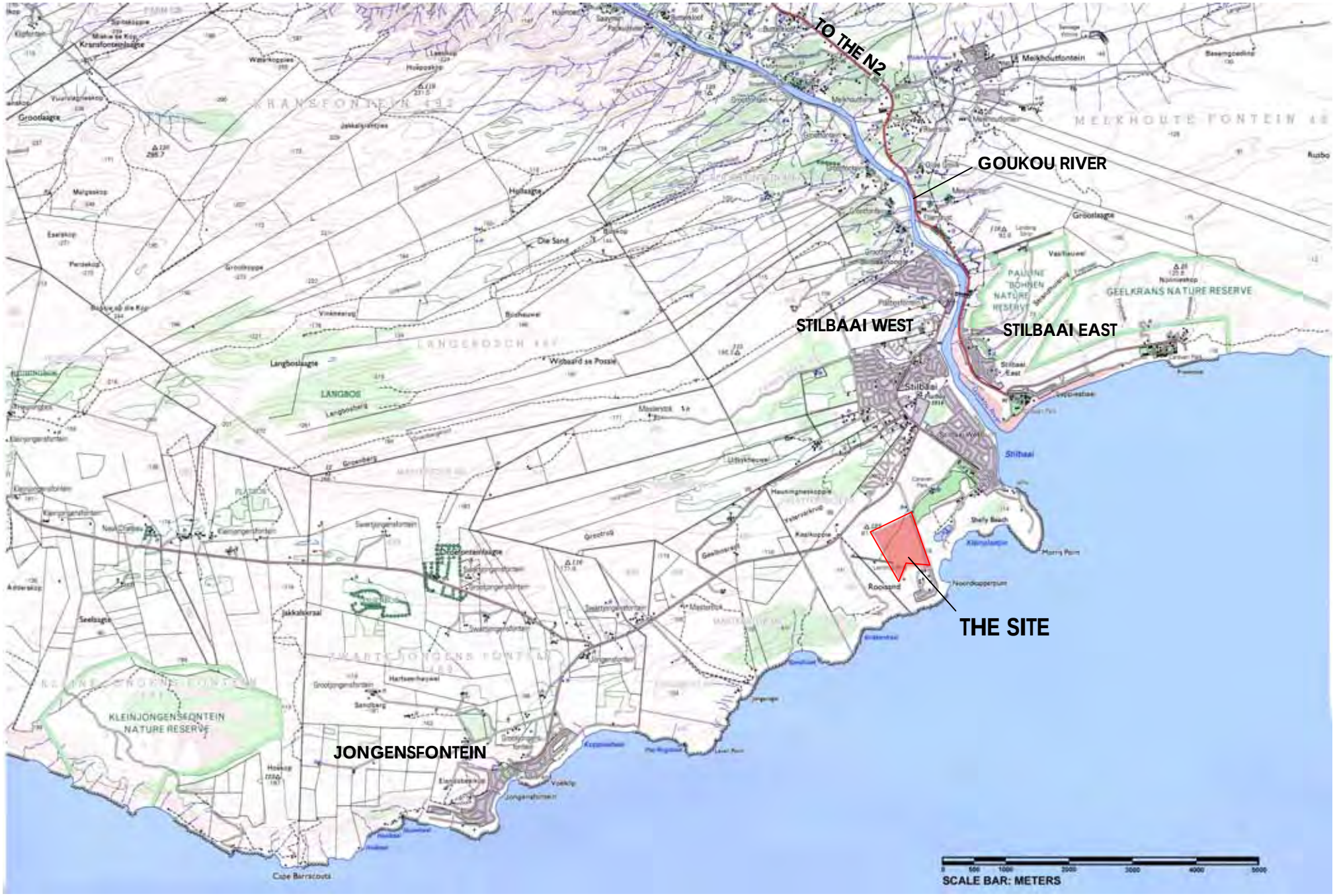

To Namibia
CARNARVON
WILLISTON
CALVINIA
VICTORIA WEST
RICHMOND
To JHB
VREDENDAL
BEAUFORT WEST
N9
SALDANHA
R29
N1
PRINCE ALBERT
WILLOWMORE
MALMESBURY
N7
OUDTSHOORN
WORCESTER
ROBERTSON
STELLENBOSCH
CAPE TOWN
SWELLENDAM
GEORGE
To PE
KNYSNA
RIVERSDALE
PLETTENBERG BAY
N2
MOSSELBAAI
HERMANUS
BREDASDORP
STILBAAI
FARM 485/51 STILBAAI
REGIONAL LOCALITY MAP
SCALE at A4: 1:2,500,000
0 10 20 40 60 80
Kilometers
CNdV africa
Environmental planning
Urban design
Landscape architecture
JOB 06 1505
Mxd Regional Locality
DATE 2006-10-18
CNdV africa

FIGURE 1

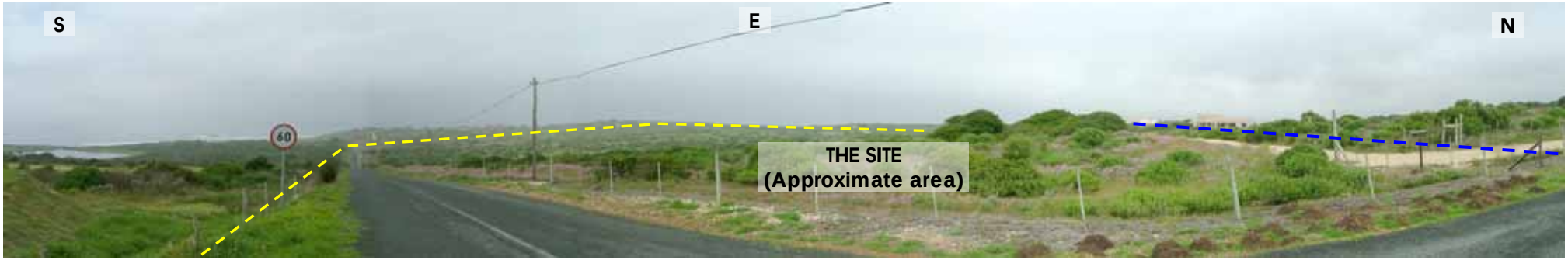


LOCAL CONTEXT

FIGURE 2

SITE ON AERIAL PHOTOGRAPH

FIGURE 3



a) VIEW FROM NEAR THE NORTH-EASTERN CORNER OF THE SITE

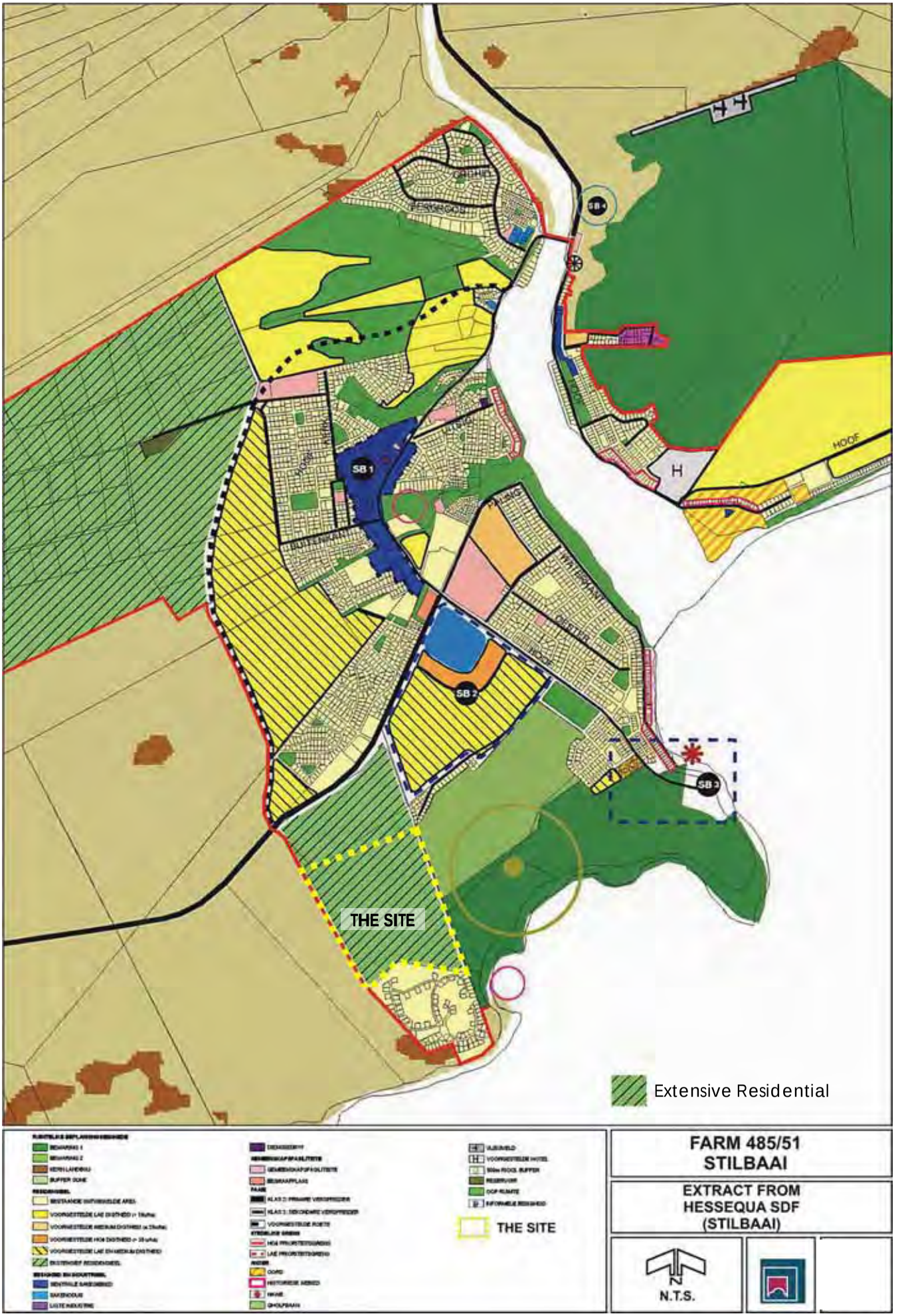
b) VIEW FROM NEAR THE NORTHERN BOUNDARY OF THE SITE

c) EXISTING HOUSES ADJACENT TO THE SITE NORTH OF THE GOLF COURSE

d) EXISTING HOUSE ADJACENT TO THE NORTHERN BOUNDARY OF THE SITE

EXISTING SITUATION

FIGURE 4



SPATIAL DEVELOPMENT FRAMEWORK

FIGURE 5

3. DESCRIPTION OF VISUAL CHARACTERISTICS

3.1 GENERAL DESCRIPTION OF THE AREA

(See Figures 3 and 4)

Stilbaai is a holiday and retirement town on the banks of the Goukou River, approximately 30km south of the N2 highway. Riversdale is the nearest centre.

Stilbaai is situated on both banks of the river over a distance of approximately 4km, the bulk of the town, including the commercial centre, being on the western bank.

The site of the proposed development falls inside the western boundary of Stilbaai and is zoned Open Space Zone II. It falls within the urban edge according to the Hessequa Spatial Development Framework. (See Figure 5)

It is separated from the town to the east by partially undeveloped land. Directly east of the northern section of the site lies the golf course. North of the golf course, the land is designated for low to medium density housing, several houses of which have already been built. (See figure 4 c.) To the southeast lies the waste water treatment works adjacent to Shelley Beach in the south.

The area around the water treatment works, between the golf course and Shelley Beach, is designated a conservation area and therefore no development is anticipated on this land leaving the views over the works towards the sea unhindered.

The main urban development in Stilbaai, along the river to the east of the golf course and waste water treatment works, slopes eastwards towards the river and away from the site and is therefore not visible from the site. This creates the impression that the site is away from urban development.

