Brandwacht III

DRAFT REPORT

Prepared for:

TV3 Architects and Town Planners
97 Drop Street, Stellenbosch, 7600
Tel. (021) 861 3800

Prepared by:

Megan Anderson Landscape Architect
33 Hoop Street, Bredasdorp, 7280
***Tel:** 028 425 1350*

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1. Name, Expertise and Declaration

1.1 Name

Megan Anderson, of Megan Anderson Landscape Architects, is a self-employed Landscape Architect who has been consulting in the Western Cape since 1991, to clients from the public and private sector.

1.2 Expertise

Megan Anderson's projects range from:

- visual impact assessments (VIAs) of proposed developments for EIA and HIA processes;
- environmental and landscape policy and planning;
- upgrading and rehabilitation of natural systems;
- planning and implementation in heritage and cultural precincts; and
- planning, design and landscape development in residential and urban areas and community projects.

PRINCIPAL AGENT: Megan Anderson (PrLArch) Registered Professional Landscape Architect BLArch (UP) 1983 MILASA

REGISTRATION OF PRINCIPLE AGENT

1994 South African Council for Landscape Architect Professionals (94063)
1992 Institute of Landscape Architects of South Africa (P217)

QUALIFICATIONS

1983 University of Pretoria Bachelor of Landscape Architecture

VISUAL IMPACT ASSESSMENT EXPERTISE

Megan Anderson has been doing Visual Impact Assessments (VIA's)since 1989 when working for OvP and BOLA. Since then, she has completed more than 100 VIA's for a variety of developments including mining, harbours, wind and solar farms, communication towers, commercial and residential developments.

1.3 Declaration of independence

I Megan Anderson declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed Wind Energy Project at two sites in the Western Cape, application or appeal in respect of which I was appointed, other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.

MEGAN ANDERSON
Megan Anderson Landscape Architects
Professional registration number: SACLAP - 94063

2. Introduction

2.1 Background to this report

Megan Anderson Landscape Architects have been appointed to undertake a Visual Framework Report for the proposed Brandwacht Residential Development on RE/1049, Stellenbosch.

This report is a preliminary Visual Framework study which is to inform the pre-application planning stage by identifying scenic resources, visually sensitive areas and receptors and will determine visual opportunities and constraints;

2.2 Terms of reference

The PGWC's DEA&DP's "Guidelines for involving visual and aesthetic specialists in the EIA process" provides 'triggers' (i.e. characteristics of either the receiving environment or the proposed project), which indicate that visibility and aesthetics are likely to be 'key issues' and may require specialist input.

The following characteristics of the site and project are probable triggers which suggest potential visual issues:

The nature of the receiving environment:

- Areas with proclaimed heritage sites or scenic routes;
- Areas with intact or outstanding rural or townscape qualities;
- Areas with a recognized special character or sense of place;
- Areas lying outside a defined urban edge line;
- Areas of important tourism or recreation value;
- Areas with important vistas or scenic corridors;

The nature of the project (type and scale):

- A change in land use from the prevailing use;
- A significant change to the fabric and character of the area;
- Possible visual intrusion in the landscape;

The guideline document goes on to correlate these two aspects, environment types and development types, to determine the varying levels of visual impact that can be expected, i.e. from little or no impact, to very high visual impact potential.

Table 1: Categorisation of issues to be addressed by the visual assessment

Type of environment	Type of development (see Box 3) Low to high intensity				
	Category 1 development	Category 2 development	Category 3 development	Category 4 development	Category 5 development
Protected/wild areas of international, national, or regional significance	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected	Very high visual impact expected
Areas or routes of high scenic, cultural, historical significance	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected
Areas or routes of medium scenic, cultural or historical significance	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected
Areas or routes of low scenic, cultural, historical significance / disturbed	Little or no visual impact expected. Possible benefits	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected
Disturbed or degraded sites / run-down urban areas / wasteland	Little or no visual impact expected. Possible benefits	Little or no visual impact expected. Possible benefits	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected

We believe the "Type of environment" is "Areas or routes of high scenic, cultural or historic significance" and the "Type of Development" is a Category 4 development as defined below:

Category 4 development:
e.g. medium density residential type development, The expected visual impact is moderate to high, namely:

High visual impact expected:

Potential intrusion on protected landscapes or scenic resources;
Noticeable change in visual character of the area;
Establishes a new precedent for development in the area.

Explanation of terms used:
Noticeable change – clearly visible within the view frame and experience of the receptor
Some change – recognisable feature within the view frame and experience of the receptor

The suggested level of visual impact assessment for expected moderate to high visual impacts will be a level 3 to 4 study.

2.3 Methodology

The Visual Framework Study will identify the visual opportunities and constraints of the site.

- a site inspection has been undertaken, including a photographic survey,
- a review of relevant literature will be done,
- the scenic and visual resources of the area and site will be described, quantified and assessed,
- the view catchment and zone of visual influence of the site will be established and mapped,
- view points and receptors will be established as well as the visual impact to these

- the site itself and surrounding areas will be studied to identify visual opportunities and constraints for the proposed development -
- the visual sensitivity of site will be established through mapping slope grades, landforms, vegetation, special features and land use

3. Literature Review

3.1 Stellenbosch Municipality Spatial Development Framework (Sustainability Institute,2017)

The proposed site is situated predominantly outside of the proposed Stellenbosch Town urban edge . The SDF is currently being revised and this property is requiring to be included into the revised urban edge.

3.2 Provincial Spatial Development Framework (WCG 2014)

The Provincial Spatial Development Framework (PSDF) (WCG, 2014) identifies the portion of the R44 passing west of the site as a scenic route.

3.3 Heritage and Scenic Resources, Inventory and Policy Framework for the Western Cape (Oberholzer and Winter, 2013)

Brandwacht is situated in/adjacent to Stellenbosch in the Cape Winelands in the Western Cape. Oberholzer and Winter describe this area as follows in the *'Heritage and Sceninc Resources: Inventory and Policy Framework for the Western Cape'* as follows:

2.5 The Cape Winelands

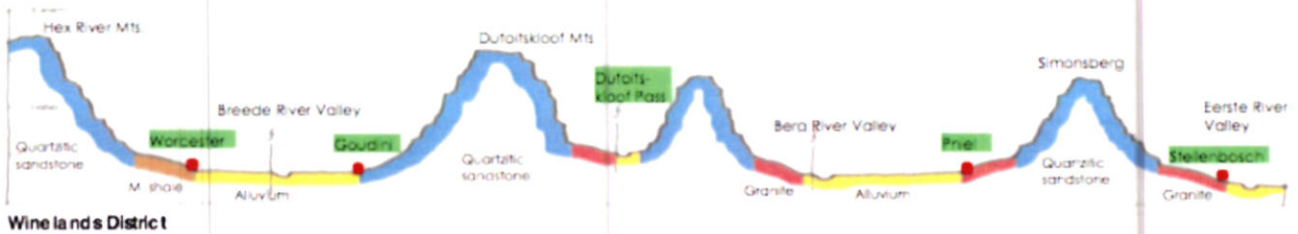
The Cape Winelands is an area of fertile valleys nestled between the Cape Fold Mountains with their rugged sandstone peaks. It is an area high in scenic and heritage significance, its famous vineyards earmarked for declaration as a World Heritage Site.

