

LOUW'S BOS MEMORIAL PARK

HERITAGE IMPACT ASSESSMENT

On the Farm *Louw's Bos* R502, Stellenbosch

November 2018 & 1880 Map, 1977 Aerial and 2018 Photograph

researched and produced by

New World Associates © for CK Rumboll & Vennote



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This report should be printed double-sided if at all.

∞ Reflection

∞ At its simplest, a conservation plan is a document which sets out what is *significant* in a place and, consequently, what policies are appropriate to enable that significance to be retained in its future use and development.

James Kerr, *The Conservation Plan*

∞ Section 5 (7) (f) notes: "The identification, assessment and management of the heritage resources of South Africa must... be fully researched, documented and recorded."

National Heritage Resources Act, 1999

∞ Life can only be grasped by looking backwards,
But must be lived forever forwards.

Søren Kierkegaard, early 19th century

NWA

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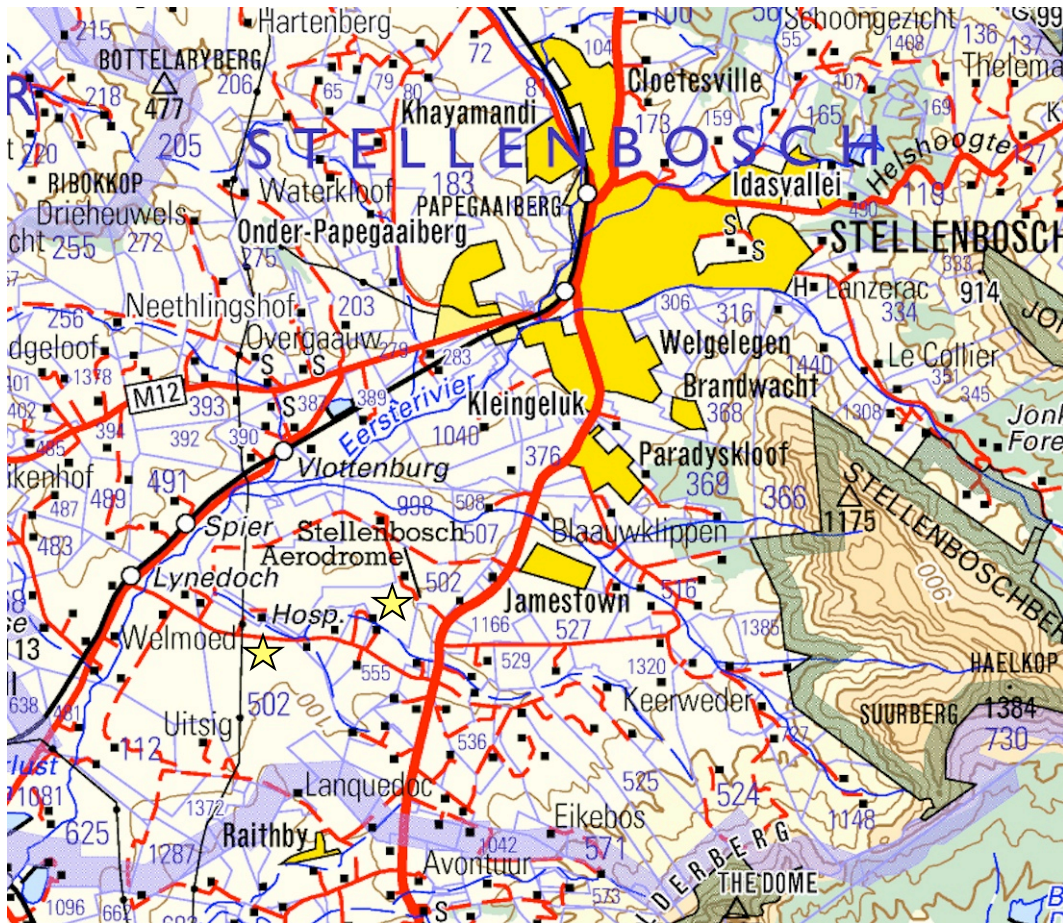
1 Executive Summary¹

1.1 Site Name

1. The farm R502 Louw's Bos, Stellenbosch.

1.2 Location

1.2.1 Locality Plan



Source: Reproduced courtesy of the Chief Directorate: Surveys and Mapping, State Copyright 2000.

Figure 1-1: Regional Context.

Portion of a 1:250,000 map of South Africa showing the site locations (3318 Cape Town, 9th Edition 2000). NTS.

¹ Formatted according to HWC Circular on Executive Summaries dated 12 March 2014 as required for submissions from 1 July 2014.

1. Two sites, North and South, under consideration on the farm R502 Louw's Bos, Stellenbosch on Annandale Road.

1.3 Description of Proposed Development (see page 72)

1. The proposed Memorial Park at R502 Louw's Bos is one of two regional cemeteries being planned for the Stellenbosch Municipality.
2. The Memorial Park concept plan prepared by OvP Landscape Architects (October 2018) is a first draft only. It shows a formal layout on a larger portion of the site than is now under consideration, so will have to be reworked.
3. It imposes itself on the surrounding landscape which is otherwise just open fields and pastures.

1.4 Heritage Resources Identified (see page 52)

1.4.1 History

1. Between the *Groote Zalze* farm and *Brakelsdal* farm (now *Annandale*) is the farm now known as "Louw's Bos" located. It is listed as the property of the municipality of Stellenbosch since 1883 (Surveyor General, Cape Town, survey diagram 9133/1883). This is the earliest survey diagram available.
2. **In 1813 Hendrik Johannes Louw acquired the farm *Brakelsdal* of 47 Morgen, his son Michiel Nicolaas Louw became the owner in 1847 and the farm is now called 'Annandale'.**
3. Father and son built a farmhouse and outbuildings on their farm. It is almost certain, that the municipality owned the land above (to the north of) their farm road (now Annandale Road) and this property was leased to them. **Wood was by then in short supply and planting a forest a most profitable venture.**

1.4.2 Heritage

1. The area is marginal to the Stellenbosch Winelands but still contained within them. More pasture can be found here although there are some vineyards.
 - The grading of this area, on Landscape Units **C17 Annandale Road** (6.4 points) and **C19 Central Commonage** (6.25 points) is **Grade IIIb**. They occur in an area generally designated Grade IIIb but to the north they abut onto the slightly higher ranked but still **Grade IIIb C11 Spier and Welmoed** (7.55 points) and **C12 Commonage and Renosterveld with Archaeological Sites** (7.5 points).

- While there are numerous **Grade IIIc** ● and **Grade IIIb** ● sites in the general vicinity of R502, and several **Grade IIIa sites** ● further afield, the nearest to it on the scenic stretch of Annandale Road are Grade IIIc ● *Soverby* on the south side of the road, and Grade IIIb ● *Mon Villa (Eureka)* on the north side. The nearest **Grade II site** ● is at *Groot Zalze* just north of the Aerodrome.
- The section of Annandale Road that runs on the western side of the R502 has been graded **Grade IIIa Scenic Route**.

1.4.3 Palaeontology

1. No fossil remains were recorded on Farm Re/502 Louw's Bos during the short palaeontological site visit. It is concluded that the palaeontological sensitivity of the Memorial Park study area is very low.

1.4.4 Archaeology

1. The following observations were made:

Louw's Bos North

- No archaeological remains were recorded in the footprint area of the proposed cemetery site, which comprises old agricultural land covered in grazing grass and weeds. There is barely any surface stone covering the proposed development site.
- Relatively large numbers of Early Stone Age (ESA) resources were, however, recorded on a portion of Rem. Farm 502, on deeply ploughed agricultural land alongside Annandale Road and the floodplain of the Bonterivier, that included chunks, cores, flakes, cleavers and several bifaces/handaxes, struck from round quartzite river cobbles. The remains all occur in a highly transformed context.

Louw's Bos South

- A small number of ESA implements including chunks, cores and flakes were recorded in a large block of wheat fields on the upper slopes of the proposed cemetery site. No archaeological resources were recorded on the remainder of the proposed development site, which comprises old, unused agricultural land covered in very dense grass, weeds, and large patches of recovering veld. The receiving environment has historically been totally transformed by agriculture.
- The small numbers and highly transformed context (i.e. wheat fields) in which they were found, mean that the remains have been graded as having low (Grade IIIC) archaeological significance.

1.4.5 Visual-Aesthetic

1. The following was observed:

- The sites lie adjacent to Annandale Road, a stretch near the South site being a Grade IIIa scenic route. The route is of mixed scenic value being more rural in its central length, but hard to appreciate at this time due to the road works.
- The landscape is extensive comprising rolling hills around the Bonte River Valley surrounded by pastures, a variety of new and old homesteads, dams, vineyards and some businesses.
- The North site is further away from Annandale Road and less prominent than the South site, which is split between old vineyards in the east and pastures in the west. The historic farm *Soverby* and neighbouring *Linquenda* are embedded between the two sites.

1.5 Anticipated Impacts on Heritage Resources (see page 77)

1.5.1 Heritage

1. The potential impact of the proposed cemetery site on both sites is significant in that it is a wholesale change of land use from agriculture/open space to cemetery. This would be a new type and scale of development being imposed on the landscape and this in-between portion of the SW Winelands of Stellenbosch.

North Site

1. **Historical Impact:** High. Significant change in land use.
2. **Associative Impact:** Moderate. Public access retained.

South Site

1. **Historical Impact:** High. Significant change in land use.
2. **Associative Impact:** Moderate. Public access retained.

1.5.2 Palaeontology

1. Late Caenozoic superficial deposits (sandy soils, ferricrete) as well as the underlying, deeply-weathered Cape Granite in the Memorial Park study area are all of low to very low palaeontological sensitivity (Almond & Pether 2008).
2. The proposed cemetery development is very unlikely to entail significant impacts on palaeontological heritage.