To the south of the site, between the site and the ocean, lies Bosbokduin Private Resort with its unique thatch roofed houses. Entrance to Bosbokduin is from the north along a road that falls within the site, running adjacent to its eastern boundary.

Immediately to the north of the site is a row of fairly large erven on which several large houses have already been built. These houses look south over the site towards the sea. (See Figure 4d)

The road between Stilbaai and Jongensfontein, a small village to the southwest along the coast, runs just north of these houses.

The undulating land to the west of the site is made up of rural properties.

The site itself is covered in grassland with fynbos and stands of milkwood trees. There are also several species of large shrubs and small trees that give the site a partially wooded appearance.

The site slopes from its highest point, approximately 76m, at its north-western corner, to less than 20m at its lowest point in the south-east near Shelley Beach. Generally the site is not very steep but there are several areas with slopes of 1:5 or steeper near the southern and eastern boundaries.

Views from the site stretch out over Bosbokduin, Shelley Beach to Morris Point, and the waste water treatment plant and surrounding area, with the Indian Ocean in the Background.

3.2 VISUAL SIGNIFICANCE OF THE AREA

The entire area is one of great natural beauty. The mixture of the rugged coastline with its bays, beaches and rocky promontories, and the undulating coastal land with its fynbos affords a variety of changing views as one moves through it make this a visually stimulating and interesting landscape that is highly sought after for its aesthetic qualities.

The proximity of the site to the Bosbokduin Private Resort and Shelly Beach to the south, the conservation areas associated with the waste water treatment works to the east, and the rural areas with their potential for conservation to the west, as well as the location of the site along the urban edge, mean that any development on the site must take the visual environment very seriously, seeking to ensure its long-term preservation.

3.3 GEOLOGY / LANDFORM

Several characteristics of the landform and geology have implications for the maintenance of the visual qualities of the landscape:

- Development on all slopes of 1:5 or steeper must be avoided.
- Natural watercourses, even though seasonal, must be preserved.
- Roads and structures must be orientated along the contours where possible so that the layout reads as being determined by the natural lie of the land rather than imposing an external order on it.

The preferred alternative has been sensitive to these issues.

3.4 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.4.1 The No-development Option

The **no-development option** will entail that the planned development as presented below does not take place and that, at least in the short-term, the visual status quo will be maintained.

As the site lies within the urban edge as demarcated in the Hessequa SDF it is unlikely that this status quo will be maintained in the long-term and that other developments, the visual impact of which are unknown, will be proposed for the site until some form of development takes place.

3.4.2 The Initial Concept

This concept is not assessed in this document. It encompassed some initial ideas about development on the site in which the environmental issues had not been fully taken into account. This description is included here as part of the documentation of the history of the project to show the refining of the original concept as a result of the environmental process. It consisted of:

- 171 residential erven 700 – 1000m^2
- 3 group housing sites – 60 units
- A clubhouse
- Natural open spaces
- Integrated footpath system
- Internal access roads

3.4.3 Development Alternative 1

See Figure 6

As more environmental information became available the initial concept was amended as follows:

- A total of 162 residential units comprising:
  - 140 single residential erven (700 – 900m^2.
  - 1 group housing site with 22 units.
- A clubhouse.
- Natural open space/conservation areas and ecological corridors.
- Integrated footpath system.
- Pedestrian access to coast and beach.
- Possible pedestrian access to Stilbaai Golf Course.
- Joint access to the development and Bosbokduin.
- A hierarchy of internal roads.

This proposal differs from the initial concept as follows:

DEVELOPMENT PLAN - ALTERNATIVE 1 – OCTOBER 2006

FIGURE 6

- The total number of residential units has been reduced by 69.
  - Single residential units reduced by 31.
  - Group housing reduced by 2 sites and 38 units.
- The open space network is larger.
- The layout of the erven along the western boundary has been curved to represent an undulating urban edge.

3.4.4 Development Alternative 2

See Figure 7

Following input from various specialists the layout of Alternative 1 was amended as follows:

- The total number of residential units is 156.
- The group housing has been omitted.
- The clubhouse has been omitted.
- Erven in the north-western portion of the site have been reorientated to follow the contours.
- The central east-west ecological corridor has been widened.
- Amendments to the positioning of erven and alignment of internal access roads to facilitate service alignments within road reserves. This reduces the necessity to cross natural areas with pipelines.

3.4.5 Development Alternative 3

See Figure 8

This alternative was an amendment of alternative 2 in order to accommodate a butterfly habitat identified by Dr McDonald. It is similar to Alternative 2 except for these changes:

- The number of residential erven is now a total of 153.
- A Buffer zone has been created along the western boundary of the site in order to accommodate a butterfly habitat that was identified on the site and the neighbouring property. This has resulted in a row of houses being omitted, some of which have been accommodated elsewhere on site.

DEVELOPMENT PLAN - ALTERNATIVE 2 – FEBRUARY 2007

FIGURE 7

DEVELOPMENT PLAN - ALTERNATIVE 3 – JANUARY 2008 - PREFERED ALTERNATIVE

FIGURE 8

4. VISUAL IMPACT ASSESSMENT

4.1 VIEWSHED

See Figures 9 and 10

The "viewshed" refers to the theoretical outer-most extent or area from which a site can be seen. It must, however, be remembered that visibility may be obscured in reality by objects within the viewshed such as existing buildings, trees, lower ridges, outcrops and other geographical or natural features, and also by distance where an object can visually blend into its background or be completely lost to sight.

The site has a fairly simple viewshed the natural topography and slope towards the sea limiting views to and from the site.

The areas immediately to the west and north of the site are all slightly more elevated than the adjacent areas on the site meaning that views of the site from the west and north are limited by the natural slopes.

The row of houses that are being built immediately north of the site will be able to look over the site, but just to the north of these the slope changes, and the site is shielded to views from further north, including the Jongensfontein road.

A small western portion of the golf course, the whole of the water treatment works and surrounding area, and Morris Point fall within the viewshed, but the ridge to the west of the areas of Stilbaai near Morris Point precludes significant views from the urban area.

Still further east the more elevated parts of the Geelkrans Nature Reserve around Nonnieskop are visible at a distance of approximately 5km over the intervening ridge. This means that some views of the site from this area will be possible.

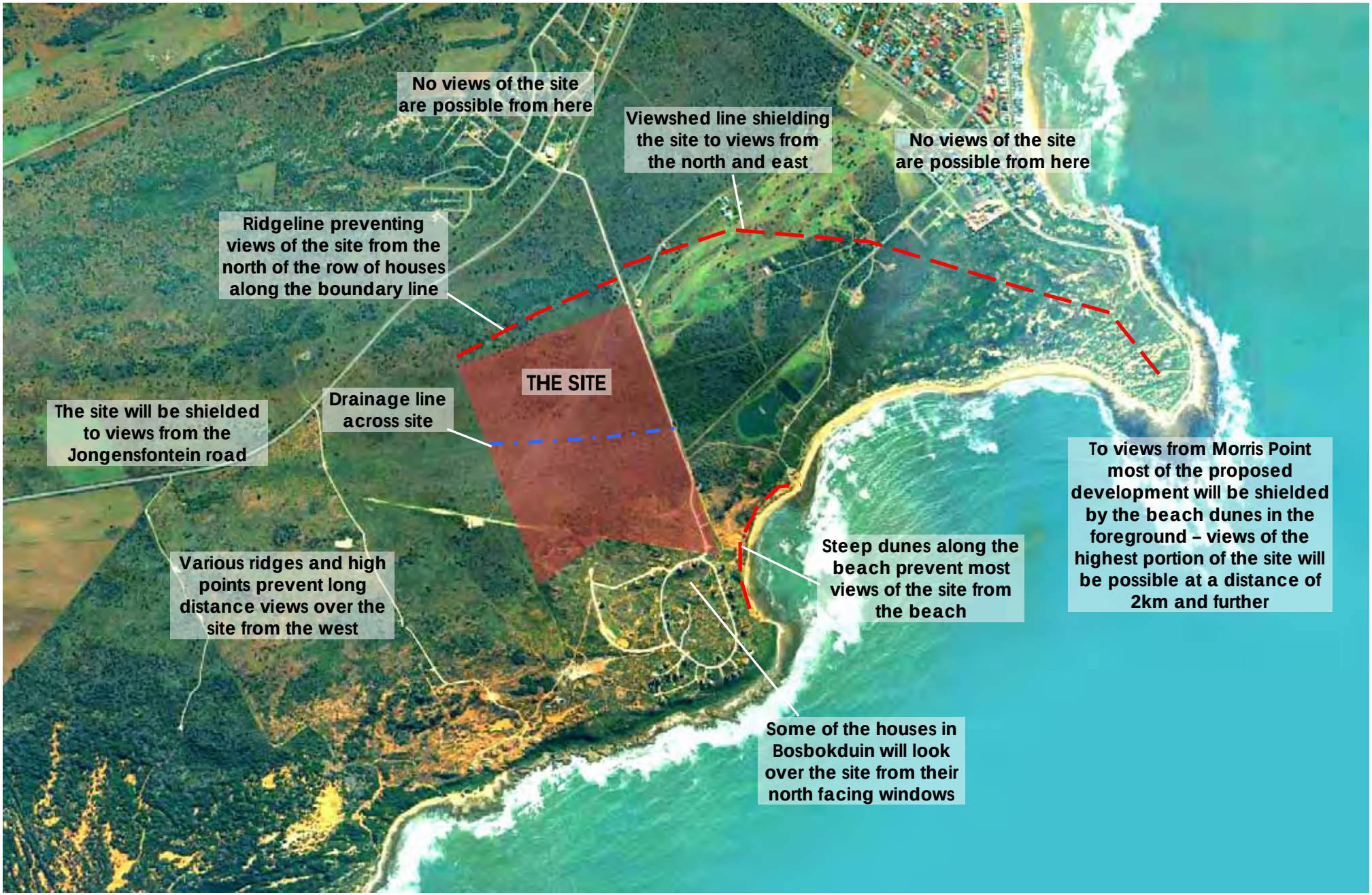
Bosbokduin to the south of the site falls within the viewshed as does a portion of the Indian Ocean.

The following zones will be affected visually:

- Views to the south from the houses along the northern boundary of the site.
- Views to the south-west from the houses to the north-east of the site.
- Limited views from the western edge of the golf course.
- Limited north-westerly views from Shelley Beach and the water treatment works and surrounding area.
- Inland views, (to the North,) from the houses at Bosbokduin.
- Views from the Indian Ocean when looking towards the land.
- Parts of the development will be partially visible from the higher parts of the Geelkrans Nature Reserve at a distance of approximately 5km.

VIEWSHED AND DISTANCE RADII

FIGURE 9



VISIBILITY ANALYSIS

FIGURE 10

- Views will be possible from west of the site although the local topography limits these within a short distance from the site.

The viewshed can be considered relatively limited for a site of this size and except for the few direct neighbours, the visual impacts will be relatively well contained.

4.2 VISUAL IMPACT ASSESSMENT

Visual impacts have been assessed in terms of the following criteria:

4.2.1 The Extent of the Impact

The extent of the impact rates the impact in terms of the size of the geographical area that will be visually influenced.

Extent of Visual Impact	
Rating	*Definition of Rating*
Site Specific	*Very small extent of visual influence – usually limited to the site*
Local	*Limited to the site and immediate surrounding area (1-5km)*
Sub Regional	*The visual influence covers a greater area (5-10km)*
Regional	*The influence covers an area that includes an entire geographic region or allows the visual impact to be extend beyond one region into another*
National	*The visual impact can be experienced across national boundaries and has national implications.*

Although some limited views of the development may be possible from the Geelkrans Nature reserve approximately 5km away these are not expected to be significant and therefore the extent of the impact has been assessed as local.

This applies to all three development alternatives.