At the base of the sandstone massifs, the steep scree slopes grade into gently rolling foothills of weathered Cape granites and Malmesbury shales, which have been incised by rivers to form wide alluvial valleys in places, such as those of the Berg and Breede Rivers. Interestingly the pattern of vineyards has a strong correlation with the occurrence of the granites, the unique combination of soil and climate having made this the centre of viticulture and fruit farming.

Towns, villages and farmsteads are strung along the valleys in response to the topography, sources of water and productive agricultural soils, Stellenbosch and Paarl being two of the oldest colonial settlements. Other towns in the District with 'Heritage Areas' include Franschhhoek, Wellington, Montagu, Worcester, McGregor and Tulbagh.

The combination of mountain scenery, rural landscapes, colonial architecture and wine routes make this area a prime tourism destination of critical importance to the economy of the region. The area is however also under great threat of fragmentation through creeping urbanization.

The rugged terrain and tapestry of rural landscapes have given rise a network of scenic routes and mountain passes, many of which began as wagon routes to the interior. Passes such as Bainskloof Pass (a Provincial Heritage Site), Franschhoek Pass, Mitchell's Pass and Cogmanskloof, to name a few, are a legacy from the 1700s and 1800s by road-builders such as Andrew Bain.



The sections illustrate the pronounced topography of the quartzitic sandstones (blue), as well as the location of settlements on the footslopes with access to water and productive soils of the granites, shales and alluvial valleys. River valleys often tend to follow fault lines.

Figure 1: Section through Cape Winelands with the site in greater Eerste River valley, on the foothills of the Simonsberg (Source: adapted from Oberholzer and Winter, 2013).

3.4 Heritage Inventory of, and management plan for, the tangible resources in the Stellenbosch Municipality Project - Phase 2a Report Draft Heritage Inventory of Large Scale Landscape Areas in the Rural Domain of the Stellenbosch Municipality informing Proposed Heritage Areas (Cape Winelands Professional Practices in Association, 2017)

The Phase 2a Report of this study is an inventory of Heritage Resources of the Rural Domain of the Cape Winelands and proposes that the upper half of the Brandwacht RE/1049 site is an area of Very High Heritage Significance. Management Proposals for these areas are still to be published.

4. Proposed Development

4.1 Location

The proposed development will be located on a portion of the farm Brandwacht RE/1049, which is adjacent to and south of the established residential areas of Bo Dalsig and Brandwacht and the more recent Brandwacht Aan - Water residential development.