1.5.3 Archaeology

1. The results of the study indicate that the proposed development of a new municipal cemetery on Remainder Farm No. 502 near Stellenbosch, will not impact of important pre-colonial archaeological heritage. ESA resources in a highly transformed context were documented on the farm, but have been graded as having low (Grade IIIC) archaeological significance.

1.5.4 Visual-Aesthetic

1. The greatest likely impact is on the visual environment being rural and partially scenic along this route.
 - **Visual Impact:** The proposed development will have a high impact on the landscape (both sites) causing noticeable (South site) to some (North site) change to the visual environment.
 - **Visibility:** The development has moderate (North site) to high (South site) visual exposure, moderate (both sites) visual absorption capacity, medium (both sites) compatibility, and is moderately (North site) to highly visible (South site) along Annandale Road.
 - **Nature of Impact:** The development's visual impact has district extent, long term duration, medium intensity, definite probability, and medium significance on the landscape for both sites.
 - **Comparative Assessment:** The South site has a moderate to high impact while the North site has a more-moderate to high impact, particularly a more-moderate-visibility due to not being sited on Annandale Road.

1.6 Recommendations (see page 78)

1.6.1 Palaeontology

1. It is recommended that, pending the exposure of significant new fossils (e.g. mammalian bones and teeth) during construction, exemption from further specialist palaeontological studies and mitigation be granted for this development.

1.6.2 Archaeology

1. The following recommendations are made:

Louw's Bos North

1. No archaeological mitigation is required prior to construction activities commencing.

2. The property is suitable for development.

Louw's Bos South

1. No archaeological mitigation is required prior to construction activities commencing.
2. The property is suitable for development

1.6.3 Heritage

The following recommendations are therefore made to mitigate the potential historical and associative impact of the cemetery development:

1. **Change from vineyards to cemetery:**
 - The potential loss of vineyards to *Soverby* to be carefully considered in terms of its current setting and screening.
 - Possible reallocation of proposed portions under vineyards to be extended into cultivated land south of the South site if preferred.
 - This will retain the existing vineyards as part of this historic farm and contain the homestead in an appropriate heritage context.
2. **Change from cultivated fields to cemetery:** No particular mitigation required.
3. **Commonage Interpretation:**
 - The development of the historic Commonage's sites should be prepared including interpretive information and signage about the history of the Common.²
 - The possible development of a trekpath-outspan trail on the remainder of R502 could be considered.

1.6.4 Visual and Aesthetic

The following recommendations were extracted from the VIA (pp 53-55). Construction, Operation and Decommissioning recommendations are made on p 56.

Mitigation Recommendation: Planning and Design

The plan presented to date is an initial concept only. Therefore it is well able to take on any mitigation recommendations.

1. **Site Development Plan:** As noted previously, the concept plan is very preliminary and covers a wider area than the final extent of the South site:

² At this time of the first HIA draft, November 2018, feedback from the Stellenbosch Municipality and local heritage bodies had yet to be obtained. They may well have more information to hand than was available at the time of writing that can be used in these recommendations.

- 1.1 Taller structures such as the central facilities should be set back from the road as they are currently indicated and should not be moved to the edges of the site or nearer Annandale Road.
- 1.2 A landscape buffer along the edges is important and should be well planted to prevent views into the site except at strategic locations such as on-axis.
- 1.3 The western boundary's relationship with the power lines needs to be carefully handled and pulled away from it if possible due to restrictions on tree planting and the aesthetic impact of the power lines themselves.
- 1.4 As this area has a history of mixed agricultural-viticultural practices, historically being planted to gum trees, more recently in part to vineyards, either are acceptable practices in and around the site/s.
- 1.5 As there are already old vineyards near *Soverby* it may be feasible to maintain them in part or integrate new vineyards to maintain the vineyard buffer to *Soverby Guest House*.³
- 1.6 The choice of planting is more open to the wide range of historical agricultural, viticultural and silvicultural practices. These could, perhaps, be negotiated with local landowners and the municipality to create the best mix.
- 1.7 Sustainable site development and Green Building principles or standards should be employed to enhance the environmental aesthetic.
- 1.8 Lighting must be carefully managed to minimise excessive lighting wherever possible (see Operation Phase below).
2. **Colouration:** Careful colouration of fences in particular needs to be made, as well as any other landscape furniture such as lighting, benches and water features. These should preferably be in a natural colour palette that will not stand out from the agricultural landscape nor draw attention to itself with bright colouration. Likewise, building colours, walls and roofs, should be subtle.
3. **Landscape Plan:** The Landscape Plan should retain its existing features overall and not be changed to something completely different such as a freeform design. The traditional arrangement of cemeteries, the avenues and bounding walls will fit well into both the historical and cultural landscape.

³ This would keep the cemetery within one visual catchment zone i.e. without crossing a ridgeline.

- 3.1 Wherever possible the greening/planting of the scheme needs to be maximised.
- 3.2 Permeable paving and other sustainable practices should be incorporated into the landscape plan.
- 3.3 Planting using indigenous and preferably endemic species from the area should be planned from the beginning; traditional exotic trees are acceptable.
- 3.4 Planting of harvestable flowers and/or herbs in and around the cemetery may be a productive way of incorporating useful planting into the heritage matrix.
- 3.5 Large trees should be incorporated into the Landscape Plan to screen tall buildings or unsightly areas such as the nursery/maintenance yard.
- 3.6 Gum trees, pines and oaks, while not indigenous, are typically the only major trees that can survive the rugged environment and achieve the necessary scale. They are also traditional cultural elements and not out of place as a result.
- 3.7 Indigenous/endemic trees can also be used but are not as tall or traditional as gums.
4. **Perimeter Treatment:** As described above this may incorporate screening trees or fences. The treatment of perimeter fencing and any signage needs to be carefully considered.
 - 4.1 Unsightly massive walls are not appropriate but the traditional low Cape farm werf wall may suffice well on the boundary and help locate the site on Annandale Road.
 - 4.2 Should fencing be required use clear-view fencing or similar is preferred, not palisade. It should be coloured a dull green to match the local environment and not black, silver, brown or other unnatural, standard commercial colours.
5. **Biodiversity:** As noted above, where possible, endemic planting schemes should be used with the exception of traditionally planted trees, which are permissible for practical and cultural landscape reasons.
6. **Maintenance:** Scheme maintenance both of buildings and landscape need to be undertaken with commercial maintenance projects with this intention from the outset for the duration of the project. Good site tidiness should be maintained at all times.

7. **Visual Assessor Review:** The proposed Landscape Plan should be referred to the visual impact assessor, namely, New World Associates, for review before it is approved, to ensure that it meets the recommendations of this report.

1.7 Authors and Dates

1. **HIA:** Bruce Eitzen (November 2018).
2. **History:** Dr Ute Seemann (October 2018).
3. **PIA:** Dr John Almond (November 2018).
4. **AIA:** Jonathan Kaplan (October 2018).
5. **VIA:** Bruce Eitzen (November 2018).

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2 Introduction

New World Associates were appointed to prepare a Heritage Impact Assessment (HIA) for the Louw's Bos Memorial Park by CK Rumboll & Vennote. The proposed cemetery is one of two being developed by the Stellenbosch Municipality. A Notification of Intent to Develop (NID) has not yet been prepared. Bruce Eitzen is a registered Professional Landscape Architect and member of the Association of Professional Heritage Practitioners. Neither he nor any of the heritage specialists have any financial interest in the development.

2.1 Background

This *Heritage Impact Assessment (HIA)* is being prepared to fulfil requirements for Heritage Impact Assessment as required by the National Heritage Resources Act (25 of 1999) and as required by the National Environmental Management Act (107 of 1998).

2.2 Brief

New World Associates were appointed to prepare the Heritage Impact Assessment (HIA) for the above development by CK Rumboll & Vennote.

2.3 Methodology

The HIA was prepared using a combination of site visits, research and specialist studies into the relevant heritage attributes being impacted on by the proposed development.

2.3.1 Notification of Intent to Develop (NID)

At this time no submissions have been made to Heritage Western Cape (HWC). However, a Heritage Screening was prepared by CTS Heritage in March 2018 for the site.

As determined by the Heritage Screener report, archaeological and landscape/visual studies should be prepared; these can be found in the appendices. The depth of study was determined using the PGWC Guideline for Involving Heritage Specialists in EIA Processes (see section 3.3.4).

2.3.2 Record of Decision (ROD)

At this time there is likewise no ROD to consider.

2.4 Statement of Independence

Bruce Eitzen is an accredited Member of the Association of Professional Heritage Practitioners of the Western Cape (APHP) specialising in Visual and Landscape Heritage. None of the consultants engaged in this study nor any authors of reports present have any financial interest in the proposed development, nor in any other projects being undertaken by the developers.

Bruce Eitzen holds a BSc (Botany) from the University of Cape Town and a Masters in Landscape Architecture (ML) from the University of Pretoria. He is a registered Professional Landscape Architect (PrLArch) with thirty years experience in South Africa and Southern Africa in Landscape Architecture and Environmental Planning including the specialities of Visual Planning and Heritage Planning. He has 15 years experience in the SW Cape.

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3 Legislative and Administrative Context

3.1 Summary

There is a long history of environmental protection and management in South Africa rooted in EIA and IEM, which have given rise to the current requirement for HIA. The latest document (June 2005) prepared by the Provincial Government of the Western Cape defines the scope and preparation of HIAs. Provision in the various Acts is made for special areas and landscapes that have an important effect on the ranking of heritage impact in these areas. HIA, while being controlled by Heritage Western Cape (HWC), ultimately falls under the provincial Department of Environmental Affairs and Development Planning (DEA&DP). The property is rural and currently zoned Agriculture.

3.2 Introduction

This chapter provides the important and necessary legislative and administrative background for the heritage impact study. A general overview of the relevant documents with specific reference to those applicable to visual planning is included. Particular mention is made of local planning guidelines that have the most direct bearing on the project such as the Spatial Development Framework (SDF) for the given area.