Table 4.1 Extent of Impact

		Construction	Usage	Night
Development Alternative	1-3	Local	Local	Local
No-Development Option	-	-	Site specific	Site specific

4.2.2 Zones of Visual Influence

This assessment describes the significant areas within the viewshed from which the development may be visible and estimates the degree to which the areas will be visually influenced.

Zones of Visual Influence – estimate of visibility	
Rating	*Definition of Rating*
Low	*The proposed development will only be partially and or, (in the case of movement along roads etc.) intermittently visible.*
Medium	*The proposed development will be readily visible but its visual influence will be limited by distance, compatibility etc.*
High	*The proposed development will be visible in a way that seriously changes the visual nature of the area when viewed from the particular zone.*

4.2.2.1 Houses along Northern Boundary of Site

Some of the houses along the northern boundary of the site will experience significant visual intrusion into their views towards the ocean. Several of these houses have been built around these primary views. This is especially true of the westernmost house in the row.

Alternative 1 would have slightly reduced visual influence compared to **Alternatives 2 and 3** because some of the erven are further away from the boundary line, but this is only a matter of degree, and the internal visual impact arising from the placement of the road across the contours would have been substantially higher to those living in the development when compared with the layout of Alternatives 2 and 3.

The roofs of some of the houses in this northern section of the site, and also those in the group in the south eastern corner will be visible against the shore line from certain viewpoints.

The implementation of the no-development option would maintain the visual status quo and so there would be no visual influence on these houses. It must, however, be stressed that this would probably be of a temporary nature as some form of development on the site would be probable unless its status of being within the urban edge was changed.

Table 4-2 Zones of Visual Influence – Houses along Northern Boundary of Site

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	High	High	High
	With mitigation	High	Medium-High	Medium
Alternative 2	Without mitigation	High	High	High
	With mitigation	High	Medium high	Medium

Alternative 3	Without mitigation	High	High	High
	With mitigation	High	Medium high	Medium
No-Development	-	-	No influence	No influence

4.2.2.2 Houses North of the Golf Course and the Golf Course

The primary views from the houses north of the golf course are southwards over the golf course towards the ocean. Only the houses along the eastern boundary of the proposed development will influence south-westerly views from these houses.

Only the group of houses in the far south-eastern corner of the site, directly adjacent to Bosbokduin, will be clearly visible from limited viewpoints and they will be experienced against the backdrop of the structures in Bosbokduin.

Westerly views from the western section of the golf course will also be slightly influenced by the houses along the eastern boundary of the site.

The visual influence of all three development alternatives will be the same from these viewpoints.

Table 4-3 Zones of Visual Influence – Houses North of the Golf Course and the Golf Course

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Medium	Medium	High
	With mitigation	Medium	Low	Low
Alternative 2	Without mitigation	Medium	Medium	High
	With mitigation	Medium	Low	Low
Alternative 3	Without mitigation	Medium	Medium	High
	With mitigation	Medium	Low	Low
No-development	-	-	No influence	No influence

4.2.2.3 Nature Area around the Waste Water Treatment Works

Views towards the west from the nature area around the waste water treatment works will look at the depression across the site, the path of the watercourse, and views of the houses on the slopes will be possible although local topography and vegetation should make these views partial/intermittent.

The avoidance of development on the low point of the site located centrally along the eastern boundary means that a natural visual buffer zone has been created.

Alternative 1 will have a slightly higher visual influence on this area because of the presence of the group housing in the centre of the site and the larger number of erven immediately adjacent to the southern boundary near Bosbokduin.

Alternatives 2 and 3 will have the same visual influence on this area.

Table 4-4 Zones of Visual Influence – Nature Area around the Waste Water Treatment Works

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Medium	Medium	Medium
	With mitigation	Medium	Medium-low	Medium-low
Alternative 2	Without mitigation	Medium	Medium	Medium
	With mitigation	Medium	Low	Low
Alternative 3	Without mitigation	Medium	Medium	Medium
	With mitigation	Medium	Low	Low
No-development	-	-	No influence	No influence

4.2.2.4 Bosbokduin Private Resort

Several of the houses near the site boundary in Bosbokduin have windows which look directly onto the southern sections of the site. These northwards views will experience a medium to high visual influence. It is presumed that the primary views from the houses in Bosbokduin are oriented towards the ocean and therefore the views that will be influenced by the development will mostly be secondary views. No views of the ocean will be affected.

Many of the Bosbokduin houses, especially those in the southern portion of the resort will experience no visual influence at all.

Alternative 1 will have slightly less visual influence on Bosbokduin because there are less erven in the south eastern corner of the site adjacent to the Bosbokduin boundary.

Alternatives 2 and 3 will have approximately the same visual influence on Bosbokduin.

Table 4-5 Zones of Visual Influence – Bosbokduin Private Resort

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	High to low	High to low	High to low
	With mitigation	High to low	High to low	High to low
Alternative 2	Without mitigation	High to low	High to low	High to low
	With mitigation	High to low	High to low	High to low
Alternative 3	Without mitigation	High to low	High to low	High to low
	With mitigation	High to low	High to low	High to low
No-development	-	-	No influence	No influence

4.2.2.5 Shelly Beach and Morris Point

In general the steep dunes immediately to the north of the beaches between Bosbokduin in the west and Morris Point in the east will shield most views of the proposed development to viewpoints along the beach.

From some viewpoints, mainly towards the east, the higher areas of the site, i.e. the north western corner will be seen at a minimum distance of more than 1500m.

No houses should be seen against the skyline as all the erven are below the highest point in the surrounding terrain which is just north of the north-western corner of the site. The Row of houses north of the site's northern boundary will also be seen as being higher than any structures on the site.

More of the development will be partially visible to those who climb the dunes when looking landwards.

The visual influence will be the same for all three development alternatives.

Table 4-6 Zones of Visual Influence – Shelly Beach and Morris Point

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	low	low	Medium
	With mitigation	low	low	low
Alternative 2	Without mitigation	low	low	Medium
	With mitigation	low	low	low
Alternative 3	Without mitigation	low	low	Medium
	With mitigation	low	low	low
No-development	-	-	No influence	No influence

4.2.2.6 Waters of the Indian Ocean

The proposed development will be visible to boats out at sea. These views are not anticipated to be significant except at night if the mitigation measures concerning lighting are not fully implemented.

These views will have the structures of Bosbokduin in the foreground.

All three development alternatives will have the same amount of visual influence

Table 4-7 Zones of Visual Influence – Waters of the Indian Ocean

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	low	low	Medium
	With mitigation	low	low	low
Alternative 2	Without mitigation	low	low	Medium
	With mitigation	low	low	low
Alternative 3	Without mitigation	low	low	Medium
	With mitigation	low	low	low
No-development	-	-	No influence	No influence

4.2.2.7 Geelkrans Nature Reserve

The development will be partially and intermittently visible from the higher points of the Geelkrans nature reserve at a distance of more than 4km. None of the houses should be seen above the skyline from these vantage points.

Table 4-8 Zones of Visual Influence – Geelkrans Nature Reserve

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	low	low	Medium
	With mitigation	low	low	low
Alternative 2	Without mitigation	low	low	Medium
	With mitigation	low	low	low
Alternative 3	Without mitigation	low	low	Medium
	With mitigation	low	low	low
No-development	-	-	No influence	No influence

4.2.2.8 West of the Site

The proposed development will have a limited visual influence on limited viewpoints on the terrain to the west of the site.

Alternative 3 will have a considerably lower influence than **Alternatives 1 and 2** because of the visual buffer zone that has been created along the western boundary by the removal of the westernmost row of houses to preserve the butterfly habitat.

Table 4-9 Zones of Visual Influence – West of the Site

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Medium	Medium	Medium
	With mitigation	Medium	Medium	low
Alternative 2	Without mitigation	Medium	Medium	Medium
	With mitigation	Medium	Medium	low
Alternative 3	Without mitigation	Medium	Medium	Medium
	With mitigation	Medium	Low	low
No-development	-	-	No influence	No influence

4.2.3 Visual Absorption Capacity of the Area

This assessment rates the area surrounding the project in terms of its basic landscape character with respect to its ability to visually absorb the proposed project.

*This concept is closely linked to the concept of compatibility with the surrounding landscape, but the emphasis is on the **area's** ability to absorb the development and **not** on the **development's** ability to fit into the surroundings*

Visual Absorption Capacity	
Rating	*Definition of Rating*
Low	*The landscape is very sensitive to alterations in its visual nature*
Medium	*The landscape can visually absorb small to medium sized alterations in its character.*
High	*The landscape can visually absorb medium to large changes in its character.*

The local topography ensures that, with the exception of the row of houses along the northern boundary of the site and a limited number of houses in Bosbokduin, the proposed development is visually well shielded from the surrounding terrain.

Provided that the architectural character of the development is such that the structures blend into the terrain and are limited in size, the terrain will be able to absorb the proposed development.

Table 4-10 Visual Absorption Capacity

		Construction	Usage	Night
All Development Alternatives	Without mitigation	Low	Medium	Low
	With mitigation	Low	Medium to high	Medium
No-development Alternative	-	-	High	-

4.2.4 Compatibility with Surrounding Landscape

*This assessment evaluates the extent to which the **proposed development** conforms to usages in the surrounding landscape. Important to this assessment are the concepts of sameness, scale, diversity, texture, colour etc.*

Compatibility with surrounding Landscape	
Rating	*Definition of Rating*
Appropriate	*The proposed development fits in well with the type and style of the surrounding landscape and no new or different elements are introduced.*
Moderately Appropriate	*The proposed development can blend into the surrounding landscape but its type and style may be different and new elements are introduced but not in a jarring way.*
Inappropriate	*The proposed development is at odds with the type and style of development in the surroundings, and new and jarring elements are introduced*

The style and density of the proposed development will be different to anything else in the visual surroundings.

To the north and north-east of the site the houses are much larger than anything planned for the proposed development. They also use highly visible finishes and colours making them sit 'on' rather than 'in' the landscape. These norms relate to typical urban styles and particularly the architectural styles used in the rest of Stilbaai, most of which occurs outside the site's particular visual frame of reference.

The structures of Bosbokduin are also much larger than anything planned for the site and their unique style and building technique make them stand out in the landscape rather than allowing them to blend into the surrounding terrain.

By contrast, the recessive architectural style, the finishes, and the limited size and height of the units proposed for the development are meant to allow the structures to blend into the terrain thus minimising their visual influence.

Therefore despite the marked difference between the proposed development and the adjacent development, north and south, it has been assessed as being appropriate in terms of the fact that it will form a cap to the western expansion of Stilbaai and form a visually appropriate interface with the rural areas to the west. It will introduce new elements into the visual landscape, but these are designed to blend in relatively well.

Table 4-11 Compatibility with Surrounding Landscape

		Construction	Usage	Night
Development Alternatives	Short-term	Inappropriate	Moderately Inappropriate	Inappropriate
	Long-term	Inappropriate	Appropriate	Appropriate
No-development Alternative	Short-term	-	Appropriate	Appropriate
	Long-term	-	Unknown	Unknown

4.2.5 Intensity of Visual Impact

This assessment refers to the degree to which the visual nature of the landscape will be altered.

Intensity of Visual Impact	
Rating	*Definition of Rating*
Low	*The sense of place and visual functions of the area are negligibly altered and the perceived character of the area is not qualitatively changed.*
Medium	*The sense of place and visual functions of the area are altered and the perceived visual character of the area is altered but not in an unacceptable way.*
High	*The sense of place and visual functions of the area are severely altered in a way that changes the perceived character of the area.*

4.2.5.1 Houses along Northern Boundary of Site

Because the interruption to the sea views for which these erven were specifically acquired the intensity of the visual impact will be high on all those erven that have houses directly south of their boundaries.