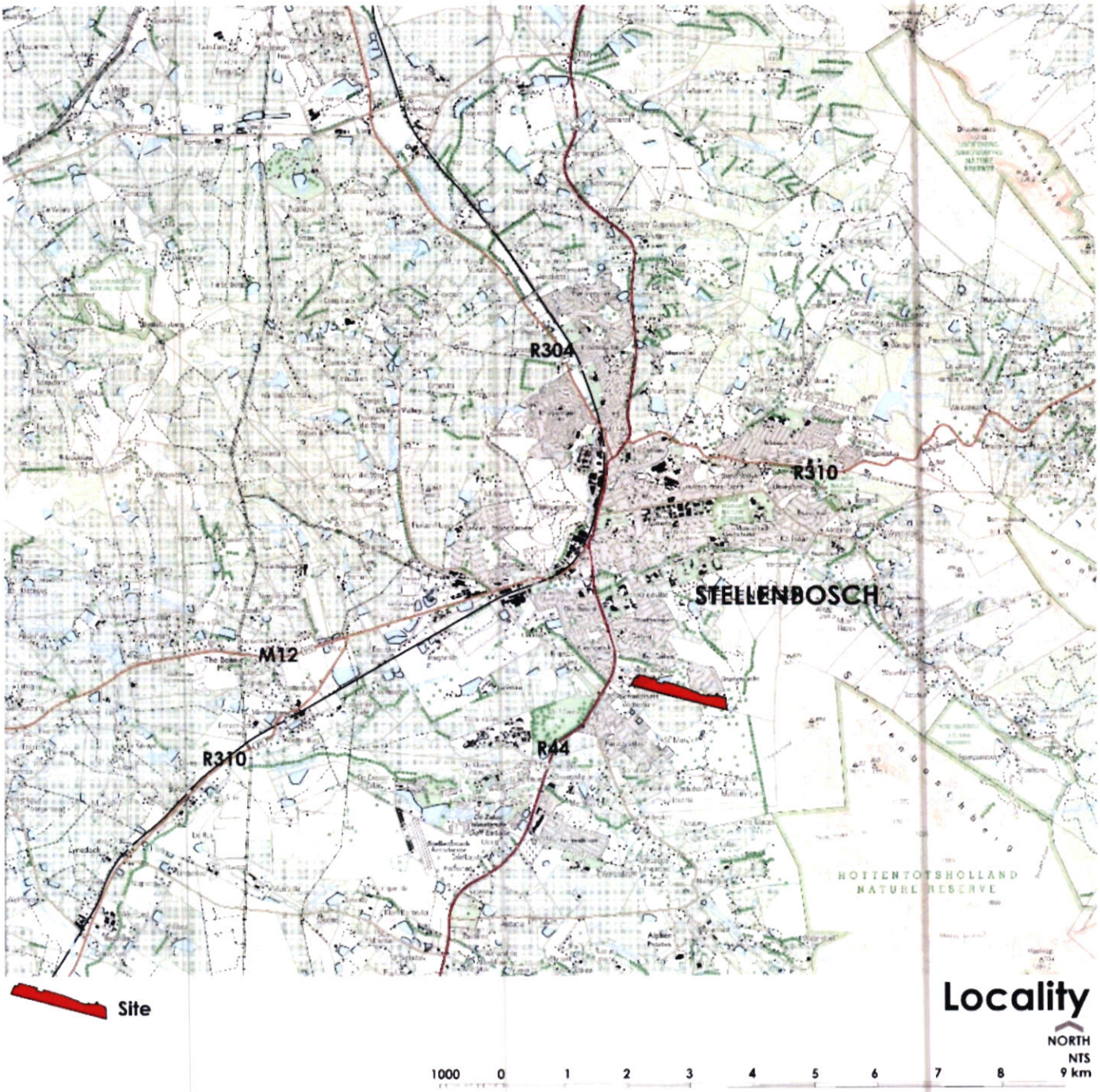


Figure 2: Site Location - regional

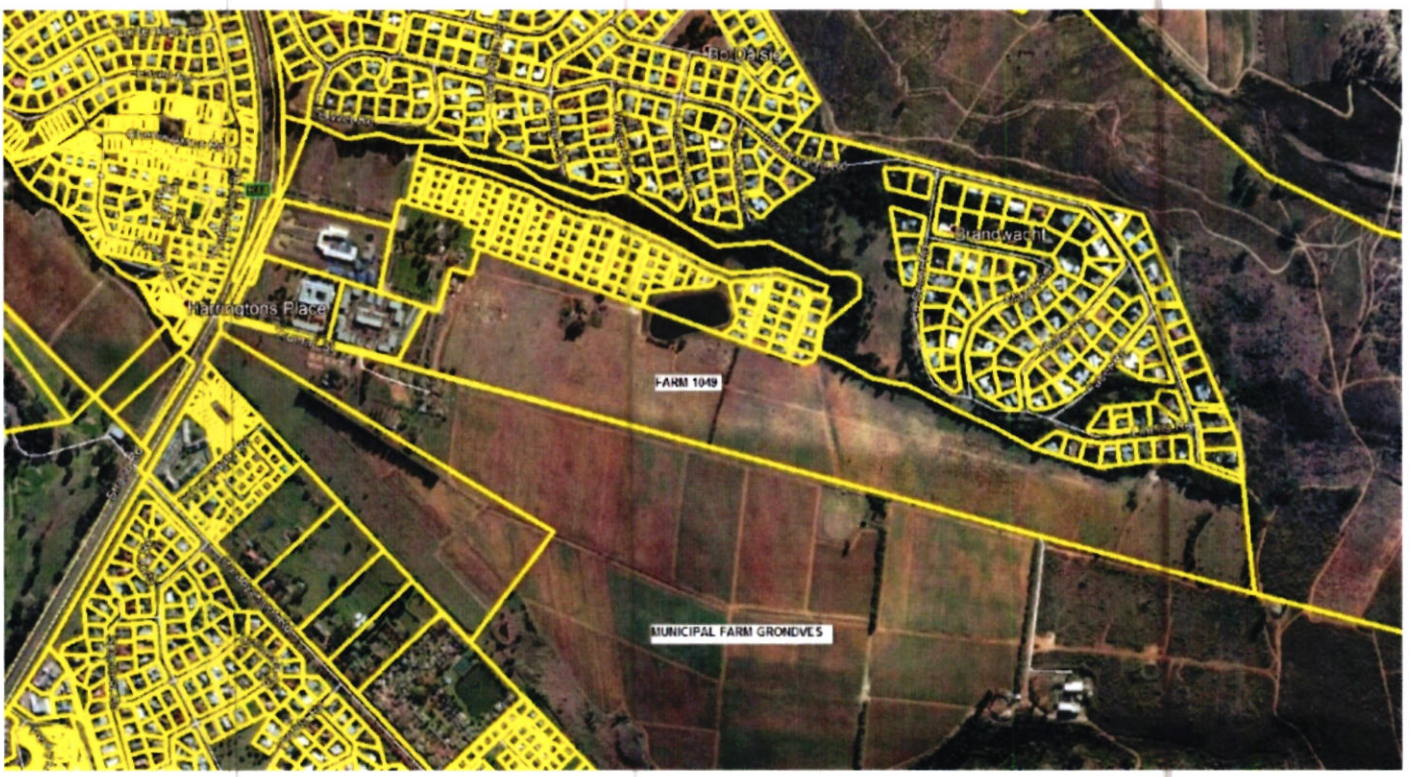


Figure 3: Site Location - local (Source TV3)

4.2 Proposed Development

It is proposed that the site will be developed for residential use. Access to the development will be taken from Trumali Road.

At this stage no Site Development Plan has been tabled.

5. Visual Framework Study

5.1 Scenic Resources

Brandwacht RE/1049 is situated in the rural domain of the Cape Winelands Area in the Western Cape. More specifically the Stellenbosch area.

A couple of Landscape Types, defined by the underlying geology of the area, provide the scenery of the area. These are:

- The sheer sandstone mountain cliffs and peaks of the Stellenbosch mountain in the north east, Haelkop, Suurberg in centre east and Helderberg in the south east which are sparsely vegetated due to the steepness thereof but with fynbos on less steep slopes;
- The fynbos covered mountain scree slopes below the cliffs and cultivated surrounding hills (to the north, west and south) comprised of shales and sandstones;
- The cultivated, rolling foothills of granites and associated quartenary soils; and
- The Eerste River and associated tributaries and their alluvial floodplains, planted with exotic Oak and Poplar trees, occasionally with indigenous riverine vegetation.