3.2.1 Background

The policy, legal and administrative framework for conservation, EIA and development in South Africa has long roots. Heritage Impact Assessment (HIA) is mentioned in the national requirements for EIA under the National Environmental Management Act (NEMA) and previously under the Environmental Conservation Act (ECA). Furthermore, the provincial government now endorsed its own guidelines for various EIA processes including HIA (PGWC, November 2005). Specific requirements for HIA may also be included in local Spatial Development Frameworks (SDF) and Integrated development Plans (IDP).

3.3 Legal Framework

This review of current documentation is made with specific reference to requirements for HIA in the Law and by National Guidelines.

3.3.1 Environmental Impact Management: A National Strategy for IEM in South Africa (April 1998)

This discussion document on Integrated Environmental Management (IEM) defines IEM as: “the coordinated planning and management of all human activities in a defined environmental system, to achieve and balance the broadest possible range of short- and long-term environmental objectives.” Further: “The overarching goal of IEM is to help ensure that South Africa’s developing economy is redirected (or reoriented) from environmentally unsustainable growth and development towards environmental sustainability” (p 14). “Activities that IEM should manage” include: land use zoning plans and schemes, new activities, existing activities, and activities undertaken in terms of a land use zoning plan or scheme that has already been approved through IEM.”

In terms of Scoping as it relates to the compilation of reports such as this HIA, the Main Aims of **Scoping** are “to focus the study on reasonable alternatives and relevant issues to ensure that the resulting *Impact Assessment* is useful to the decision-maker and addresses the concerns of interested and affected parties” (p 5, *IEM Guideline Series: 2 Guidelines for Scoping*, 1992).

3.3.2 National Environmental Management Act No. 107 of 1998 (NEMA)

This Act is “To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.” Chapter 5: Integrated Environmental Management has among its general objectives: (b) “identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions **and cultural heritage**, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2” (p 34).

3.3.3 South African National Heritage Resources Act, 1999 (NHRA)

NHRA regulations cover the protection of historic sites, objects, buildings and landscapes. It covers (ii) “archaeological items,” namely, “material remains resulting from human activity... older than 100 years;” rock art, wrecks and “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are

found (2 Definitions). The Definitions also include the term “(vi) ‘**cultural significance**’ [which] means **aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.**”

Further, (xxi) “‘living heritage’ means the intangible aspects of inherited culture, and may include: cultural tradition oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships.” (xxxi) “‘Palaeontological’ means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.” (xxxviii) “Public monuments and memorials” and (xviii) “victims of conflict” relating to wars are also defined.

Section 38(1) defines triggers for HIA as a linear development over 300m long, or a bridge 50m long, or any development over 5,000 square metres (½ Hectare), involving three or more erven, rezoning over 10,000 square metres (1 Hectare) requires an HIA to be submitted if a heritage resource is likely to be affected. A Notification of Intent to Develop (NID) must be submitted the Heritage Authority “at the very earliest stages of initiating such a development.”

The Act prescribes in section 38(3) that the HIA must include:

- The identification and mapping of all heritage resources in the area affected;
- An assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- An assessment of the impact of the development on such heritage resources;
- An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- The results of consultations with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
- Plans for mitigation of any adverse effects during and after the completion of the proposed development.”

The NHRA makes provision for two forms of protection, formal and informal, and sets up a three tier system of formal protection as:

1. Grade 1 or National Heritage Sites managed by SAHRA.
2. Grade 2 or Provincial Heritage Sites managed by HWC.
3. Grade 3 or Local Heritage Sites managed by the Local Authority.

Generally protected sites include:

- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 70 years.
- Structures older than 60 years.

3.3.4 PGWC Guideline for Involving Heritage Specialists in EIA Processes (Edition 1, June 2005)

Principles and Concepts

Continuing on from the NHRA (1999), this now legally adopted Provincial Guideline further records (p 3): “Types of heritage resources as defined in the relevant legislation may include the following:

- Places, buildings, structures and equipment of cultural significance
- Places to which oral traditions are attached or are associated with living heritage
- Historical settlements or townscapes
- Landscape and natural features of cultural significance
- Geological sites of scientific or cultural importance
- Archaeological and palaeontological sites
- Graves and burial grounds
- Sites related to the history of slavery (NHRA).”

These are the so-called “tangibles” of the heritage concept (p 5). Thus the “cultural landscape” is seen as having a range from Archaeology to Palaeontology to Historical Architecture to Social History to Public Memory and Natural Landscape (p 6).

Environmental Context for Specialist Input

Determining heritage context in terms of layering uses the following broad formative layers. The following table provides a brief description of the environmental context for heritage specialist input in the Western Cape. It relates to temporal, thematic and spatial aspects (see Figure 3-1).

The Western Cape is categorized by a temporal layering including a substantial pre-colonial, early contact and early colonial history as distinct from other regions. The following can be regarded as a useful categorization of these formative layers:	
Indigenous:	
<i>Palaeontological and geological:</i>	<ul style="list-style-type: none"> • Precambrian (1.2 bya to late Pleistocene 20 000 ya)
<i>Archaeological:</i>	<ul style="list-style-type: none"> • Earlier Stone Age (3 mya to 300 00ya) (ESA) • Middle Stone Age (c 300 000 to 30 000 ya) (MSA) • Later Stone Age (c 30 000 to 2000 ya) (LSA) • Late Stone Age Herder period (after 2000 ya) (LSA - Herder period) • Early contact (c 1500-1652)
Colonial:	<ul style="list-style-type: none"> • Dutch East India Company (1652-1795) • Transition British and Dutch occupation (1796-1814) • British colony (1814-1910) • Union of South Africa (1911-1961) • Republic of South Africa (1962-1994)
Democratic:	<ul style="list-style-type: none"> • Republic of South Africa (1994 to present)
It is also useful to identify specific themes, which are relevant to the Western Cape context. These include, <i>inter alia</i> , the following:	<ul style="list-style-type: none"> • Role of women • Liberation struggle • Victims of conflict • Slavery • Religion • Pandemic health crisis • Agriculture • Water
Specific spatial regions also reveal distinct characteristics, which are a function of the interplay between biophysical conditions and historical processes. Such broad regions include the following:	<ul style="list-style-type: none"> • West Coast • Boland • Overberg • Karoo
A large number and concentration of formally protected Grade 1, 2 and World Heritage Sites, also characterize the Western Cape. Such sites include:	<ul style="list-style-type: none"> • Table Mountain National Park • Robben Island

Source: DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 13).

Figure 3-1: Environmental Context for Heritage Specialist Input in the Western Cape.

Triggers for Specialist Input

“A ‘trigger’ means a characteristic of either the receiving environment or the proposed project which indicates that heritage is likely to be a ‘key issue’ and may require the involvement of an appropriately qualified and experienced specialist.

“The primary legal trigger for identifying when heritage specialist involvement is required in the EIA process is the NHR Act. The Act identifies what is defined as a heritage resource, the criteria for establishing its significance and lists specific activities for which a heritage specialist study may be required (see Figure 3-2).

- The construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- The construction of a bridge or similar structure exceeding 50m in length;
- Any development or other activity which will change the character of the site:
- Exceeding 5000 m² in extent;
- Involving three or more existing erven or subdivisions thereof;
- Involving three or more subdivisions thereof which have been consolidated within the past five years;
- Costs of which will exceed a sum set in terms of regulations by SAHRA or HWC.
- The rezoning of a site exceeding 10 000 m².
- Any other category of development provided for in regulations by SAHRA or HWC

Source: DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 16).

Figure 3-2: Categories of development listed in Section 38 (1) of the NHR Act.

Categories triggering HIA are as follows: “If the heritage authority is of the opinion that a heritage resource will be affected by a development listed in Section 38 (1) of the NHR Act, a heritage assessment is likely to be required either as a stand-alone HIA or as the heritage specialist component of an EIA.

“While the NHR Act specifically makes provision for heritage assessments for certain categories of development, heritage specialist involvement can also be requested by environmental and local authorities in terms of the provisions of ECA and NEMA. This may be the case where development is within a sensitive heritage context, e.g. a designated Urban Conservation Area in terms of Section 108 (Zoning Scheme).”⁴ While the NHR Act specifically makes provision for heritage assessments for certain categories of development, heritage specialist involvement can also be requested by environmental and local authorities in terms of the provisions of ECA and NEMA. This may be the case where development is within a sensitive heritage context, e.g. a designated Urban Conservation Area in terms of Section 108 (Zoning Scheme). This extensive list of sites include Grade I-III, National and Provincial Heritage Sites and Protected Areas, as well as Provisionally Protected Sites, Urban Conservation Areas, Nature Reserves, proclaimed Scenic Routes, etc as well as World Heritage Sites e.g. Robben Island and Cradle of Humankind (Sterkfontein). A very large list of landscapes is also included starting with Scenic/Historical Routes or Landscapes, Pristine Natural Areas e.g. Cedarberg and many other types of landscapes including Historic Farm *Werfs* e.g. Boschendal, Morgenster, Alphen, and historical farmlands e.g. Winelands, Swartland, Karoolands, and many more.

⁴ DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 16).