The implementation of the mitigation measures concerning the lighting will have a dramatic affect on lowering the intensity of the visual impact at night.

Table 4-12 Intensity of Visual Impact – Houses along the Northern Boundary of Site

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	High	High	High
	With mitigation	high	Medium	Medium-high
Alternative 2	Without mitigation	High	High	High
	With mitigation	high	Medium-high	Medium-high
Alternative 3	Without mitigation	High	High	High
	With mitigation	high	Medium-high	Medium-high
No-development	-	-	No influence	No influence

4.2.5.2 Houses North of Golf Course and Golf Course

The intensity of the visual impact to these houses and the golf course is assessed as being no more than medium for some views and low for most views because the proposed development will only affect secondary views, i.e. not any primary views towards the sea. Additionally the development will only be partially visible from any one viewpoint.

The mitigation measures will further lower the intensity as the structures are allowed to blend into the surrounding terrain.

All three development alternatives will have approximately the same intensity of visual impact.

The implementation of the mitigation measures concerning the lighting will have a dramatic affect on lowering the intensity of the visual impact at night.

Table 4-13 Intensity of Visual Impact – Houses North of Golf Course and Golf Course

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	High	Medium	High
	With mitigation	High	Medium	Low
Alternative 2	Without mitigation	High	Medium	High
	With mitigation	High	Medium-low	Low
Alternative 3	Without mitigation	High	Medium	High
	With mitigation	High	Medium-Low	Low
No-development	-	-	No influence	No influence

4.2.5.3 Nature Area around Waste Water Treatment Works

The brokenness of the terrain and the presence of significant vegetation will aid in lowering the intensity of the visual impact to views from this area.

The visual impact of **Alternative 1** will be slightly higher than that of **Alternatives 2 and 3** because of the presence of the group housing in the centre of the site.

Table 4-14 Intensity of Visual Impact – Nature Area around Waste Water Treatment Works

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Medium	Medium	High
	With mitigation	Medium	Medium	Medium-low
Alternative 2	Without mitigation	Medium	Medium	High
	With mitigation	Medium	Medium-Low	Medium-low
Alternative 3	Without mitigation	Medium	Medium	High
	With mitigation	Medium	Medium-Low	Medium-low
No-development	-	-	No influence	No influence

4.2.5.4 Bosbokduin Private Resort

The intensity of the visual impact on limited viewpoints from the Bosbokduin houses adjacent to the site boundary will be high, but only for views northwards, away from the sea.

Most of the Bosbokduin residents will experience a low intensity visual impact to no impact at all.

Alternative 1 will affect less viewers in Bosbokduin because the number of erven immediately north of the Bosbokduin boundary is less.

The implementation of the mitigation measures concerning the lighting will have a dramatic affect on lowering the intensity of the visual impact at night.

Table 4-15 Intensity of Visual Impact – Bosbokduin Private Resort

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	High to low	High to low *	High to low*
	With mitigation	High to low	Medium to low*	Medium to low*
Alternative 2	Without mitigation	High to low	High to low	High to low
	With mitigation	High to low	Medium to low	Medium to low
Alternative 3	Without mitigation	High to low	High to low	High to low
	With mitigation	High to low	Medium to low	Medium to low
No-development	-	-	No influence	No influence

*Fewer viewers will be affected

4.2.5.5 Shelly Beach and Morris Point

Only limited, partial views will be possible from these areas and this, along with the recessive architectural style and the distance, will ensure a low intensity visual impact to views from these areas.

The implementation of the mitigation measures concerning the lighting will have a dramatic affect on lowering the intensity of the visual impact at night.

Table 4-16 Intensity of Visual Impact – Shelly Beach and Morris Point

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 2	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 3	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
No-development	-	-	No influence	No influence

4.2.5.6 Waters of the Indian Ocean

Any development visible from the ocean will be experienced as part of the overall development pattern in the area. The presence of the significant green areas that are to be retained means that the overall green nature of the area will be maintained.

The implementation of the mitigation measures concerning the lighting will have a dramatic affect on lowering the intensity of the visual impact at night.

The development should not be visible above the skyline from these viewpoints.

Table 4-17 Intensity of Visual Impact – Waters of the Indian Ocean

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 2	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 3	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
No-development	-	-	No influence	No influence

4.2.5.7 Geelkrans Nature Reserve

The main mitigating factor to views from this area is distance. The recessive architecture and finishes as well as the limited size of the structures means that they will be well absorbed by the surrounding landscape from this distance.

The implementation of the mitigation measures concerning the lighting will have a dramatic affect on lowering the intensity of the visual impact at night.

Table 4-18 Intensity of Visual Impact – Waters of the Indian Ocean

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 2	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 3	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
No-development	-	-	No influence	No influence

4.2.5.8 West of Site

The undulations of the terrain and the presence of mature vegetation will aid in limiting the intensity of the visual impact on these areas.

The omission of the row of erven adjacent to the western boundary of the site in **Alternative 3** will create a visual buffer zone along this boundary which will also lower the intensity of any potential visual impacts from west of the site.

Table 4-19 Intensity of Visual Impact – Waters of the Indian Ocean

Alternative		Construction	Usage	Night
Alternative 1	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 2	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
Alternative 3	Without mitigation	Low	Low	Medium
	With mitigation	Low	Low	Low
No-development	-	-	No influence	No influence

4.2.6 Duration of impact

This assesses the visual impact in terms of the lifespan of the development and therefore the lifespan of the visual impact.

Duration of Impact	
Rating	*Definition of Rating*
Temporary	*Up to 6 months*
Short-term	*6 months to 3 years*
Medium-term	*3 to 15 years*
Long-term	*More than 15 years*
Permanent	*The nature of the impact is such that it will be irreversible over time.*

The duration of the construction period for the infrastructure is unknown but will be short-term.

The duration of the construction period for the houses is not known but expected to be spread out over several years.

The duration of the visual impact of the completed development is expected to be permanent.

The duration of the visual impact for the no-development alternative will be temporary. Development pressure will mean that some form of development is likely in future, the visual impact of which is not known at present.

4.2.7 Overall Significance of the Visual Impact

This rating combines the ratings for the extent of the impact, the duration of the impact the intensity of the impact and the compatibility of the design to the site and surroundings, to arrive at a single rating for the impact as a whole.

Overall Significance	
Rating	*Definition of Rating*
No Change	*This describes a potential concern which, after assessment, has proven to have no impact*
Very Low	*The visual impact will be site specific and of a temporary nature.*
Low	*The impacts will be local and of short to medium-term duration*
Medium	*The impacts will be experienced locally or sub-regionally for the lifespan of the project and may lead to permanent change.*
High	*The impact will be experienced regionally for the lifespan of the project or will be irreversible*

The overall significance of the visual impact of the proposed development is expected to be medium without mitigation but fall to medium-low in the long-term provided that all mitigation measures are applied.

This rating must be seen against the fact that several houses along the northern boundary and a limited number of houses in Bosbokduin will experience a highly significant visual impact. This fact has had to be taken into account along with the fact that the development has a relatively small viewshed and therefore a relatively small area will be visually influenced and the number of people affected will be relatively small.

Table 4-20 Overall significance of Visual Impact

		Construction	Usage	Night
Alternative 1	Without mitigation	High	Medium	Medium
	With mitigation	Medium	Medium-low	Low
Alternative 2	Without mitigation	High	Medium	Medium
	With mitigation	Medium	Medium-low	Low
Alternative 3	Without mitigation	High	Medium	Medium
	With mitigation	Medium	Medium-low	Low
No-development Alternative	-	-	Very low	Very low

4.2.8 Status of Impact

This assessment rates the estimated perception of the development in terms of being positive, neutral, or negative.

It is anticipated that many people will initially experience the visual impact of the proposed development as negative especially during the construction period and its early life. It is however anticipated that in the long-term the development should be viewed as neutral in the landscape.

Table 4-21 Status of Visual Impact

Alternative		Construction	Usage	Night
All three development alternatives	Short-term	Negative	Negative	Negative
	Long-term	-	Neutral	Neutral
No-development Alternative	Short-term	-	Neutral	Neutral
	Long-term	-	Neutral	Neutral

4.2.9 Probability

This quantifies the probability of the impact occurring as described in the text.

Probability of Occurrence	
Improbable	*<40% chance of occurring*
Possible	*40%-70% chance of occurring*
Probable	*>70% to 90% chance of occurring*
Definite	*>90% chance of occurring*

It is probable that the impacts will take place as described above.

4.2.10 Confidence

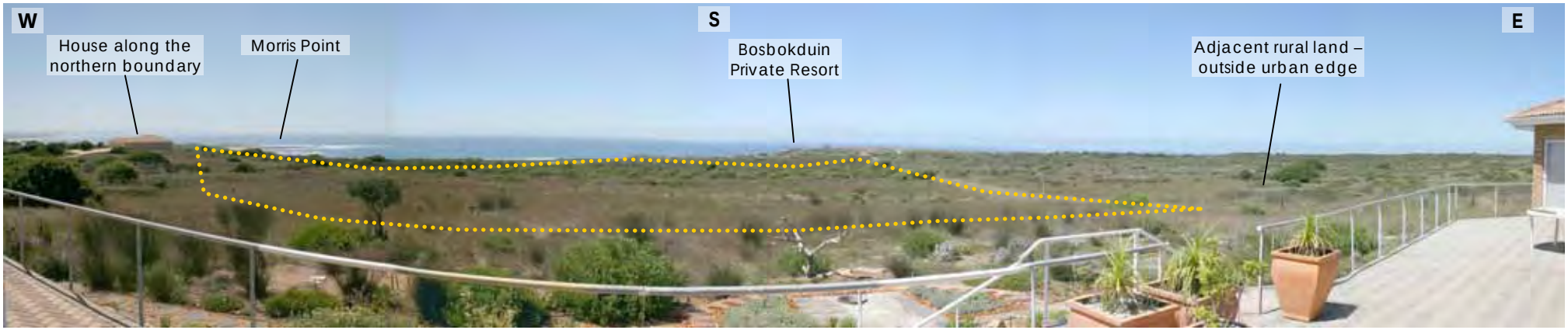
This states the level of confidence that the visual assessor has in the assessments above. It is possible that, because of such factors as the availability or quality of the input data, the assessor may have more confidence in certain assessments than in others.

Confidence in the Assessments	
Low	*Data is insufficient or unavailable and further input may change the assessment*
Medium	*Some data is inadequate or unavailable but it is unlikely that the assessment will change significantly.*
High	*The available data is detailed and accurate leading to high confidence in the assessments*

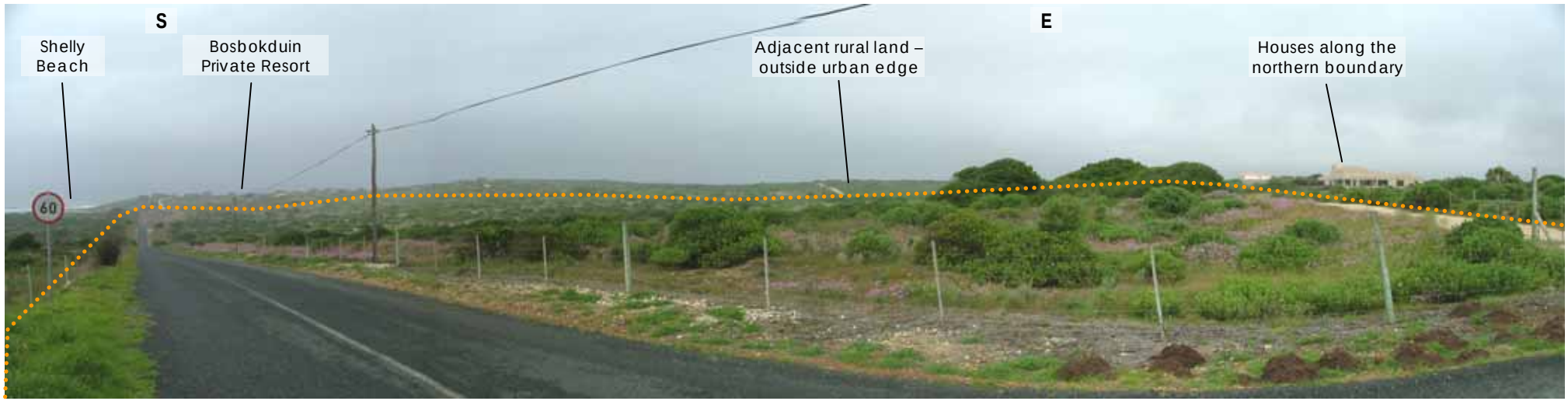
The confidence in the assessments made above is high.