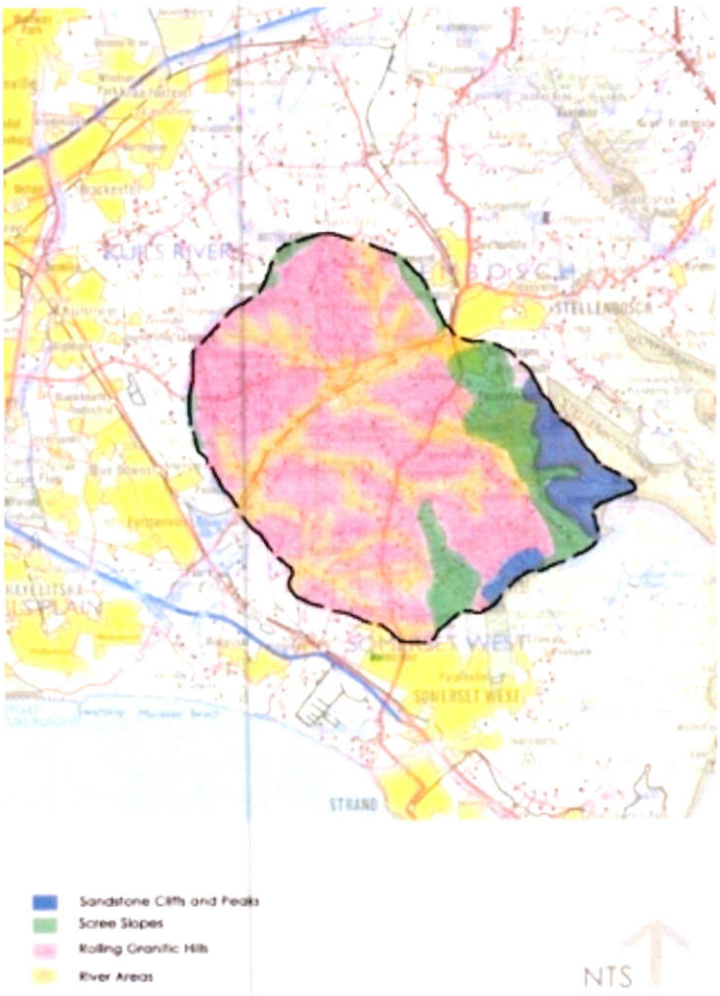


Figure 4 Landscape character of study area

The rugged, fynbos covered Stellenbosch and Helderberg sandstone and shale mountains form a spectacular backdrop in the east to the scree slopes and granitic, rural, rolling foothills (predominantly vineyard covered) on which numerous farms, are situated.

Photo Plate 1 Rugged Stellenbosch and Helderberg Mountain backdrop

Rivers including the Eerste and Blaauklippen Rivers and their tributaries have eroded kloofs into these mountains and provide valleys and ridges in the foothills in the study area.

Photo Plate 2 Mountains with undulating foothills through which rivers run

Urban settlement in the form of Stellenbosch is found in the study area, surrounding the sites on three sides, north, west and south - west.

Photo Plate 3 Urban settlement to the north of the site which is unvegetated area in foreground

To the south are cultivated vineyards and Stellenbosch Waterworks. Further south, farmsteads and agricultural buildings are scattered at regular intervals across the intensively cultivated, rural landscape, with many providing wine tasting facilities, restaurants and function venues for tourists – local, national and international. Towns and rural villages are ever expanding into the rural landscape.

Photo Plate 4 Vineyards to the south of the site which is area in centre

The landscape is criss-crossed by a hierarchy of roads, (dual carriage roadways – R44, two-way tarred commuter roads, tarred farm access roads and farm gravel roads), as well as a railway line. These transport routes link tourists, commuters and farmers to the local towns and towns further afield, including Cape Town (west), Paarl (north) and Kleinmond (south east).

Photo Plate 5 M12 (left) and R310 (right) which form part of the network of roads in the area

Brandwacht Re/1049 is found in the mid reaches of the Brandwacht stream, a tributary of the Eerste River.

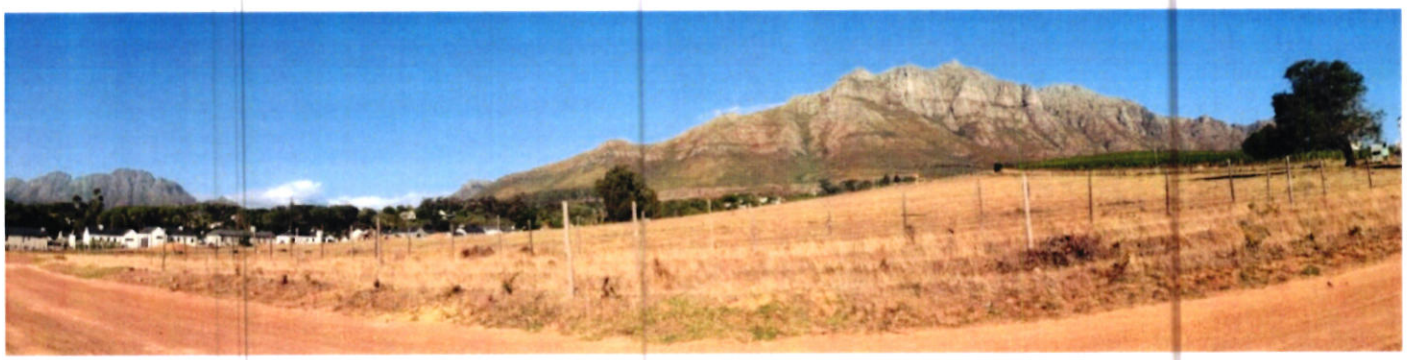


Photo Plate 6 Brandwacht III site in centre of photo with residential areas to left and vineyards to right

The Scenic resources of the area can be described as cultural and rural and are Highly rated.

5.2 Viewshed and Zone of Visual Influence(ZVI)

5.2.1 Viewshed

The geographical area from which the project will theoretically be visible, or view catchment area, is dictated primarily by topography.

Brandwacht RE/1049 is in the mid reaches of the Brandwacht River valley and on the lower to mid hill slopes of the southern Brandwacht River Valley. The Brandwacht River has it's source in the Stellenboschberg Mountains to the east of the site.

The Stellenbosch and Simonsberg Mountains forms the viewshed in the east and north and the view shed line continues westward along Pappegaaiberg to Kanonkop in the north west. The ridgeline between the Brandwacht and Blaauklippen rivers forming the view shed in the south

The extent is approximately 4 kms to the east, 10 kms to the north east, 9kms to the north and west, 3 kms to the south.