Category 1: Formally protected heritage sites	<p>This includes formally protected heritage sites in terms of NHR Act, LUPO or other relevant legislation. This includes National Heritage Sites (Grade 1), Provincial Heritage Sites (Grade 2), Protected Areas (Grade 1 or 2), Heritage Areas, sites listed in the Provincial Register (Grade 3) and Provisionally Protected Sites, Urban Conservation Areas, Nature Reserves, proclaimed Scenic Routes, etc. It also includes World Heritage Sites, e.g. Robben Island and Cradle of Humankind (Sterkfontein). Depending on the nature of the development within these contexts, this would more than likely require specialist heritage input at an early stage in the EIA process.</p>
Category 2: Landscapes of recognized or potential significance or sensitivity (not yet formally protected)	<p>The landscapes below are informed by UNESCO and NHR Act landscape typologies. They include the following:</p> <ul style="list-style-type: none"> • Scenic/historical routes or landscapes. • Pristine natural areas, e.g. Cederberg • Landscapes with unique geological or palaeontological history, e.g. the Great Karoo • Landscapes characterised by rocky outcrops, shorelines, dune field conditions where a range of archaeological sites including shell middens and fish traps could be located. • Uncultivated landscapes of the arid areas that contain undisturbed archaeological sites. • Relic landscapes with evidence of past now discontinued human activities, • Historical townscapes, e.g. Arniston coastal resort, Mossel Bay harbour town. • Mission settlements, e.g. Elim and Genadendal • Burial grounds and grave sites; i.e. older than 60 years. • Landscapes containing concentrations of historical structures; i.e. older than 60 years • Landscapes with potential for archaeological and palaeontological sites; i.e. containing remains of human activity older than 100 years. • Landscapes with maritime archaeological potential, including shipwrecks older than 70 years • Landscapes associated with displacement/contestation, e.g. Protea Village, "Trojan Horse" site, Langa Pass Office in Cape Town. • Landscapes associated with an historic event/person or grouping, e.g. Battle of Blaauwberg. • Landscapes associated with living heritage, e.g. use of indigenous vegetation within the Table Mountain National Park for medicinal purposes by traditional healers • Historical farm werfs e.g. Boschendal, Morgenster, Alphen • Historical farmlands e.g. Winelands, Swartland, Karoolands • Institutional landscapes, e.g. Drakenstein Prison, Valkenberg Hospital, Somerset Hospital • Designed landscapes, e.g. planned labourers village of Lanquedoc, Company Gardens • A range of heritage resources could occur within these contexts.
Category 3: Resilient contexts with the potential to accommodate substantial modification	<ul style="list-style-type: none"> • Highly transformed contexts where there is some evidence of past human activity and which have potential for rehabilitation/regeneration. • Urban environments of poor environmental quality. • Degraded landscapes due to extensive land transformation, which has obliterated physical traces of past human occupation and which have low aesthetic value, e.g. quarries, land fill sites, utility corridors. • Undeveloped land within a defined urban edge, e.g. an infill site or site designated for urban development purposes. This context can be contrasted with a greenfield site. <p>In such contexts, it is unlikely that detailed heritage specialist input would be required.</p>

Factors influencing the sensitivity of the heritage context	<p>There are a number of factors influencing the sensitivity of a heritage context and thus the nature and intensity of assessment. These include the following:</p> <ul style="list-style-type: none"> • Pristine/greenfield versus modified conditions • Intact versus damaged or disturbed conditions <p>Reversible versus irreversible past damage; i.e. rehabilitation/restoration potential</p> <ul style="list-style-type: none"> • Degree of contestation; i.e. wide variation in values attached to a heritage resource, potential conflict between value systems. • Degree of significance; i.e. representivity, rarity, authenticity, intactness, etc
--	--

Source: DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 18).

Figure 3-3: Categories of Heritage Significance/Sensitivity to inform whether or not Heritage Specialist involvement is required.

This long list has been ordered into twelve types of Heritage Context in Table 1 (pp 21-27), namely:

- Palaeontological Landscape
- Archaeological Landscape
- Historical Built Urban Landscape
- Historical Farmland
- Historical Rural Town
- Pristine/Natural Landscape
- Relic Landscape
- Burial Ground and Grave Site
- Associated Landscape
- Historical Farm Werf
- Historical Institutional Landscape
- Scenic/Visual Amenity Landscape.

Many of these could be grouped under the broad term Regional Cultural Landscapes (p 31). Thus the Landscape is considered an integral component of Heritage Resources. As a heritage resource, Landscape or Cultural Landscape is a contextual concept and cannot be seen in isolation from the surrounding environment.

Endorsed in November 2005 is the most relevant document that now guides HIA in the Western Cape. It is a highly useful document and has been used to guide this report. They note in the Introduction (p 1) that:

The overall purpose of heritage specialist input is to:

- Identify any heritage resources which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources;
- Make recommendations for the appropriate heritage management of these impacts.

Heritage Management Principles and Concepts derived from international charters in the absence of a South African charter on heritage are given as (**bold added**): “need to acknowledge **a range of heritage values**; need for **integrated, inclusive and holistic approaches**; respect for **historical layering**; understanding of the concept of **cultural landscapes**; respect for **vernacular/local identity and distinctiveness**; **public consultation**; **authenticity and integrity**; **multidisciplinary approach**; respect for **context and scale**; positive role for **enabling development**; need for **education and training**; respect for **intangible elements of heritage**; respect for **living heritage**” (pp 3-4).

3.4 Administrative Framework

3.4.1 Western Cape Provincial Urban Edge Guideline (DEA&DP December 2005)

This document makes wide (14) mention of heritage resources recommending for cultural/heritage resources: “**Wide buffer to allow meaningful experience of the resource.**”

3.4.2 Stellenbosch SDF (2007)

An extract of the Stellenbosch SDF is shown below showing the location of the site. It shows the site located on both sides of Annandale Road. In the plan of December 2007 the site occurs just south of Spier Holdings.

The Stellenbosch SDF shows that *Louw's Bos* R502 occurs in the **hatched tan area = Agriculture (Transition)** Bioregional Planning Zone which covers most of the region in the west of the Stellenbosch municipal area. Various **riverine courses** are also indicated as long green lines and one **Buffer Zone = light green hatch**.

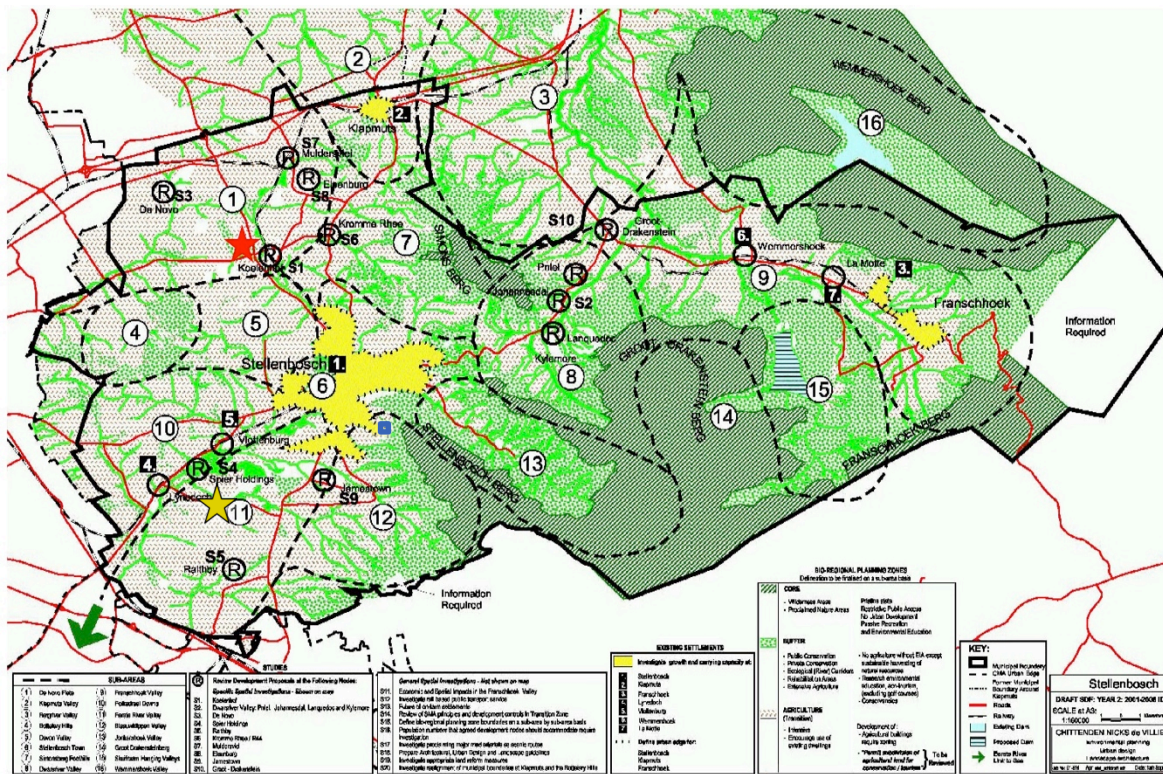


Figure 4.7 Stellenbosch Municipal Spatial Development Framework

CNDV africa planning and design CC
environmental planning, landscape architecture, urban design

29

KOELNHOF SDF(06.1496)
December 2007

Source: Reproduced courtesy of CNDV Africa Planning and Design CC.

Figure 3-4: Stellenbosch Municipal SDF (2007) showing the site location.

Site locations near yellow star next to 11 Eerste River Valley in the SW/lower left.

The Stellenbosch SDF (p 9) *Synopsis: Heritage* notes the following (**bold added**):

HERITAGE

The sense of place of the Stellenbosch region is derived from a long agricultural and academic history coupled with well-preserved architecture and endemic biodiversity. Uncontrolled expansion of urban areas and industrialised agriculture into indigenous ecosystems threatens the unique fabric of the region, and may diminish the appeal of the area. **Several specific principles are proposed to protect the character of the area, including the use of guidelines for sensitive biodiversity areas, controls over building heights and architectural styles along major roads, and the determination of appropriate land use zoning according to view sheds.** The character of the rural area should be protected via various guidelines such as setting buildings along provincial roads back by at least 100m. Tourism that reinforces the municipality's sense of place should be encouraged and attractions should be developed that remain appropriate to the region's well-established themes.