KEY TO VIEWPOINTS

FIGURE 11



VIEWPOINT 1 FROM THE VERANDAH OF THE HOUSE AT THE NORTH-WEST CORNER OF THE SITE, (THE HIGHEST POINT)

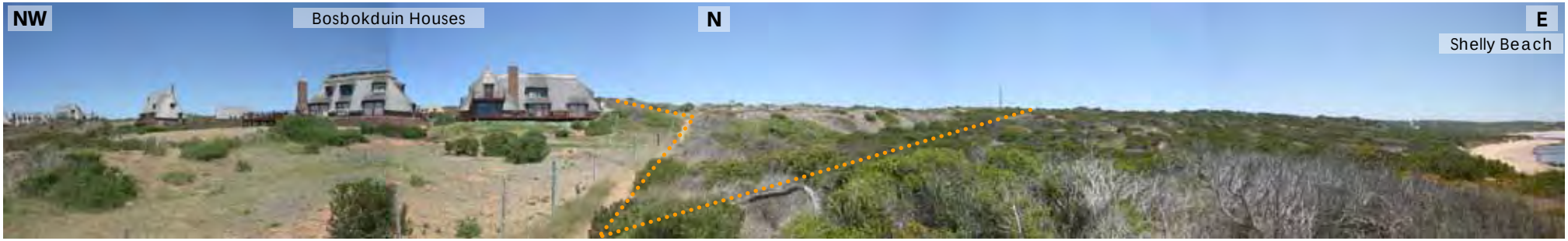


VIEWPOINT 2 FROM NEAR THE ENTRANCE TO THE SITE

APPROXIMATE AREA OF SITE

VIEWPOINTS 1 AND 2

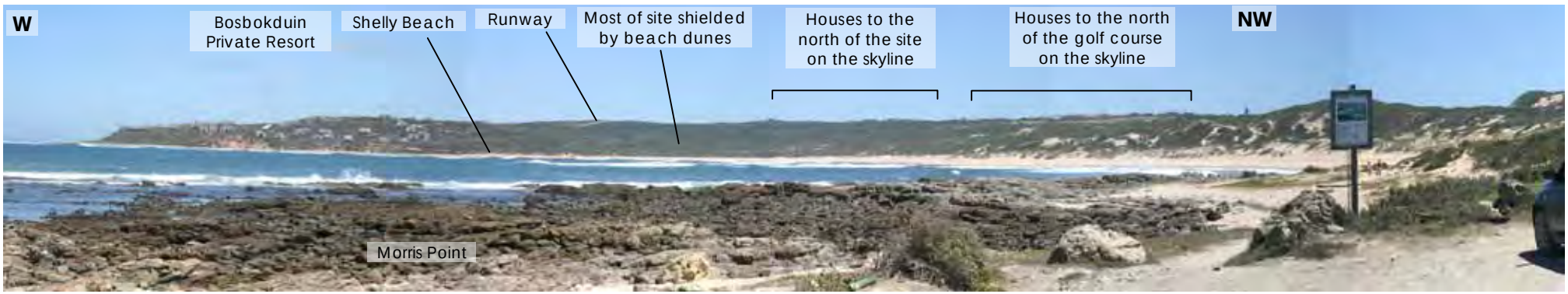
FIGURE 12



VIEWPOINT 3 - FROM THE SOUTH-EASTERN CORNER OF THE SITE ADJACENT TO BOSBOKDUIN

APPROXIMATE AREA OF SITE

VIEWPOINT 4 - FROM SHELLY BEACH SHOWING DUNES THAT SHIELD THE SITE FROM DIRECT VIEW



VIEWPOINT 5 - FROM MORRIS POINT

VIEWPOINTS 3 to 5

FIGURE 13

5. RECOMMENDED MITIGATION MEASURES

5.1 STATUS OF THE MITIGATION MEASURES

As this visual impact assessment is the result of an extended process in which the input from the environmental specialists was fed back to into the design and the layout was amended accordingly, Alternative 3 is the preferred alternative in terms of conforming best to the environmental requirements.

A preliminary set of visual mitigation measures was included in the visual constraints document which informed the design process. Many of the original mitigation measures, those that were implementable at the design stage, have already been incorporated into the layout.

For the sake of completeness, and to document the history of the process, the original mitigation measures are included in full below. Those that have already been partially or completely implemented in Alternative 3 are printed in italics whereas those that are still to be implemented are printed in normal text.

Several of the mitigation measures are dealt with in more detail in the Architectural Guidelines which are included in **Addendum 2** and the landscape masterplan included in **Addendum 3**. This section must be read in conjunction with these documents.

5.2 LAYOUT AND SERVICES

- *Development is to be limited to slopes of less steep than 1:5, with slopes of 1:5 and steeper being preserved and becoming part of the open space system on the site.*
- *The layout must preserve as many milkwood trees and as much other significant vegetation as possible within linked open space areas.*
- *The layout must follow the natural contours so that the development can be experienced as growing out of the site rather than being imposed upon it.*
- *The housing units must not be massed along the boundaries, especially along the western boundary, so that a hard urban edge is not created.*
- *Roads are to follow the contours where possible and be minimum width resulting in minimum disturbance to the natural vegetation during construction and usage.*
- *The infrastructural needs, roads, water, electricity, sewage etc. are to be carefully designed and sited with the preservation of the natural environment as a top priority. This must specifically take the erven to the north of the site and Bosbokduin into consideration.*
- In all cases, cut and fill slopes are to be kept to a minimum.
- Houses must not be built on large excavated platforms or platforms created by retaining structures. They are rather to be stepped with the landscape minimising the need for earthworks.

5.3 ARCHITECTURAL

- *A comprehensive architectural and landscape guidelines document must be drawn up that covers, amongst other things, the points mentioned below.*
- *Every attempt must be made to minimise the apparent bulk of the houses.*
- *Strict limits will need to be applied to footprint size and overall height as per the architectural guidelines*
- *House forms must be articulated rather than monolithic, with shadow lines and broken surfaces keeping the houses visually interesting and more in scale with the grain of the natural environment.*
- *House designs should follow the slopes of the site creating multilevel structures that do not rely on cut and fill or the use of excessive retaining walls.*
- *Retaining walls are to be limited to 500mm in height, and where more height is necessary, several steps of 500m or less are to be used with planting between them.*
- *Terraforce and Loffelstein or similar retaining systems must not be used.*
- *Textures and colours must blend into the environment rather than calling attention to the buildings.*
- *The roofs should be grey or charcoal this being the least visually invasive colour. (Thatch, slate, iron sheeting etc would all be acceptable but must fall within the overall aesthetic of the development.)*
- *Glass surfaces that could cause glare need to be shielded by verandas, overhanging roofs or the use of pergolas with vines.*
- *Swimming pools are to be grey or brown and not blue or white so that their visual impact will be minimised.*
- *All aerials, TV dishes etc. are to be contained within the structures and not be visible from the roads or neighbours.*
- *The entrance structure is to be limited in size in keeping with the rural ambience and must not be over-lit at night.*

5.4 LIGHTING

- External lighting must be limited with all light sources shielded so as to prevent light spillage and pollution. The sense of being in a rural area must be preserved at night.
- There should be no street lighting, but where lighting is needed for safety purposes, low level bollard lighting or similar must be used.

5.5 FENCING

- All fencing must be visually permeable, such as steel palisade or diamond mesh, and painted charcoal grey to minimise visual intrusion.
- Fencing can be shielded with vegetation.
- The limiting of the height of the fencing between the houses will help to create a greater sense of spaciousness and openness on the estate. A maximum height of 1.2m is suggested although limited areas for use as drying yards, etc. will need higher fencing. These areas should read as contiguous with the built structures.

5.6 LANDSCAPING

- A clear estate policy as to the landscape aesthetic needs to be included in a landscape master plan and landscape guidelines document drawn up by a registered landscape architect. This must be included with all sales material.
- Landscape plans for individual erven should be submitted with the house plans for approval by the Home Owners Association.
- Formal gardening is to be kept to a minimum with only plants from a list that has been carefully prepared by a registered landscape architect being allowed so that the long-term degradation of the natural vegetation is avoided.
- No invasive species are to be allowed, although species that have become part of the cultural landscape, such as roses, could be permitted within limited areas provided that their seeds cannot be dispersed via wind, water or insects.
- The use of Kikuyu lawn is to be prohibited with indigenous non-invasive species being preferred.

5.7 FIRE PREVENTION

- A comprehensive fire prevention policy and fire fighting plan needs to be drawn up with the neighbouring owners being part of this if possible.
- Fire breaks must be made in accordance with the requirements of Cape Nature Conservation but always in a way that minimises the visual impact.

5.8 HOME OWNERS ASSOCIATION

- A description of the estate aesthetic which is enforceable should be included in the documentation made available to all prospective home owners by the home Owners Association.
- Care must be taken that realistic expectations as to the nature of the estate aesthetic, and any possible limitations that this might imply, are created in the minds of prospective homeowners by the advertising material so that misunderstandings and long-term erosion of the aesthetic is avoided.

5.9 CONSTRUCTION PERIOD

- The construction of services and infrastructure as well as the individual houses needs to proceed in a manner that has the least detrimental effect on the natural environment.
- Natural areas that are to be preserved need to be cordoned off and access to these areas by construction crews for such activities as creation of short-cut paths, the gathering of fire wood, or the use of the bush as a toilet, needs to be forbidden.
- An **E**nvironmental **C**ontrol **O**fficer, (ECO,) needs to be appointed during the final planning stage so that he/she can have input into the

Environmental **M**anagement **P**lan, (EMP,) in order to ensure that it is practical and implementable.

- The ECO must monitor all construction activity and make sure that the conservation goals are attained and that damage to the natural environment is kept to a minimum.
- Rehabilitation must take place immediately any damage occurs.
- The ECO must be made responsible for educating all construction workers on site as to the ecological requirements and he/she must have the ability to levy fines for non compliance.

5.10 MONITORING AND REVIEW PROGRAMME

In order to ensure that the mitigation measures are conscientiously applied it is essential that they be entrenched in all documents that pertain to the development and that prospective investors are made fully aware of these requirements before purchasing erven or employing design teams.

Once the plans and the designs have been finalised they are to be submitted, along with the landscape masterplan, and architectural and landscape guidelines to the relevant authority to ascertain whether they still fall within the conditions of the Record of Decision and the spirit of these mitigation measures.

6. CONCLUSION AND RECOMMENDATIONS

The visual character of the site and the surrounding area is exceptional and it is necessary to preserve it for future generations.

The proposed development, as found in Alternative 3, will allow development of the site while at the same time substantially preserving its visual qualities for both internal and external views. The relatively limited amount of development will enable the preservation of the open space areas and the ecological corridors creating a fitting cap to the western expansion of the town

The amount of development on site and the recessive architectural style will minimise the visual impact provided the mitigation measures are fully applied.

The potentially high visual impact on the views of a limited number of houses to the north of the site and in Bosbokduin needs to be managed by means of the sensitive siting and architectural design being carried through into the final site specific implementation so that these views are affected as little as possible.