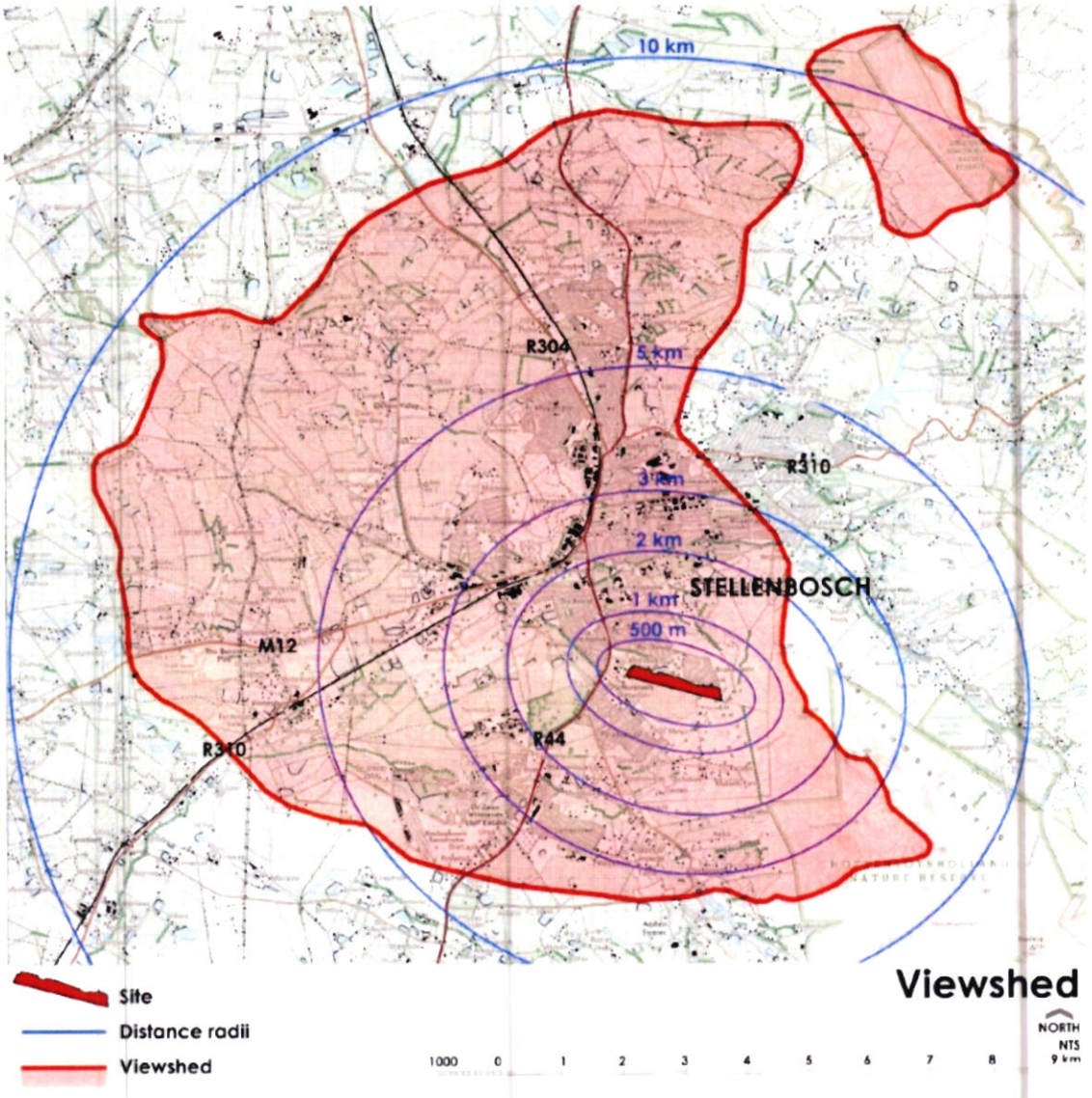


Figure 5 Viewshed of Brandwacht III

5.2.2 Zone of Visual Influence

Local features such as vegetation and landforms will reduce the extent of the area from which the proposed Brandwacht site and development will be seen, to an area known as the Zone of Visual Influence (ZVI) of the site.

The ZVI for the Brandwacht site and development is in some instances reduced by local ridgelines, and existing development but distant and elevated areas all around the site will have views thereof.

The site will be visible from the west from a distance with the M12 (Polkadraai Road) and R310 (Baden Powell Drive) having views thereof.

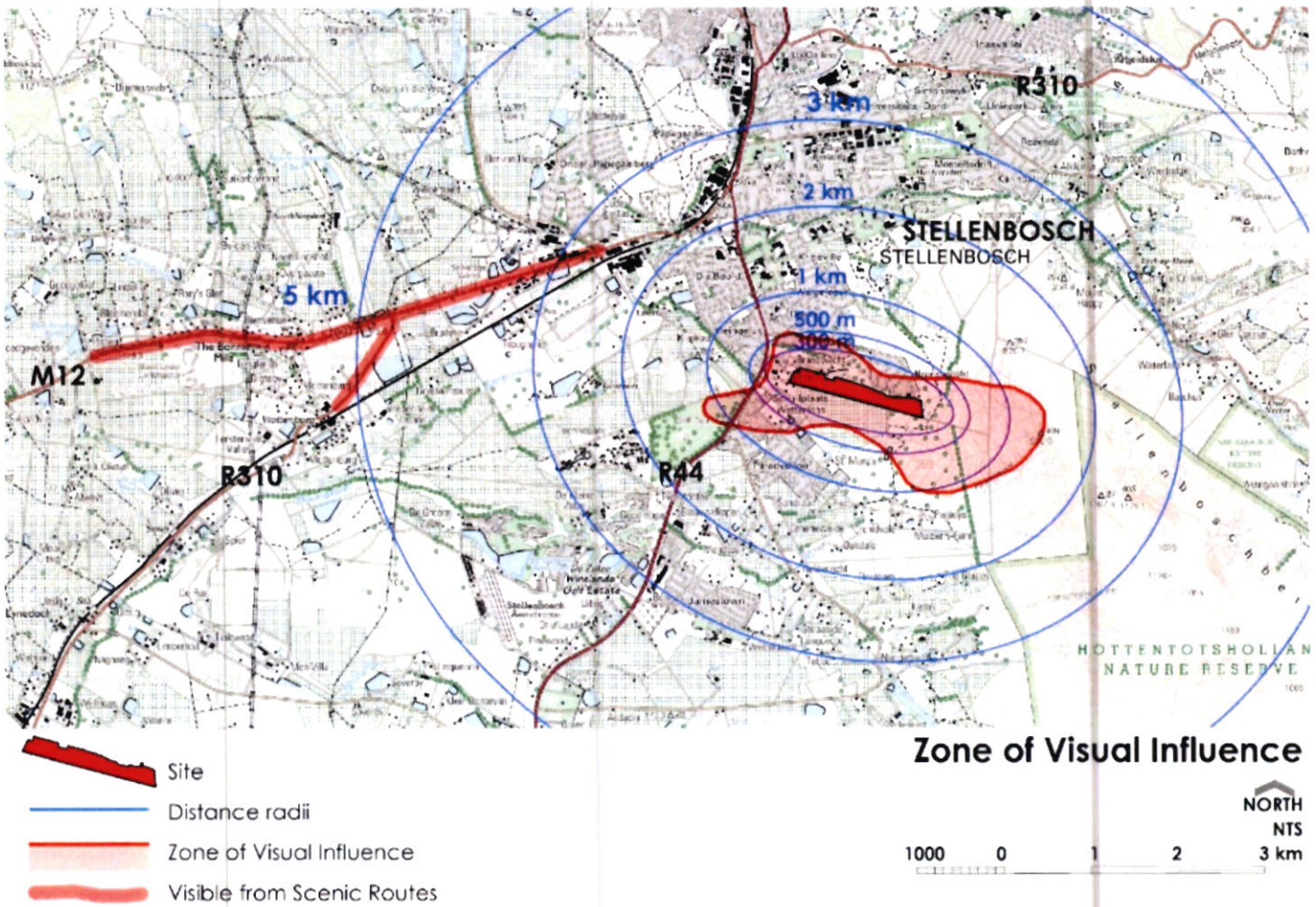


Figure 6: View Shed and ZVI of the proposed Brandwacht III site of development

5.3 Receptors

The level of visual impact considered acceptable is dependent on the type of receptors.