Following the principles introduced in Section 2, Section 3 considers the 14 nodes that have been identified as the loci of future development in Stellenbosch Municipality in more detail. This includes a summary of the challenges and opportunities faced by each node and maps of the status quo and proposed developments that indicate how this could be translated into

more detailed spatial plans. Table 1 on page 12 summarizes the key infrastructure capacity issues that need to be addressed in each of the nodes, and can be used to prioritize infrastructure investments across the municipality in the short term.

Furthermore, *Section 7: Heritage* (pages 32-33) later notes more completely (**bold added**):

7. HERITAGE

Stellenbosch's sense of place is derived primarily from its historic architecture, endemic biodiversity and the views from its main arterial routes. Its main attractions include wine farms, natural areas, historic sites and museums, sports and recreational facilities, and tight-knit urban street character in many of the historic urban cores (e.g. Stellenbosch, Franschhoek). Approximately 169,000 tourists visited the municipality's tourism bureau in 2005, of which over 80% were foreign. Growth in domestic tourism is seen as an opportunity to expand the tourism economy. The establishment of Stellenbosch 360 in 2012 clearly marks the start of a new era in tourism promotion and business involvement in development in general.

Stellenbosch is home to some of the rarest and most diverse vegetation on earth, but this is coming under pressure from the uncontrolled expansion of urban areas and industrialized agriculture into indigenous ecosystems. As pockets of untouched ecosystems get smaller and the spaces between them get wider, they lose their ability to function and reproduce, and species become extinct. Combined with climate change, uncontrolled conversion of rare ecosystems could result in the loss of beneficial ecosystem services and significantly diminish the appeal of the area unless decisive action is taken to protect and nurture endemic biodiversity.

There is increasing importance of telecommunications to the growth of the economy. This is especially the case in Stellenbosch that has a strong emphasis on business services and information communication technology. Rapid expansion of the telecommunications industry in recent years has resulted in an increasing demand for radio telecommunication services, and new technologies in the cellular phone industry. The location, siting and development of TMI continues to be an issue of particular interest to both local communities and local government alike, with debate focusing on adequate availability of connectivity, visual amenity and public health. With the nature of technology it must be accepted that the future need for TMI sites will increase in the short to medium term.

PRINCIPLES

- Sensitive biodiversity areas should be mapped, and clear and appropriate guidelines introduced to conserve them.
- Crest lines should be kept free of buildings and intensive agriculture to protect biodiversity.
- Ridge lines should be used for properly managed walking trails to increase recreational potential, tourism and income.

- The boundaries of view sheds along major routes should be determined by a visual resource management exercise.
- Land within these view sheds and outside of existing or proposed settlement nodes should be classified as either "Buffer" or "Intensive Agriculture" Spatial Planning Categories (SPCs) depending on the underlying land's suitability and use.
- Development for agricultural or agri-tourism activities within these view sheds and outside of existing or proposed settlement nodes should be limited to 1 du per 10 ha (or equivalent).
- Buildings along provincial roads should be set back at least 100m from these roads to preserve the character of rural areas.
- **Building heights and architectural styles should be controlled within 200m of any prominent road so as to preserve the heritage of the built environment.**
- Outside of formal conservation areas, land owners should be encouraged to conserve vegetation classified by SANBI as Endangered or Critically Endangered (particularly along ridge lines) and to link to existing conservancies (e.g. through the Cape Nature Stewardship Program). These land uses should be classified in the Core SPC.
- Adopt a telecommunication mast infrastructure policy that will facilitate the growth of new and existing telecommunications systems and facilitate the provision of TMI in an efficient, cost-effective, environmentally appropriate and sustainable way.
- Tourism that reinforces the municipality's sense of place (e.g. agri-tourism, wine tourism and eco-tourism) should be encouraged in the settlements and on rural land outside the urban edge.
- Variety in the region's tourism offerings should be preserved rather than focused on one unique resource (e.g. wine tourism), but attractions must remain appropriate to the region's tourism themes.
- Restaurants, wine tasting and holiday accommodation should be encouraged, but must be within the parameters of the rural housing guidelines and provincial resort guidelines.

NWA

4 Heritage Environment

4.1 Summary

The farm Louw's Bos R502 lies SW of Stellenbosch on either side of the Annandale Road. Stellenbosch Municipality owns the property which was previously Crown Land forming the extensive Stellenbosch Commonage. Louw's Bos R502 has significant landscape and associative heritage significance with the Landscape Character Area and Units ranked Grade IIIb. The local stretch of Annandale Road is a Grade IIIa Scenic Route. Nearby Heritage Sites include *Mon Villa (Eureka)* IIIb, *Soverby* IIIc and to the north *Groot Zalze* II. No significant palaeontological remains were uncovered during field inspections, however, Archaeological remains from the ESA were ranked *Low* (IIIc).

4.2 Introduction

Combined with Section 2, this chapter presents the relevant heritage information required for HIA. This is a strongly historical chapter well illustrated with maps, plans and photographs. Heritage impact is all about our appreciation of the past as an inheritance of tangible and intangible elements. This chapter records what we know about the affected environment's heritage.

4.2.1 Background

The description of the environment is undertaken with a view to presenting basic information for the Heritage Impact Assessment.

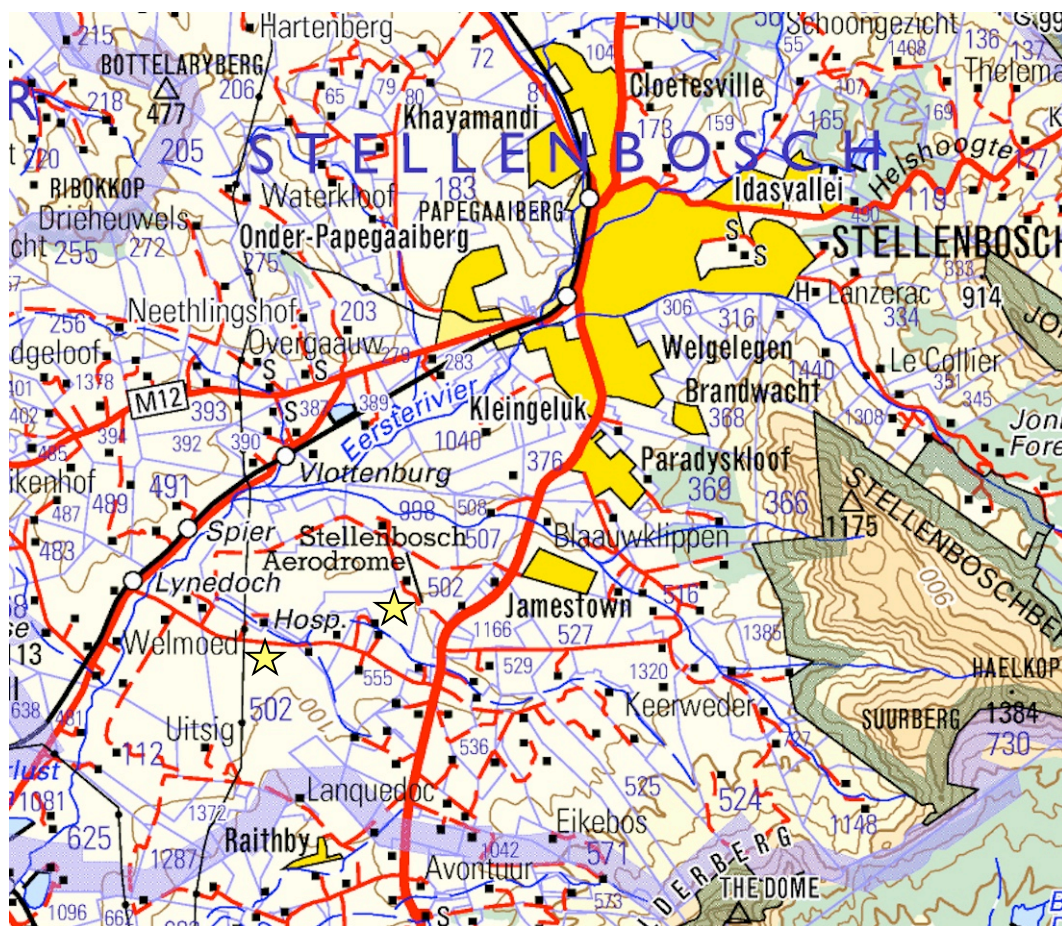
4.2.2 Key Issues

1. *Louw's Bos R502* lies SW of Stellenbosch on either side of Annandale Road in the Stellenbosch Winelands. The property is rural and still used for agriculture purposes.
2. The landscape is a river valley and surrounds with two sites under consideration, one north and one south of Annandale Road.
3. The south site is more mixed farming and broken with wheat, grapes and vegetable crops up while the north site is pasture and more scenic.

4. The landscape is generally scenic (Grade IIIb) in a mixed agricultural setting near the Stellenbosch Mountains.
5. The stretch of Annandale Road nearer the South site is a Grade IIIa Scenic Route.
6. Historically, the land once formed part of the extensive Stellenbosch Commonage to the south of the town. Trekpaths once criss-crossed the site both north and south.
7. Graded Heritage Sites nearby include: *Mon Villa (Eureka)* IIIb, *Soverby* IIIc and to the north *Groot Zalze* II.

4.3 Location

The northern site occurs south and east of *Spier* and north of Annandale Road, while the southern site occurs south of the Annandale Road west of *Welmoed* and north of *Uitsig*, just near the southern municipal boundary of Stellenbosch.



Source: Reproduced courtesy of the Chief Directorate: Surveys and Mapping, State Copyright 2000.

Figure 4-1: Regional Context.

Portion of a 1:250,000 map of South Africa showing the site locations (3318 Cape Town, 9th Edition 2000). NTS.