The overall significance of the visual impact is assessed as being medium-low and is considered acceptable for this scale and type of development. It is therefore recommended that, from a visual perspective, the project be allowed to proceed.

7. ADDENDUM 1

ARCHITECTURAL GUIDELINES

GUIDELINES

STILBAAI HOUSING SCHEME

@ the sea-side

BASELINE DOCUMENT

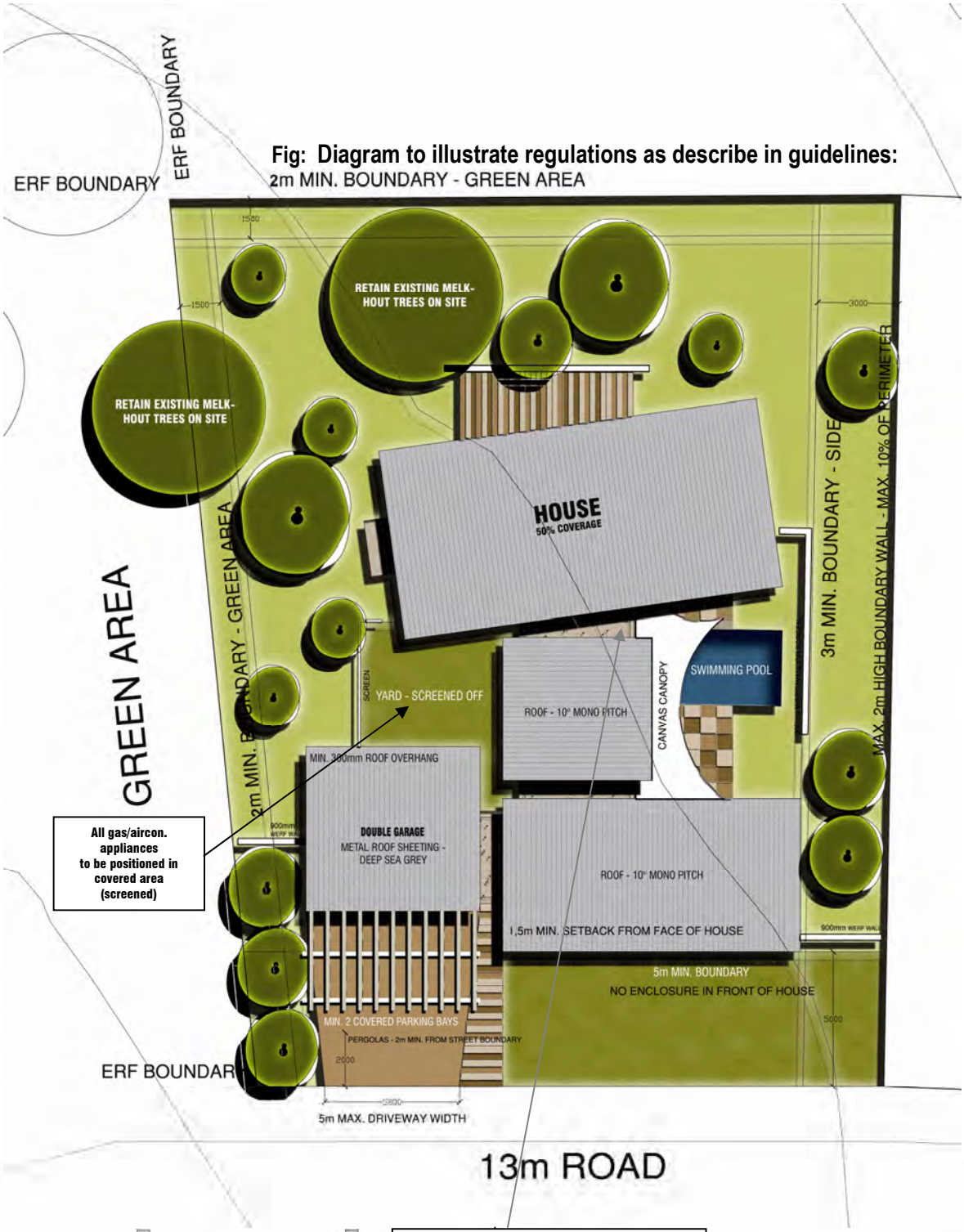
stilbaai housing scheme

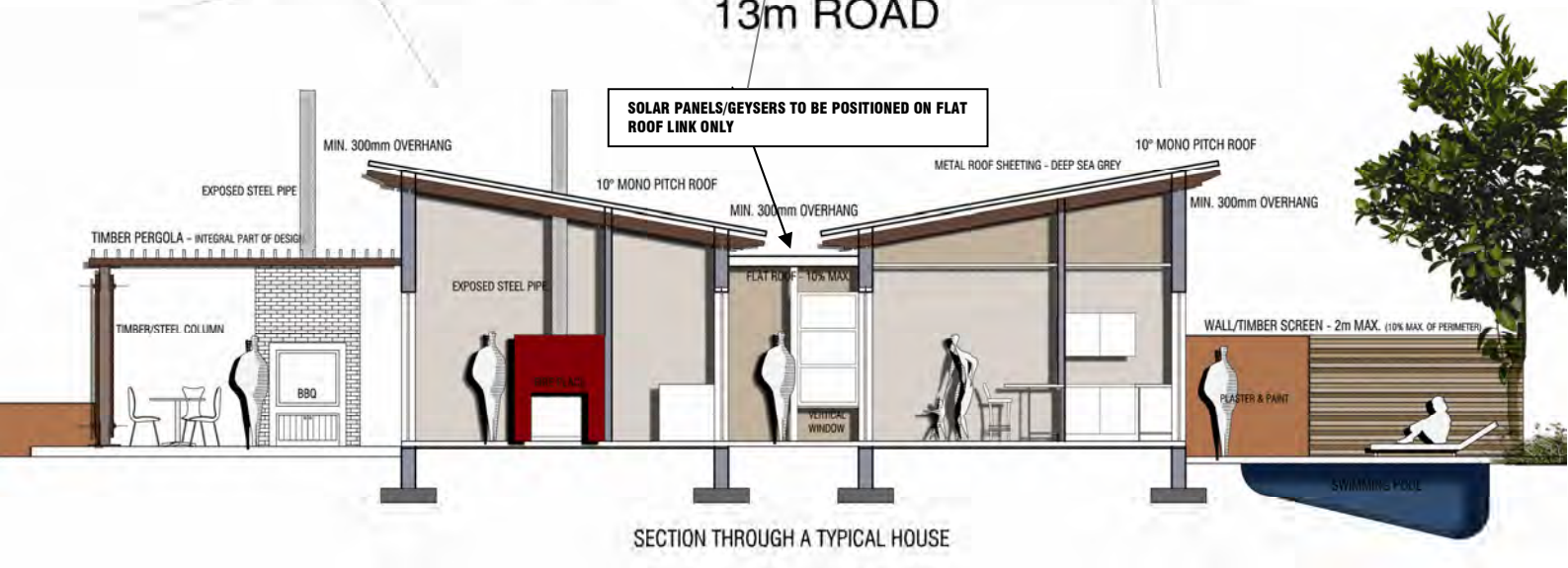
STILBAAI

farm 485/51

BOOGERTMAN
+PARTNERS
ARCHITECTS

Fig: Diagram to illustrate regulations as describe in guidelines:





SECTION THROUGH A TYPICAL HOUSE

This set of design guidelines controls the architectural and environmental identity of Stilbaai.

The guidelines have been carefully developed so as to establish a timeless and collective architectural identity throughout the Estate without inhibiting the individual's creativity and style. The elements that form the essence of the style, “Modern Contemporary Beach House” are explained in this document.

The control elements are, amongst other things; the covering, pitch and color of the roofs; exterior paint colors; the street and environmental interfaces; the appearances of the plinths, the appearances of the windows. In fact…the "bigger picture" throughout the neighbourhood will be controlled.

By controlling these elements, the full potential of “Development name” will be released as it is being developed, which in turn, grows the investment that homeowners have made in their property. The stand owner is free to choose his/her own architect/designer subject to the condition that these written and visual guidelines form the basis of the house design.

CONTROLLING ARCHITECTS:

BOOGERTMAN + PARTNERS ARHITECTS

TEL: (021) 930-9210

CONTACT PERSON: STEPHEN WHITEHEAD

email : stephen@boogertmanct.co.za

CONTROLLING LANDSCAPE ARCHITECTS: (to be appointed)

- This "design guideline document" is defined as both a body of text and explanatory sketches.
- The stand purchase agreement states that homeowners must comply with the architectural and environmental controls when houses are designed and built.
- Architects and designers are encouraged to rather use the existing trees on the stand as design opportunities, as opposed to seeing the trees as design inhibitors.
- Some stands feature existing trees (milk-woods) that have been specifically surveyed and these must be incorporated into the design.
- The architects and HOA will ensure that these guidelines are complied with during the design approval phase.
- The controlling architects must approve the site development plans before they are finally submitted to the City Council for approval with regard to each individual stand.
- The approval does not exempt the applicant from any other applicable legislation bylaws or regulations that may be applicable.

3.1 DENSITY, HEIGHT AND COVERAGE OF BUILDINGS

3.1.1 Density:

- Only one dwelling per stand is permitted which is specifically zoned for single residential and no further subdivision of any of the residential stands shall be allowed.

3.1.2 Height:

- The buildings are limited to a height of 5m measured from natural ground level to apex of roof. The controlling architect will measure this according to the original site survey plan - which indicates the contour lines for the development and was drawn up by the land surveyor.

3.1.3 Coverage:

- Patios, verandahs, and hard surfaced living areas will be included in all coverage calculations.
- The coverage may not exceed 50% of the stand size. Open, or pergola covered, deck areas will be excluded from all coverage calculations.

3.2 BUILDING LINES

3.2.1 STREET BOUNDARY

- 5m from the stand boundary.
- No enclosure in front of the house.

3.2.2 GARAGES AND COVERED PARKING.

- A minimum of 1,5m behind the face of the house or it can be rotated through 90°and set in front of the house. This excludes pergolas and non-covered parking areas.
- Pergolas to be minimum 2m from street boundary.

ARCHITECTS ARE ENCOURAGED TO CONSIDER AND ENHANCE THE STREETSCAPE WHEN DESIGNING THE HOMES.

3.2.2 SIDE SPACE

- 3m minimum on all side boundaries abutting residential erven.
- 2m on all side boundaries abutting “green space”.

3.3 DRIVEWAYS

3.3.1 APPEARANCE

- Driveway materials may be any combination of exposed aggregate concrete (brown aggregate), concrete cobble (charcoal colour), and De Hoop (or similar) red clay bricks.
- Driveway width at kerb edge must be 5m.
- No retaining wall may exceed 500mm – only gabion retaining walls will be permitted.
- The use of natural slope are encouraged.

3.4 BOUNDARY WALLS

3.4.1 STREET FACADE

- The facade should ideally be left open and the use of natural and indigenous landscaping onto the facade is encouraged.
- 900mm high "werf" type walls with plastered coping, solid, or trelliswork panels supported by masonry piers at min 2m centers, will be permitted along the front boundary and side boundaries no further than the front edge of the garage/dwelling facade.

- No gates shall be higher than the adjoining wall.

3.4.2 SIDE AND REAR BOUNDARIES

- Walls between properties shall not exceed 2m in height and may not exceed 10% of the total erf perimeter.
- Bonox or diamond mesh fence not exceeding 1m in height will be allowed on the perimeter behind the face of the dwelling.

3.4.3 SCREEN WALLS

- Screen walls of minimum 1800mm high must be provided to enclose drying yard.
- Any screen wall on the boundary or between the building line and boundary will count toward the maximum 10% of boundary wall permitted.
- Screen walls inside of the building line are not limited in extent. (Use to screen decks, pools or as windbreaks).