- ***High sensitivity – e.g. residential areas, nature reserves and scenic routes or trails;***
- ***Moderate sensitivity – e.g. sporting or recreational areas, or places of work;***
- ***Low sensitivity – e.g. industrial or degraded areas.***

5.3.1 Highly sensitive receptors include:

- The Hottentot Holland Mountain Reserve and John Marais Nature Reserve
- The R44, M12 and M310 Scenic drive
- Residential areas in Stellenbosch to the north, west and south

5.3.2 Moderately sensitive receptors include:

- Areas of work (Waterworks)and the areas outside of the urban edge including farms
- Cycle and hiking trails above the site

5.3.3 Low sensitivity receptors include:

- Nil

*The receptors within the ZVI are inclusive of those rated as **moderate** to **highly** sensitive.*

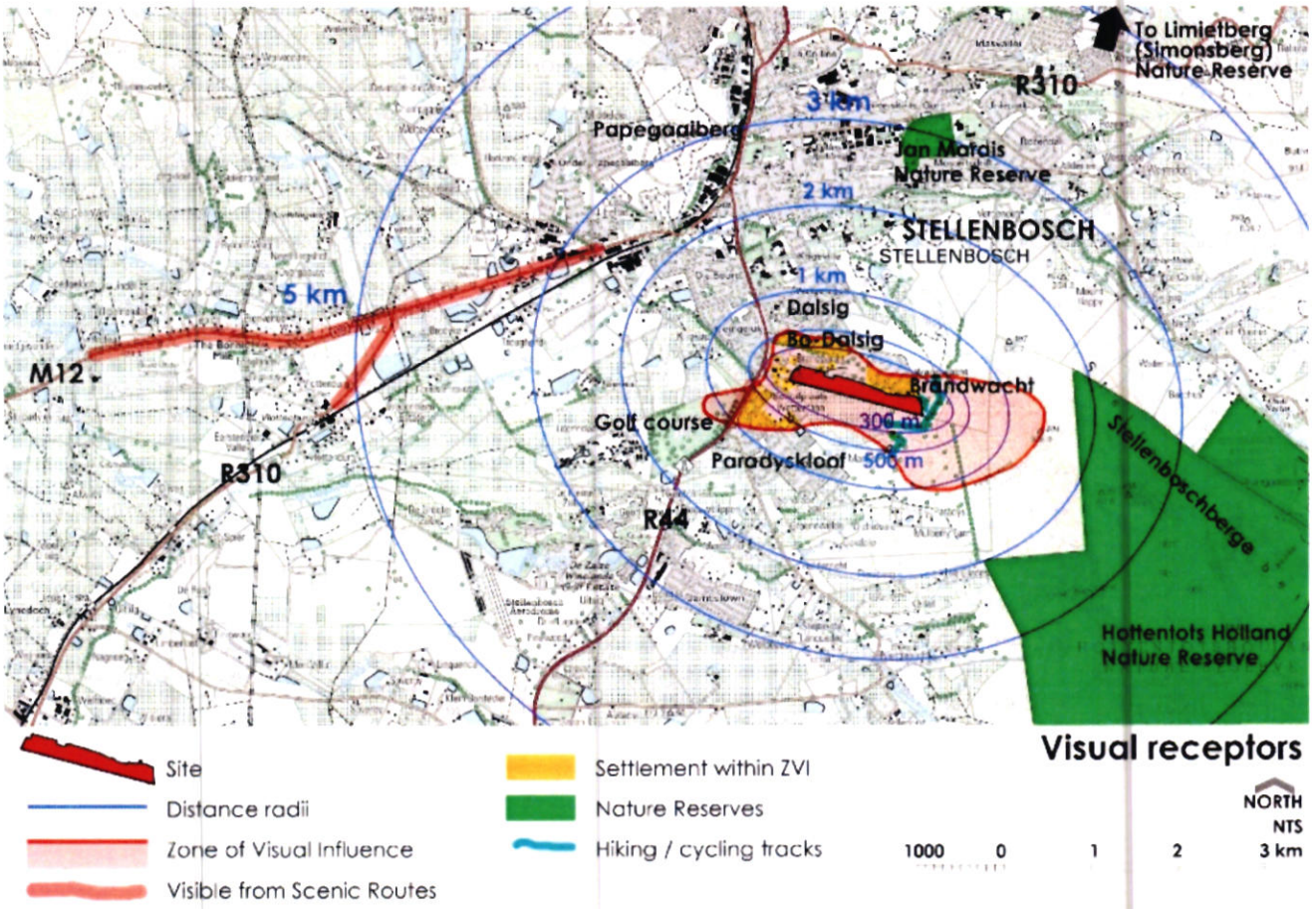


Figure 7: Receptors of the proposed Brandwacht III site of development

5.4 Visual Sensitivity of the site

The inherent visibility of the sites' landscape is usually determined by a combination of topography, landform, vegetation cover, settlement pattern and special features. This translates into visual sensitivity.

High visual sensitivity – highly visible and potentially sensitive areas in the landscape,
Moderate visual sensitivity – moderately visible areas in the landscape,
Low visual sensitivity – minimally visible areas in the landscape

The desktop mapping exercise looked at various aspects which contribute to the visual sensitivity of the site and in turn informs a visual framework of the site.

These aspects include:

- *Topography* – relative elevations can either provide subtle visual absorption capacity in the case of lower lying areas, which will be less visually sensitive or visual exposure in the case of higher lying land which will be highly visually sensitive. In the case of the Brandwacht site, it is situated:
  - on the mid to upper slopes of the Brandwach River valley,
  - on north facing slopes from the Brandwacht River to close to the ridegeline between the Brandwacht and an unnamed tributary thereof, the higher lying slopes will be more visible than those closer to the river.

  The topography of the site therefore renders the site moderately to highly sensitive.

- *Landforms* - The landform on which the site is located include a valley and it's side slopes which are composed of both slightly convex and concave slope types.
  The concave slopes have a low - moderate visual sensitivity while the convex slopes have a moderate visuall sensitivity.

- *Slopes* - the slope gradients affect the the visual sensitivity of a site as development on steep slopes is likely to result in earthworks such as cut to fill/terracing resulting in visual scaring. The flatter the slope the less sensitive it becomes. With the exception of localised area in the upper portion of the site where the slopes are steeper than 1:4, the remainder of the slopes are less steep than 1:4. The slopes on the upper portion of the site are mainly between 1:4 and 1:10 and the slopes on the site are mainly less steep than 1:10 although there are areas between 1:4 and 1:10.