4.4 Natural Environment

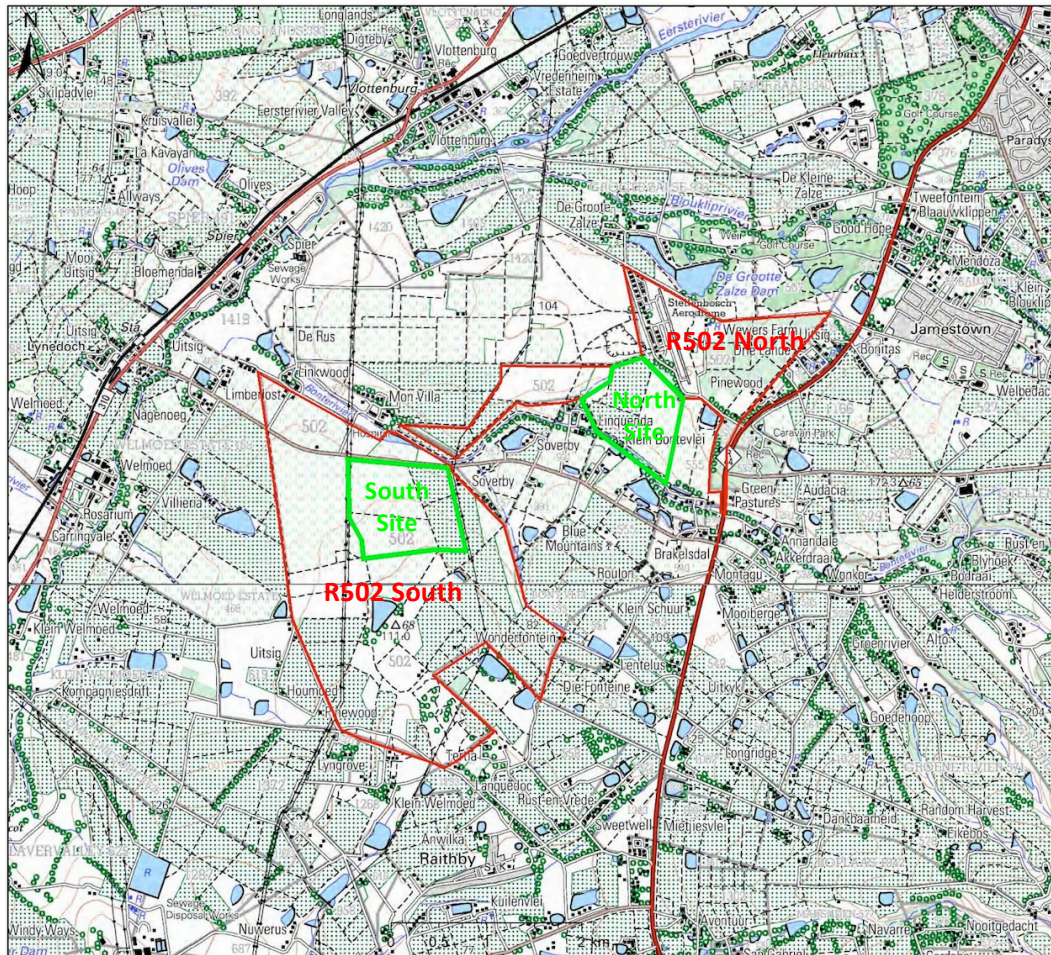
4.4.1 Topography

The sites occur on hilly ground on either side of the Bonte River. The northern site stretches up from the river towards the Aerodrome. The southern site stretches up from Annandale Road.

4.4.2 Vegetation

The vegetation on both sites is highly transformed towards agricultural activities. There is more pasture and less visible disturbance on the northern site, while the southern site is more mixed and has a variety of disturbed and less disturbed land.

4.5 Social Environment



Source: CK Rumboll & Vennote / WC Government Agriculture.

Figure 4-2: Rural Context.

Portion of a 1:50,000 map of South Africa showing the site locations (3318 DD Stellenbosch, 5th Edition 2000). NTS.

4.5.1 Land Use

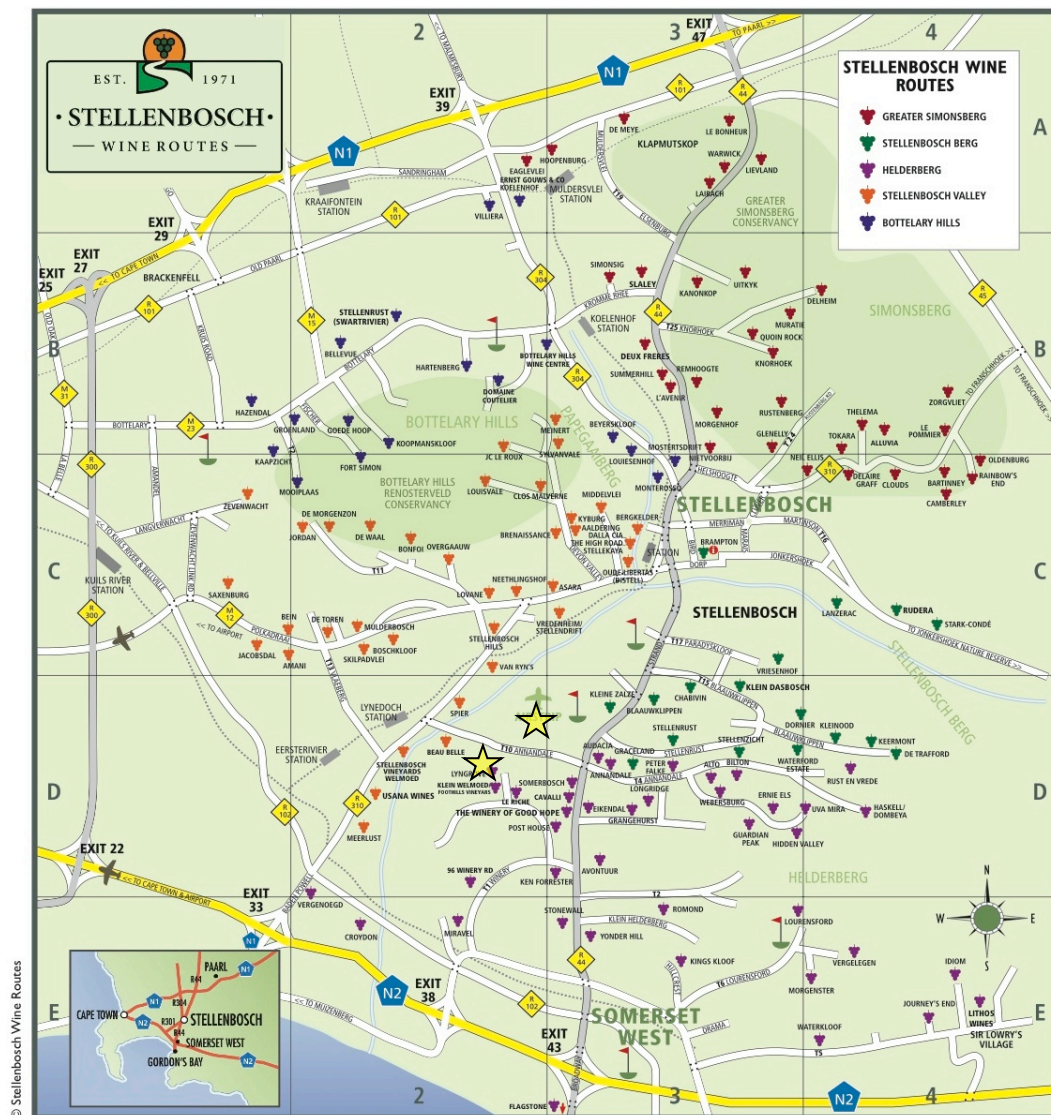
The site and general area is currently zoned Agricultural.

4.5.2 Rural Context

The site lies in an extensive area of farmland in the SW region of the Stellenbosch Winelands (see Figure 4-2 above). There are numerous well-known wine farms in the area. *Spier* lies to the north and west of the northern site; *Welmoed* to the west of the southern site.

4.6 Cultural Environment

4.6.1 Cultural Landscape



Source: Stellenbosch Wine Routes.

Figure 4-3: Stellenbosch Wine Routes (June 2017).

Stellenbosch Wine Route Map (June 2017) showing the sites near *Spier* and *Beau Belle*.

The Cape Winelands are world renown and are a UNESCO World Heritage Site. The development of the Winelands into a cultural landscape occurred historically during the colonial period of South Africa from the seventeenth to nineteenth centuries. The twentieth century saw expansion and further development of the winelands and the development of

the region's famous Wine Routes. There are numerous well-known Stellenbosch wine farms in the area including *Spier* and *Welmoed*. As such this rural landscape is highly transformed with farms either given over to vineyards or pasturage. There are also numerous farm dams.

Louw's Bos R502 occurs in the WW portion of the area falling between the **Stellenbosch Valley Wine Route** and the **Helderberg Wine Route**. There are numerous other wine farms noted in the general area on the map but few actually bordering the sites besides *Spier*.

The natural landscape is typically transformed from the fynbos and renosterveld that naturally occurs in the area. Most of the visible landscape appears to be either a degraded type of grassland for pasturage or vineyards with some gum plantations to the south as well. Much of the area is gently rolling to hilly towards the south.

Popular activities in the area are primarily associated with visiting and touring the winelands and their farms. Many farms have overnight accommodation for tourists.

4.6.2 Visual and Aesthetic Environment

As noted above, the Winelands are world famous and generally situated in a highly scenic region. This particular area is a highly transformed agricultural landscape with numerous vineyards, farm fields, pastures and historic homesteads, with a few off Annandale Road. The countryside is rolling around the low-lying Bonte River Valley rising to higher ground to the north and south. The SHS&MP (2018) has graded the area Landscape Character Area as Grade IIIa and the portion of Annandale Road, particularly near the South site as a Grade IIIa Scenic Route

4.7 Heritage Environment

4.7.1 Historical Context⁵

Introduction

The farm No 502 "Louw's Bos", Stellenbosch is situated some 10km to the south of the historical town of Stellenbosch. The basic co-ordinates are approximately 33°59'S and 18°49'E (see Figure 4-4).