4.1 MODERN CONTEMPORARY BEACH STYLE

The Modern Contemporary Beach House Style is a distillation of elements from a typical South African Beach house (traditional Beach Shack, low pitches, minimalist gardens, pragmatic architecture – which sits lightly on it's site) and modern contemporary architectural language. It is intended to use modern elements and adopt traditional beach-house scale proportions and massing (simple rectangles and squares) which characterised these homes in a manner adapted to contemporary lifestyles.

5.1 APPROVED ARCHITECTURAL ELEMENTS

5.1.1 ROOFS

5.1.1.1 The following roof finishes are permitted:

- Metal roof sheeting – deep sea grey/aluminium (specified by architect).
- Tensile structures – canvas and similar fabric type materials (colour control – white, cream and beige only).

5.1.1.2 It is suggested that all rainwater goods which are exposed be painted to match building. (Precoloured metal).

5.1.1.3 Only mono-pitch roofs @ 10° will be allowed.

5.1.1.4 It is encouraged to use mono-pitch roofs in interesting ways by creating roofs @ different heights and in different directions.

5.1.1.5 The following roof elements are specifically prohibited:

- Parapets to any roofs.
- Vent pipes visible from roadways.

5.1.1.6 All roofs to overhang a minimum of 300mm.

5.1.1.7 Flat roof portions will be allowed as links between pitched roof elements, but is to be limited to 10% of the pitched

roof area.

5.1.2 WALLS

5.1.2.1 The following wall finishes are permitted.

- Smooth plaster and paint
- Textured or roughcast plaster and paint
- Integral colored rendered wall coatings such as Marmoran, Gama Zenith and Earthcote within the approved colour palette (provided by architect).
- Timber or Nutec Plank (may not exceed more than 20% of the external wall surface per façade).
- Facebrick (may not exceed more than 20% of the external wall surface per façade).
- Stone (use on focal elements such as chimneys, free-standing walls and "boxes", columns etc.). No artificial stone may be used.
- Sandstone may be substituted for timber/facebrick.

5.1.2.2 It is recommended that stone and facebrick be used for isolated elements (chimneys and an isolated wall plane) and not for plinths.

5.1.2.3 Designers are encouraged to use the wall finishes in combinations.

5.1.2.4 The following plinth and column base finishes are permissible:

- Facebrick to max of four courses above internal floor level. The colors and types of the above plinth materials must however be submitted for approval.

5.1.2.5 Plumbing pipes are to be suitably concealed within walls, ducts or by screen walls and may not be exposed to the roadway or adjoining properties.

5.1.3 WINDOWS, SHUTTERS AND DOORS

5.1.3.1 One façade should be predominantly glass. The balance to be more wall than void (ie max 20% glazed).

5.1.3.2 Large doors and windows must be screened or recessed min 1500mm behind the outer line of a pergola, verandah or screen.

5.1.3.3 Two covered parking bays must be provided on each dwelling.

5.1.3.4 Only the following materials are permitted:

- Timber - natural (oil or varnish).
- Timber - painted in approved colour palette of either white or dark grey.
- Aluminium - powder / epoxy coated in approved palette (natural anodized, deep sea grey, aluminium).

5.1.3.5 Window proportions should be either square or such that height exceeds width (predominantly vertical format).

5.1.3.6 In the event that burglar bars are fitted these must be internal and aligned with the windows. Only square-type will be allowed.

5.1.3.7 No sandblasted or reflective decorative glass is permitted.

5.1.3.8 No arches, awnings, bay-windows or colonial compositions are allowed.

5.1.3.9 Garage doors may be of a single door width only (only timber doors with vertical/horizontal slats will be permitted).

5.1.3.10 Shutters must be operational and are preferably side hung (colour acc. to colour palette provided by architect). Only square-type timber or aluminium shutters will be allowed.

5.1.3.11 Doors to be in vertical format (preferably partly glazed).

5.1.3.12 The creation of "formal" entrances is discouraged.

5.1.3.13 Folding/stacking doors (timber/aluminium) are encouraged.

5.1.4 CHIMNEYS

5.1.4.1 Chimneys if used are an important focal element and must be of exposed steel pipes.

5.1.4.2 Bold, thick, square-type chimney bases are recommended (no decorative type allowed).

5.1.4.3 Materials allowed:

- Steel flues.
- Stone bases.
- Plaster + Paint (colour acc. to colour palette) bases.
- Facebrick bases.

5.1.5 BALUSTRADES & COLUMNS

5.1.5.1 Balustrades to be predominantly horizontal.

5.1.5.2 Materials allowed (balustrades):

- Timber + Cable (timber slats with steel connections and detail are encouraged).
- Stainless Steel + Cable
- Aluminium (powder-coated).
- Natural Timber (stained).

5.1.5.3 Columns to be light weight only – either steel or timber.

5.1.5.4 Connection-details must be an important element in column-design.

5.1.6 PERGOLAS

5.1.6.1 Pergolas must form an integral part of the design of the main structure.

5.1.6.2 It is essential that all connections between different structural members are well-designed.

5.1.6.3 Timber pergolas over patio's, balconies and in front of garages are encouraged.

5.1.6.4 Canvas (free-form canopies) structures are allowed as clip-on structures (non-permanent). Colours to be white

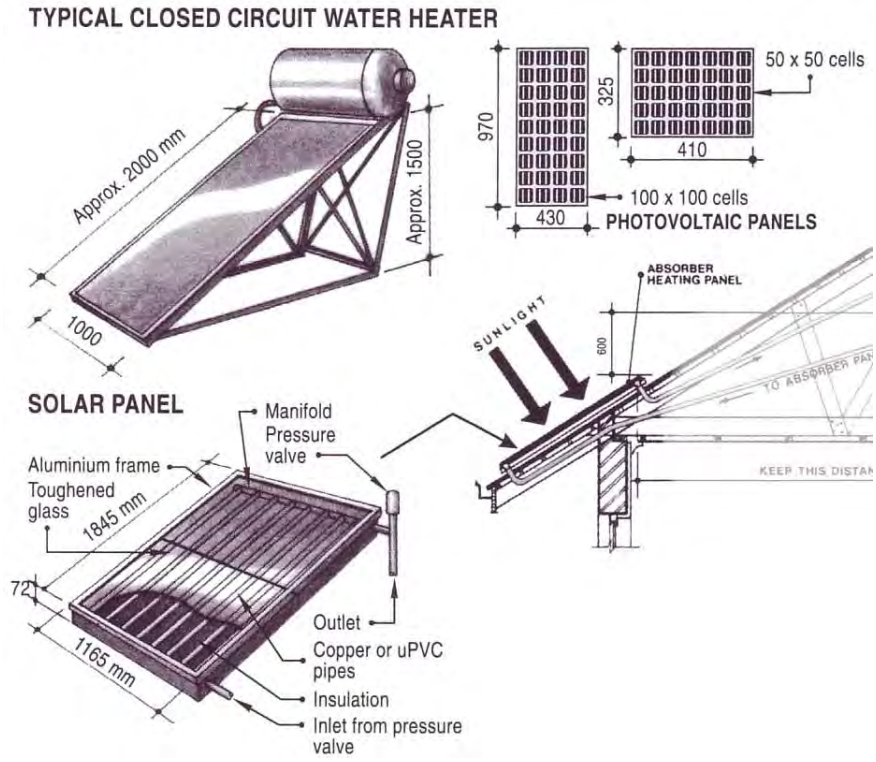
or sand (by architects with submission).

5.1.6.5 No shade-netting, gum poles or aluminium pergolas are permitted.

6 SOLAR ENERGY AND GAS

Along with the looming dangers of climate change, the urgency of alternatives to CO2 emitting energy source is becoming more obvious by the day. One of the most important actions to counter these challenges is the establishment of alternative energy sources such as solar energy.

Solar photovoltaic technology can be produced in any desired amount, from a few milliwatts to many megawatts, if so desired. A typical middle-class suburban family needs only about 30 square metres of solar panels to supply all of its electricity needs.



On average, a solar system can provide up to 60% savings on electricity bills every year. Most of the panels operate not just with direct sunlight, but also indirect solar radiation, so they can even work on cloudy days.

Global warming is a fact and any contribution to a better environment is better than no contribution. A solar system can in fact reduce CO2 emissions by 1,6 tons a year.

Saving measures are recommended under components such as electricity, water, construction, waste and material selection.

ELECTRICITY:

- Water heating **must** be achieved through the utilization of **gas and/or solar panels/geysers.** No building plans will be approved without gas/solar panels incorporated in the overall design. Position of gas appliances and/or solar panels/geysers to be indicated on plan and section. **(Refer to section p.3).** Solar panels/geysers

to be installed on **flat roof link only**. All gas appliances (and air-conditioner appliances) to be positioned in covered yard. Nothing must be visible from the outside.

- Energy saving lamps in all structures, alternatively compact fluorescent lights in purpose made luminaries is now mandatory.
- Alternatively heat pump operated domestic geysers may be used;
- All geysers and 2.0m of hot and cold water pipes on either side of geysers must be insulated;
- Timers should be installed to prevent the switching on of heating elements and non essential loads such as swimming pool pumps at peak demand time;
- Use roof insulation, solar firms on windows, roof overhangs and awnings to reduce the need for air-conditioning;
- Local authority geyser and swimming pool control switches are mandatory;
- Outside light fittings must have cut-off characteristic above 75 degrees and zero upward light output above 90 degrees from the downward vertical.

WATER:

- Capture and use rainwater from gutters and roofs into rainwater storage tanks for individual units/structures;
- All external taps to only be linked to rain storage tanks to prevent the use of potable water to be used for activities such as gardening or car washing;
- Washbasin and shower taps to be fitted with flow reduction devices, aerators and motion sensors to ensure water conservation and prevent that they can be left running;
- Toilets should be fitted with reduce flow or preferably a duel flush system;
- Re-use household waste water for flushing;
- Washing facilities/toilets for construction team to be provided with flow reduction devised and adequate catchment to contain waste water;
- All hoses to be fitted with trigger gun spray nozzles to limit wastage;
- Only indigenous gardens – to minimize water demand;
- Timed irrigation systems with the focus on the hours when the least evaporation occurs.

CONSTRUCTION:

- Waste must be identified and analysed for reduction, re-use and recycling opportunities;
- Arrange for storage and transportation/collection of various wastes to their final destination or use areas on site;
- Design of units/structures must maximize the use of pre-fabricated components to minimize waste on-site and permit re-use by the manufacturers of any waste generated during construction of the pre-fabricated unit;
- Staff must be trained in waste segregation and storage.

WASTE:

- Household waste to be separated and re-cycled (glass, paper, green/garden waste).

MATERIAL SELECTION:

- Select building materials for durability to minimize maintenance or replacement;
- Use standard materials to increase the potential for re-use and re-cycling;
- Materials should be sourced locally where possible;
- Use recycled shuttering, door and window frames, sanitary ware, concrete aggregate and roofing materials.

7 ENERGY EFFICIENCY IN BUILDINGS (ref: SANS 204-1/2/3:2008 – edition 1)

SITE ORIENTATION AND BUILDING

- Main glass façade of building to face predominantly north (optimal orientation true north for Cape Town – 20°E & -8°W).

SHADING

- Provide shading (pergolas/canvas canopies) in front of large glass facades and patio's.

ROOFS

- All roofs to be constructed with sufficient thermal insulation.

LIGHTING AND POWER

- Minimum lighting levels to be determined (5 Power Watts/m² and 100Lux).
- Designers are encouraged to use day lighting as much as possible to reduce energy use.

BUILDING ENVELOPE

- Roofs, external walls and floors that form the building envelope and any opening such as windows and doors in the external fabric shall be constructed to minimize air leakage.
- The building sealing can be done by skirtings, cornices etc.