- *Adjacent landuses* - provide levels of compatibility or congruence of the project with the particular qualities of the area, or its 'sense of place'. This is related to the idea of context and maintaining the integrity of the landscape. Adjacent landuses include:

  - To the south - rural development in the form of vineyards and the Stellenbosch Water Works – these are moderately - highly visually sensitive
  - To the east - predominantly undeveloped, fynbos covered mountain with hiking and cycle tracks and a reservoir - these are predominantly highly visually sensitive
  - To the north and west - residential and commercial development – these are less visually sensitive,

- *Special features* – these include:
  - *Historic homestead* of Brandwacht which provide a cultural/heritage character and sense of place to the area;
  - *Scenic / tourist routes* - R44. M12 and M193 – views from scenic/tourists routes or view corridors are of importance to receptors. Currently, receptors using these routes experience views of a Rural and Wilderness nature as well as some development across cultivated hills to the surrounding mountains. The proposed Brandwacht site is visible from the:
    - R44 roads approximately 200 ms of the road travelling north as it approaches Stellenbosch, passing the Golf Club.
    - M12 road from a distance of 2,5 - 8 kms and a stretch of 5,5 kms
    - M310 road from a distance of 5 kms and a stretch of 1 kms

    All these special features are highly visually sensitive

- *Screening vegetation* - provides visual enclosure to a proposed development.
    - The vineyards to the south provide partial screening
    - taller trees along the river and within the residential development to the north providing screening from the north
    - Old windrows provide some screening from the east

All these aspects are overlaid to produce a composite visual sensitivity map of the site illustrated in Figure 8.

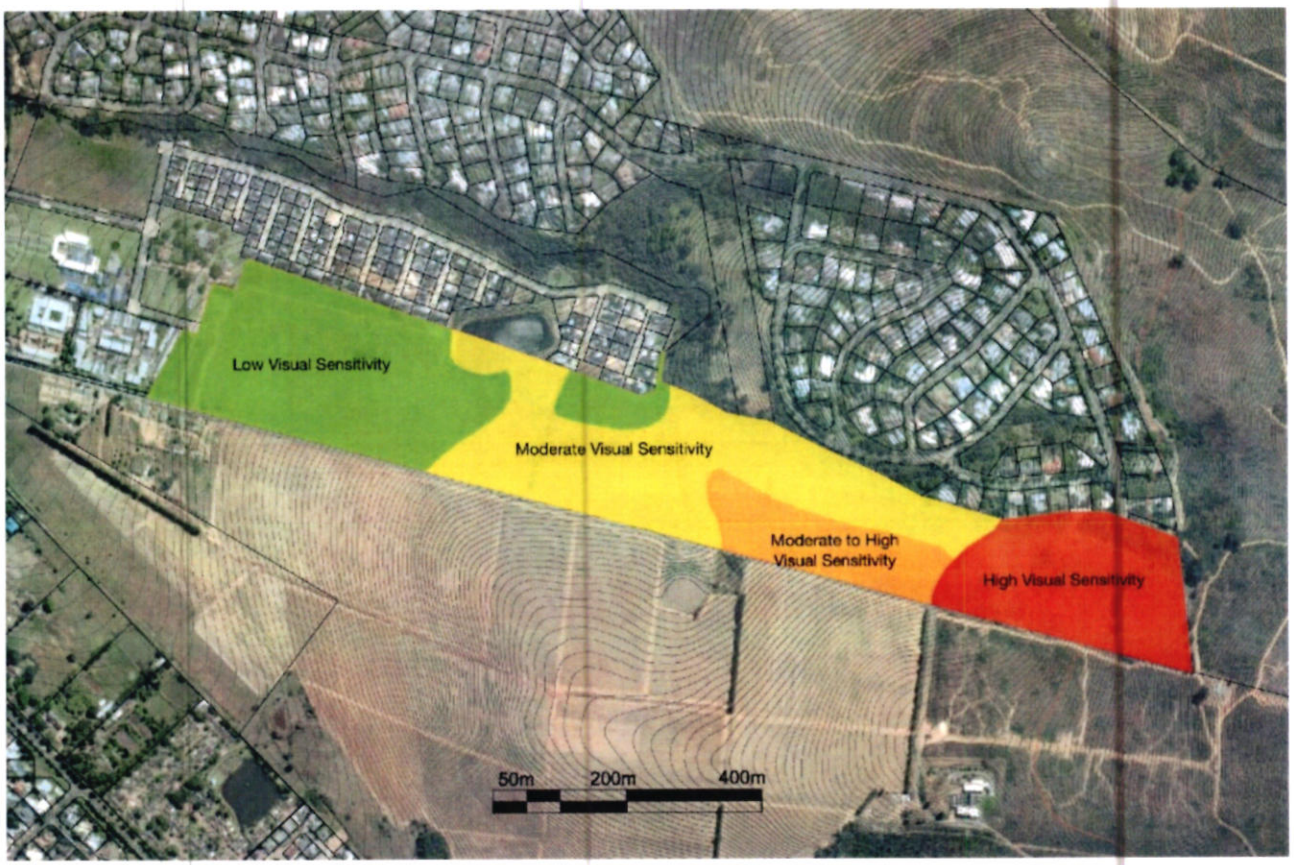


Figure 8: Visual sensitivity of the proposed site

The following aspects contribute to the sensitivity rating of the areas defined as having a low - moderate sensitivity or moderate to high visual sensitivity.

5.4.1 Areas of Low Visual Sensitivity (green):

- lower lying areas of the site;
- gentle slopes - less steep than 1: 10; and
- adjacent to existing development.

5.4.2 Areas of Moderate Visual Sensitivity (yellow):

- mid-slopes;
- gentle slopes - less steep than 1: 10; and

5.4.3 Areas of Moderate - High Visual Sensitivity (orange):

- Mid to upper slopes;
- Adjacent to rural landscape - of cultural and heritage significance
- visible from the scenic R310 and M12 scenic tourist routes

5.4.4 Areas of High Visual Sensitivity (red):

- upper slopes;
- adjacent to rural and natural/mountainous open space
- visible from the scenic R310 and M12 scenic tourist routes

5.5 Visual Absorption Capacity

Visual Absorption Capacity is the potential of the landscape to conceal the proposed project

- ***High VAC* – e.g. effective screening by topography and vegetation;**
- ***Moderate VAC* - e.g. partial screening by topography and vegetation;**
- ***Low VAC* - e.g. little screening by topography or vegetation.**

The proposed site of development is on the mid - upper valley/hill slopes close to a ridge line. The hill slopes are visually exposed to the opposite side of the valley, north, as well as to the upper eastern and far western extents of the valley. A ridgeline screens the lower lying areas to the south.