⁵ Dr Ute Seemann (1 November 2018). *Historical Background Report: The Farm 502 Stellenbosch "Louw's Bos"*.



Source: CK Rumboll & Vennote / WC Government Agriculture.

Figure 4-4: Aerial imagery showing the R502 boundaries and the two sites.

R502 North and South is outlined in red while the two options under consideration are indicated in green as North Site and South Site.

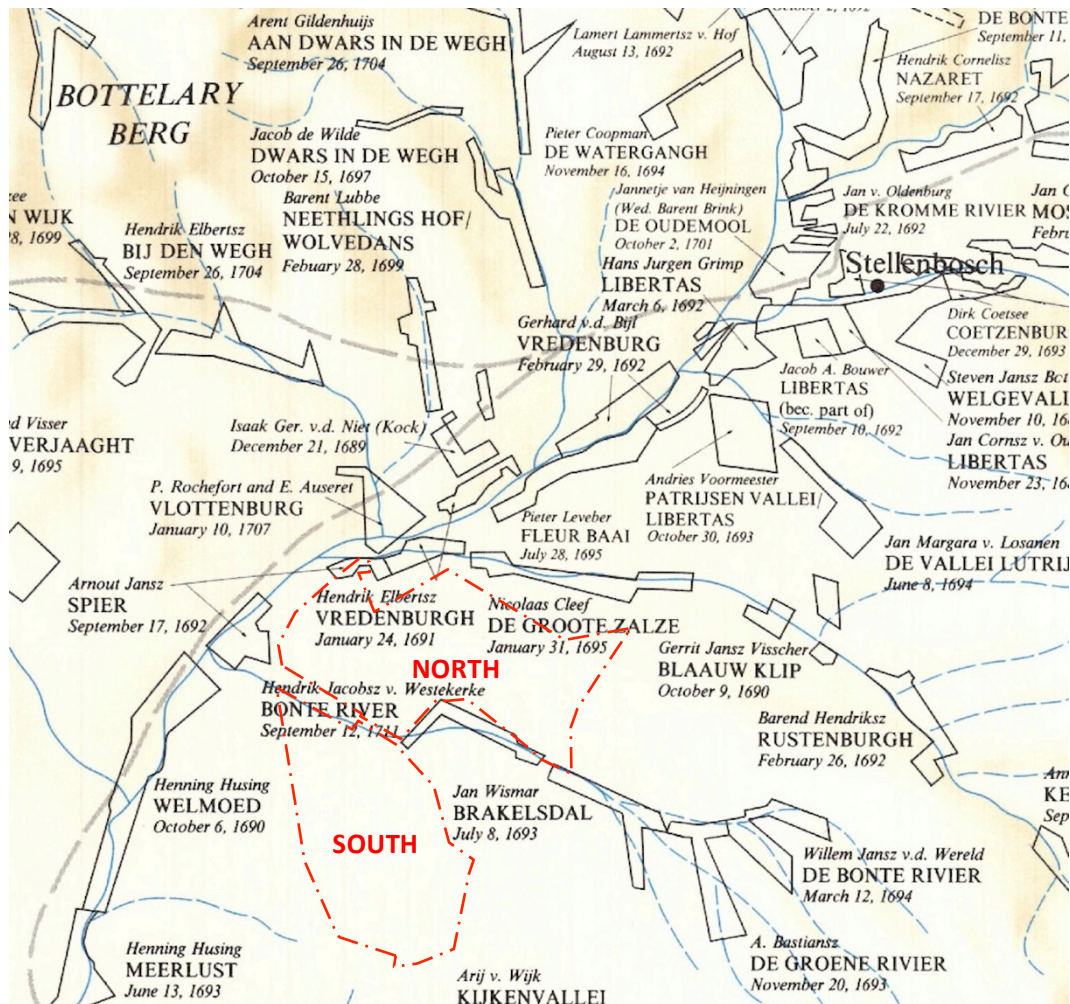
The property is at present zoned 'agricultural'. It is surrounded by a very mixed use area: to the north by the upmarket Stellenbosch De Zalze Golf and Housing Estate, east by the R44 (Stellenbosch to Strand road), the south by Annandale Road and the Bonte Vallei and Bakels-Dahl estates, to the west by the Spier vineyards and to the north-west by the Stellenbosch NU.

Traditional farmlands still dominate the vistas all round with the Jonkershoek Mountains looming to the north-east. Within a radius of less than 20km any number of historic wine estates are situated.⁶ These together with sprawling suburbs still dominate the mental image of the Stellenbosch administrative district.

⁶ Fransen, Hans. 2004. *The Old Buildings of the Cape*. Johannesburg and Cape Town: Jonathan Ball Publishers, pp 199-211.

Historic Notes

Before Europeans reached Table Bay to settle permanently in 1652, two groups of indigenous people, the Khoi-San and the Khoi-Khoi herders peopled the Cape Peninsula and its *hinterland*. The Khoi kept fat-tailed sheep and indigenous cattle and adhered to a fixed yearly transhumance migration. Wagon routes followed these cattle tracks, and later contemporary roads may well have been constructed along the same routes.



Source: The Southwestern Cape Colony 1657 to 1750, UCT Dept. of Archaeology, ca 1990.

Figure 4-5: Plan of the Stellenbosch farm grants of “The Southwestern CAPE COLONY 1675 to 1750”.

The future farm No 502 “Louw’s Bos” is here approximately marked with red boundaries, located between *De Groote Zalze*, *Brakelsdal*, *Bonte River*, *Welmoed* and *Spier* farms.

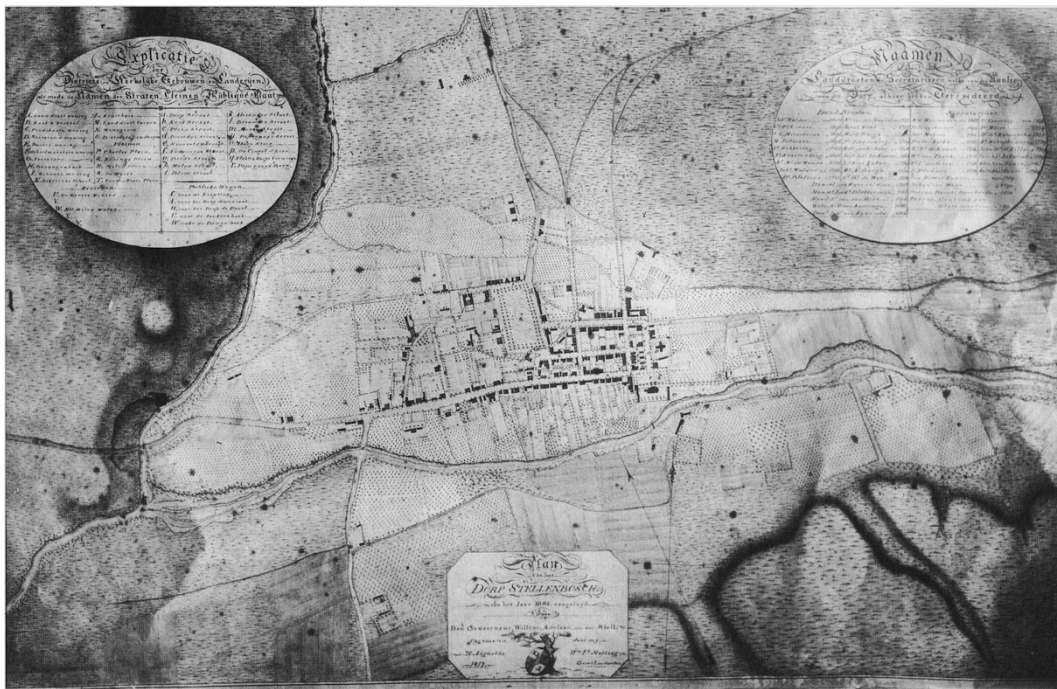
Shortly after the founding of the outpost in Table Bay in 1652 the Dutch East India Company (VOC) committed itself to a permanent settlement policy. Some twenty years later the district and town of Stellenbosch were founded on the banks of the Eerste River. Fertile lands along this and several rivulets descending from the Hottentot Hollands Mountains had been allocated to VOC employees, who established prosperous vineyards. From historical maps it appears that the area under investigation has been continuously cultivated since

then. Almost all material traces of the nomadic earlier inhabitants – the Khoi-Khoi – have therefore been obliterated.

The town of Stellenbosch was established in 1679, although farms in the vicinity of the town were granted by the VOC from 1657 onwards. All properties were recorded in a locally held register and mapped as in Figure 4-5 above.⁷

It is apparent from this map that the farm we know now as “Louw’s Bos” had not been surveyed in 1750. Furthermore, the road from Cape Town as well as the one to The Strand – now the R310 – have been marked here in stippled grey lines.

Stellenbosch municipality property appears in this 1817 Stellenbosch plan by WF Herzog⁸ all around the neatly surveyed town and demarcated vineyards of the great estates. By this time the British colonial government had taken over the Cape and introduced a “modern” survey record (see Figure 4-6).



49. Plan of Stellenbosch (WF Hertzog, 1817, CAR:M2/726). One of the finest plans ever drawn of any Cape

Source: Fransen, Hans. 2006. *Old Towns and Villages at the Cape*, page 68. CAR:M2/726.

Figure 4-6: Plan of Stellenbosch by WF Hertzog (1817).

The farm “Louw’s Bos” would be located off map to the left.