CHIMNEYS AND FLUES

- The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue.

HOT WATER SERVICES

- Ensure the plumbing of existing hot water cylinders will accommodate conversion to a solar water system.

8 GENERAL LANDSCAPE GUIDELINES

(To be completed by Landscape Architect)

9 GENERAL DESIGN GUIDELINES & RESTRICTIONS

9.1 All plans must be prepared by a Registered Architect or an approved designer and submitted to the Stilbaai Home Owners Association for approval by the controlling architects. Only after this approval has been obtained in writing can the plans be submitted to the local authority. It is the owner's responsibility to ensure that all plans are submitted and approved by both authorities prior to construction.

9.2 A "Plan Scrutiny Fee" of R 1000 will be payable by the owner. It allows for interaction with the controlling architects (Boogertman + Partners) and constitutes the professional fee for time spent evaluating the submitted plans against Stilbaai's set of design guidelines.

9.3 The privacy and views of surrounding properties should be considered when preparing the design.

9.4 No staff accommodation should be nearer to the street than the main building and must be contained under the same

roof or integrated into the overall design.

9.5 Staff accommodation and kitchen areas should open onto screened yards or patios.

9.6 Outbuildings and additions should match the original building design in style, elevation and material usage. All plans must indicate at least two covered parking bays and this must be built in conjunction with the original dwelling. No flat roofed carports will be permitted unless they match and blend with the design of the main dwelling.

9.7 Yard and screen walls should be similar to the basic materials and colours of the building and comply with item 3.4.

9.8 No garden sheds, Wendy houses, dog kennels and covered facilities for caravans, boats or trailers are to be visible from the road or green areas.

9.9 Solar heating panels, if used, should be incorporated into the building and form part of the basic structure and should be clearly shown on the approval drawings. (Not visible from the street).

9.10 TV aerials, satellite dishes and other exterior items must form part of, and be placed within, the basic structure and are to be clearly shown on the approval drawings.

9.11 All exposed plumbing and washing lines must be fully screened and not be visible from the street elevations and other elevations onto adjoining properties including green area.

9.12 No deviations from the approved drawings will be permitted unless the deviation is re-submitted and approved in writing prior to construction.

9.13 Mechanical equipment and plant such as air-conditioners (and grilles), ducts, pool pumps, etc. must be designed into the buildings and / or adequately enclosed or screened off from view and must be shown on building plan.
As the building within the residential estate will be constructed over a lengthy time period, the following guidelines have been formulated for the benefit of residents:

10.1 CONTRACTORS LABOUR

10.1.1 Labour must be an employee of the contractor and only under limited circumstances will casual labour be allowed on site. This shall be at the sole discretion of the SHOA.

10.1.2 All labourers must be registered at the Security Control Room. Where they will be issued with a permit, which must be worn at all times whilst on site.

10.2 DISCIPLINE

10.2.1 The contractor is responsible for the discipline of his labour, sub-contract labour and delivery personnel on site.

10.2.2 Labourers are not permitted to walk between the contraction site and the entrance / exit gates. Labourers will remain on the site where they are busy constructing, and will not be allowed to move between construction sites on the Estate.

10.2.3 The employer of any employee found walking across the green areas, between sites will be spot fined, and the employee liable to instant removal form site.

10.2.4 No vehicles will be allowed to cross any part of the green areas, or parkland, or to deviate from roads or recognized road route. Any vehicle convening this rule will attract a spot fine, be liable for instant removal from the site

and liable for damages sustained.

10.2.5 Vehicles with mechanical legs on trailers must use protection for possible road surface damage.

10.2.6 Any dispute between the contractor and his employees must be settled outside the boundaries of the Estate.

10.2.7 If any employee is found disturbing or endangering the animal, fish or bird life, or is found pilfering, stealing or removing material or goods off site without permission or is involved with any form of violence, the company who employs that person will be removed from the site and both employee and company will be denied the opportunity to undertake any further work on the site.

10.2.8 The contractor is responsible for all his sub-contractors as well as the deliveries, and any damages caused by his own employees, sub-contractors employed by him or delivery vehicles delivering materials to his site, and he is liable to pay for any damages that may occur on the site. These damages also include damage to kerbs, roads, plants, irrigation and or damage to private property.

10.2.9 The SHOA will have the sole discretion as to the nature, extent and value of these damages, and the identification of respective vehicles and persons. A "Building Performance Deposit" of R 5000 will be needed for this purpose before any construction is to take place.

10.3 HOUSEKEEPING AND TIDINESS

10.3.1 The site is to be kept as clean as possible of building rubble and general cleaning and good housekeeping practice must take place during building operations.

10.3.2 No building materials, concrete, dagga, cement or such may be temporally stored, or mixed or prepared on any of the roadways, kerbs and pavements.

10.3.3 Materials that are off loaded by a supplier or Contractor may not encroach onto the adjacent site, the pavement or roadway. Where suppliers fail to adhere to this, the responsible contractor shall move the materials accordingly. The contractor is also responsible for removal of any sand or rubble that may have washed or moved into the road.

10.3.4 The Contractor is to ensure that the roads and the vicinity of this house site is always kept neat and tidy, including materials or mud or spoil being driven or dropped onto the road or sidewalk.

10.3.5 The Contractor shall provide adequate facilities for rubbish disposal and ensure that the workers use the provided facilities and that the rubbish is removed every Friday. No rubbish may be burnt or buried on site. No form of paper, cement bags, tile off cuts, ceiling boards, roof tiles, rubble, or the like is to be left lying around, nor be allowed to blow off the site.

10.3.6 Accumulation of hardcore for fill shall be neatly piled. With the SHOA consent on-site disposal dump or spoil zones may be arranged.

10.3.7 With the dams and water features on the Estate, as well as the adjoining stream, pollution and contamination of groundwater and run-off water is particularly sensitive. Contractors shall ensure special care in their handling, disposal and cleaning up operations with particular note to paint, tile grout, tile adhesive, cement and rhinolite, chemicals, oil and fuel, etc. Special preventative controls must be taken on waterfront sites to avoid spillage.

10.3.8 Fires for cooking or other purposes will not be permitted, and Contractors shall ensure approved alternative meal arrangements are made. Contractors must ensure that their employees make no fires for heating purposes.

10.3.9 The Contractor shall provide approved portable chemical toilets facilities for the workers. Adjacent construction sites may share toilets as approved by the SHOA. Toilets and changing facilities shall be suitably positioned and

screened with forest fence and kept hygienic.

10.3.10 One approved building board shall be erected per site, and such board is to be erected neatly in the corner of each site. Boards are to be maintained in a plumb and level position throughout the contract, and must be removed immediately after completion of each house construction. Board layout drawings will be available from the SHOA and needs to be erected before any construction is to take place.

10.3.11 No Contractors, sub-contractors or suppliers boards of any kind will be allowed.

10.3.12 Construction materials may only be delivered to the house site on an as-needs daily basis for installation by the latest the Friday of the week, and surplus materials must not be allowed to visibly accumulate on the house site.

10.3.13 The certificate of completion by the SHOA includes the site to be entirely cleared of all rubble, surplus materials, and be impeccably clean, and the verge re-instated, all to the satisfaction of the SHOA.

10.3.14 Contractor vehicles shall not be parked or left in the road, and a screened designated parking area shall be arranged with the SHOA.

10.4 CONTRACTORS YARDS, STORAGE AND OFFICES

10.4.1 Allocated areas, as authorized by the SHOA, will be granted to accredited Contractors for their operational use.

10.4.2 A designate bulk storage area could be allocated to the Contractor for his materials, for distribution to house sites. Approved storage sheds; containers, or yards could be allowed on house site, if no alternative can be found.

10.4.3 Access to the site only through the driveway and the landscaping zone fenced of. Parking is only allowed on site.

10.4.4 The appearance, management, servicing and qualification for these facilities will be reviewed by the SHOA and negotiate on an as-need basis.

10.5 GENERAL

10.5.1 The speed limit is 40 km/h and speeding and reckless driving will not be tolerated. Due care must also be taken by all vehicles not to block the thoroughfare of roads.

10.5.2 Noise and dust reduction is essential, and Contractors shall endeavor whenever possible to limit unnecessary noise, especially employee loud talking, shouting or whistling, radios, sirens or hooters, motor revving etc.

10.5.3 Contractors are expected to conduct their operation in a reasonable and co-operative manner. Should the SHOA have any concern with the conduct of the contractor, his sub-contractor or his suppliers and any of their employees, the SHOA may rectify as deemed necessary and/or reserve the right to suspend building activity either indefinitely or until such undesirable conduct is rectified, which it may do so at any time and without notice and without recourse from the owner and/or Contractor and/or sub-contractor, and/or supplier.

The following must be adhered to before building plans are approved and building operations will be considered for inspection:

11.1 PLAN APPROVAL PROCEDURES & FEES

11.1.1 All building plans should be submitted to Boogertman + Partners (021) 930 9210 accompanied with a contour plan and a R1000 approval fee.

The R1000 fee is for plan reviews, weekly site inspections and the final inspection before the 'Approval for application of clearance certificate' is issued by the estate manager.

The architects will review the plans with the Aesthetic Committee and on approval, hand it over to the estate manager for his approval.

The building plans must be submitted to the City Council. They will circulate it to the different departments but will only give final approval once they have received the approved building plans from the estate manager.

On approval by the City Council you can approach the estate manager for the payment of the builder's deposit [a building performance deposit of R 5000 will be deposited and held in trust (free of interest) by the SHOA. The deposit amount will be used in event there is a breach on non performance to remove rubble or make good any damage caused by the Contractor or his sub-contractors or suppliers, including kerbing, landscaping, community services, roads, irrigation etc, and for any outstanding spot fines] and the signing of the builders contract by SHOA, the owner and his contractor whereupon the clearance certificate will be issued . This is needed by your contractor to enter the site and commence construction. The entrance for all contractors and sub contractors are through the contractors gate which is monitored by a security guard.

A builders board must be erected on your stand.

Approximately three weeks before completion the estate manager must be approached for an 'Approval for application of the clearance certificate'.

This is required to obtain the clearance certificate from the City Council.

11.1.2 The SHOA plan approval committee will sit every two weeks for inspection of plans.

11.1.3 All plans necessary for City Council approval must be submitted together with an extra rendered paper copy to be kept for record purposes by the SHOA. Approved drawings will be stamped and made available for collection by the designers for submission to the Council. All Council fees are for the owners account.

11.1.4 The following items must be clearly shown on the plans:

- Stand boundaries, area of dwelling, including patios and outbuildings
- Coverage (%) and height above original natural ground level
- Building lines, ETZ's, specific trees or clumps of trees that need to be retained as specified in the guidelines
- All external finishes, including a colour specification
- Boundary wall/fence details, including elevations
- Drainage and how it is concealed, as well as the sewer connection
- Layout of driveway
- External lighting plan.

11.1.5 A copy of the checklist for design guidelines is to be signed by the owner and submitted with the drawings.

11.1.6 Inspection by the controlling architect. The controlling architect may carry out site inspections during the following stages of construction:

- Surface bed level
- Completion of roof structure
- Practical completion

The controlling architect may inspect the works at any stage construction and may request any reasonable alterations

and/or additions to ensure that the general design guidelines as intended for the development are implemented.

The homeowner is responsible to specifically notify the SHOA when the roof structure has been completed in order to arrange for the architect to inspect the works. (At least 5 days notice is required for this arrangement).

11.2 OCCUPATION

11.2.1 Occupation of the premises will only be allowed after the home owner has produced an occupation certificate from the City Council

[Remember that the council will not process the application for the occupation certificate unless it is accompanied by the 'Approval for application of the clearance certificate' which is issued by the SHAO].

8. ADDENDUM 2

LANDSCAPE MASTERPLAN

LANDSCAPE MASTERPLAN

ADDENDUM 2