Trees partially screen the proposed site from the north, east and west, immediately adjacent to the site.

The **VAC** of the site is **moderate - high**, there is partial to effective screening by topography and vegetation

5.6 Visual Intrusion

Visual Intrusion is defined as the level of compatibility or congruence of the project with the particular qualities of the area, or its 'sense of place'. This is related to the idea of context and maintaining the integrity of the landscape or townscape.

- ***High visual intrusion* – results in a noticeable change or is discordant with the surroundings;**
- ***Moderate visual intrusion* – partially fits into the surroundings, but clearly noticeable;**
- ***Low visual intrusion* – minimal change or blends in well with the surroundings.**

The proposed site of development is situated on previously cultivated, old farm land, which is surrounded on two sides by urban development and on the other two sides by a vineyard and predominantly undeveloped, but not pristine, mountain land.

The **visual intrusion** of the proposed development is **moderate** - it partially fits into the surrounding area but will be clearly noticeable.

6. Visual Opportunities and Constraints

The proposed site of development can be divided into 3 or 4 separate areas/zones according to the inherent visual sensitivity of the site (see 5.4).

The visual sensitivity map illustrates areas of low - moderate, moderate - high and high visual sensitivity. This does not necessarily mean that nothing could happen in highly sensitivity areas but rather that appropriate developments/activities could happen in these areas. Likewise, this does not give the go ahead for uncontrolled/large scale development in the areas of low visual sensitivity.

6.1 Upper area/zone - high visual sensitivity

While the site is immediately adjacent to existing development and the urban edge, which provides some visual enclosure, the upper section of the site is highly visually sensitive as a result of it's elevation on the slopes (albeit lower slopes) of the Stellenbosch Mountain, and the rural and natural landscape to the south and east. This elevated portion of the site is visible from scenic, tourist routes, M12 and R310, to the west.

Development in this area therefore needs to be:

- sympathetic to contours with layout along the contours as per old Brandwacht
- less dense, similar to the adjacent (old) Brandwacht to the north of the river, where enough area is available for street and garden tree planting that will help soften and screen the proposed development;
- according to some architectural guidelines - form, shape, non reflective materials, colours etc - I.e. architecturally recessive buildings
- according to landscaping guidelines to ensure softening/screening of the new buildings

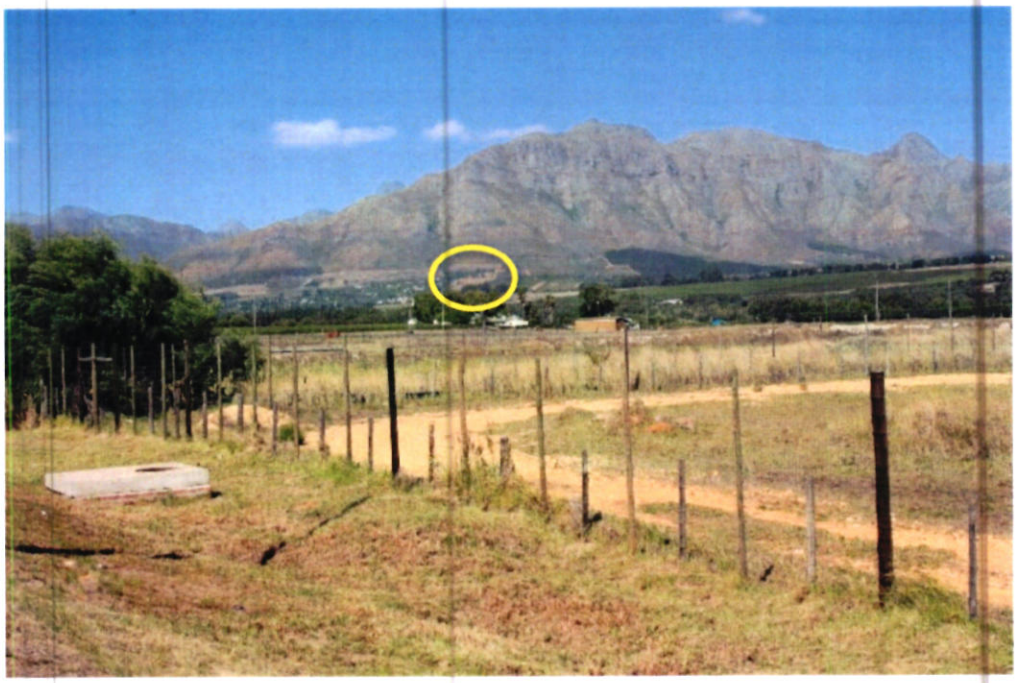


Photo Plate Taken from the M12 scenic tourist route, adjacent to the historic Neethlingshof wine farm entrance gate, indicating the upper section of the proposed site of development (circled)

6.2 Middle area/zone - moderate and moderate to high visual sensitivity

The mid slopes have a moderate to high visual sensitivity as:

- they are not screened from near and far;
- they have slopes that vary between 1:4 and 1:10 and some less steep than 1:10; and
- they are adjacent to development to the north and rural/vineyards to the south.

Development in this area needs to be:

- less dense, than Brandwacht - Aan -Rivier for street and garden tree planting that will help soften and screen the proposed development;
- sympathetic to contours with layout along the contours as per old Brandwacht
- according to some architectural guidelines - form, shape, non reflective materials, colours etc - I.e. architecturally recessive buildings
- according to landscaping guidelines to ensure softening/screening of the new buildings

6.3 Lower area/zone - low visual sensitivity

The lower slopes have a low visual sensitivity as:

- they are relatively screened from near and far;
- they have gentle slopes mainly less than 1:10; and
- they are adjacent to development.

With the exception of the area adjacent to the Historic Homestead, residential development as per adjacent may be applicable.

In general:.

- new buildings / structures should be appropriate in their siting, positioning, massing, density, scale and form in this transitional rural/urban landscape, some areas being visible from scenic routes

7. Conclusion of Visual Framework Study

The proposed Brandwacht III development is outside of the current urban edge line as per the Spatial Development Plan (SDP). This urban line and SDP is being reviewed.

There are areas of the Brandwacht III site of development that are not visually sensitive (lower lying areas) and there are other areas of the site that are more visually sensitive (higher lying areas).

The potential visual impact of residential development on the visually sensitive areas of the site can be mitigated through development density, erf sizes, building form, style and colour and landscaping.

In our opinion, there is no reason why visually appropriate development cannot happen on this site.