Deeds Office and Surveyor General Records

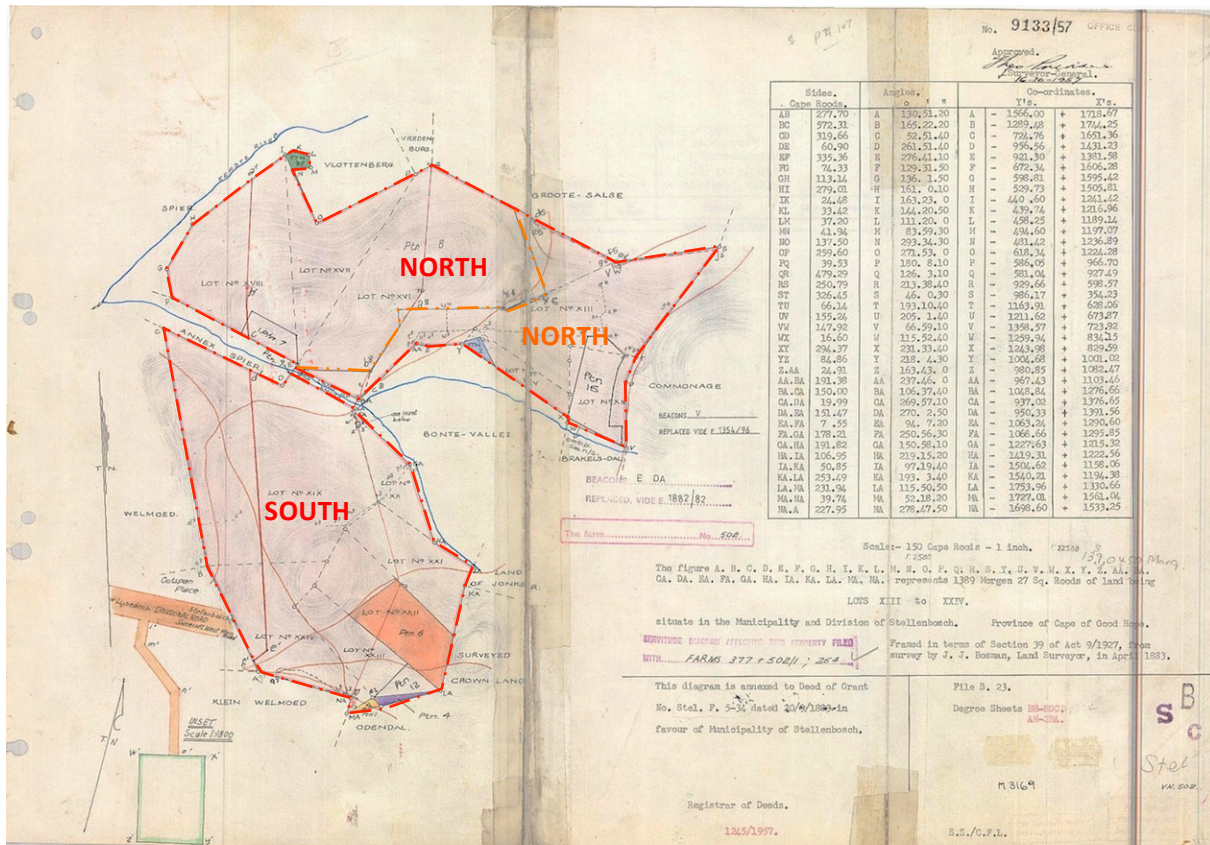
Between the *Groote Zalze* farm and *Brakelsdal* farm (now *Annandale*) is the farm now known as “Louw’s Bos” located. It is listed as the property of the municipality of Stellen-

⁷ Fransen, Hans. 2006. *Old Towns and Villages of the Cape*. Johannesburg and Cape Town: Jonathan Ball Publishers, pp 65-75.

⁸ Cape Archives, CAR M2/726.

bosch since 1883 (Surveyor General, Cape Town, survey diagram 9133/1883). This is the earliest survey diagram available.

Small parcels of land have been sold off in the meantime. The Annandale Road bisects the land, which is the subject of this report. The red and green marked area is earmarked as the future municipality cemetery (see Figure 4-7).



Source: Surveyor General Cape Town, Survey Diagram 9133/57.

Figure 4-7: Survey diagram of the farm No 520/1, Stellenbosch "Louw's Bos" and No 377, Stellenbosch.

This diagram is annexed to **Deed of Grant No. Stel. F. 5-34** dated 20/9/1883 in favour of Municipality of Stellenbosch. Today's northern section is much reduced along the orange boundary line to the eastern portion labelled **NORTH**. The remainder of the red NORTH section is **Spier**.

Who was "Louw" and why "Louw's Bos"? Brakelsdal and Annandale

In 1813 Hendrik Johannes Louw acquired the farm *Brakelsdal* of 47 Morgen, his son Michiel Nicolaas Louw became the owner in 1847 and the farm is now called 'Annandale'. Father and son built a farmhouse and outbuildings on their farm. It is almost certain, that the municipality owned the land above (to the north of) their farm road (now Annandale Road) and this property was leased to them. Wood was by then in short supply and planting a forest a most profitable venture.

Worker's cottages line the northern periphery of the property; the remainder has undergone extensive modification due to modern agricultural practices.

Heritage Resources According to the CTS Heritage Report

The heritage resources of Stellenbosch Municipality have recently been identified and assessed for heritage significance during a municipal-wide survey.

The site, farm No 502 "Louw's Bos", Stellenbosch is described as:

"... falling within a Landscape Character Unit which is of Grade IIIb heritage significance sloping down towards the Bonte River ... workers' cottages in the cultural landscape and a large area of commonage is found in this land unit. Neighbouring property has been assessed as part of archaeological impact assessments ... and Early and Middle Age stone tools might well be found on this property during future earth movements".⁹

Recommendation by CTS

"The area proposed for development is underlain by gravelly clay geology of unknown paleontological significance, but clearly associated with the Middle Pleistocene.... While the proposed development is unlikely to impact on significant paleontological resources, it is likely that the proposed development will impact significant archaeological resources."

Recommendation by the author.¹⁰

The development to go ahead with/under the supervision of a credited Archaeologist and monitored regularly.

4.7.2 Other Historical Maps

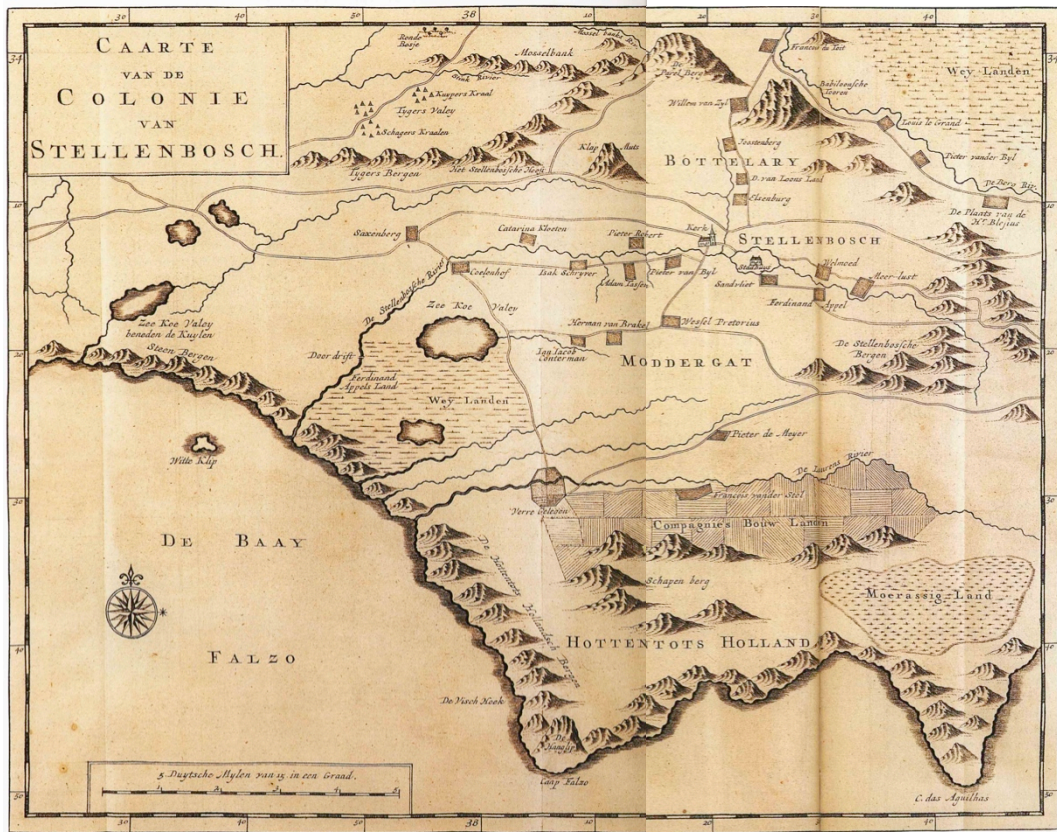
Meerlust was a significant estate on the welcoming route to the south of Stellenbosch. Their map on display in their voorhuis shows an approximate if somewhat imaginative MAP OF THE COLONY OF STELLENBOSCH by Peter Kolb dated 1741 (see Figure 4-8). The farms of the Bonte River are indicated along the road that becomes Annandale. They are those of *Jan Jacob Conterman* and *Herman van Brakel*.¹¹

By the time of the early British period in the first occupation, a military map shows how the colony at the Cape of Good Hope was developing with the relative isolation of Stellenbosch on the other side of the Cape Flats (see Figure 4-10). Only two tracks are shown snaking across the wasteland, one more or less directly to the village itself, and a more southerly route arriving at *Saxenburg* and then heading south to *Meerlust*, the first farms to greet visitors from the Cape. These early trekpaths formed the basis of the routes between Cape Town and Stellenbosch that we still see today.

⁹ CTS Heritage – CTS Reference Number CTS 18_036_3, 34 Harries Street, Plumstead, Cape Town, 7800, Tel: (021) 013-0131.

¹⁰ [of this report section] Dr Ute Seemann.

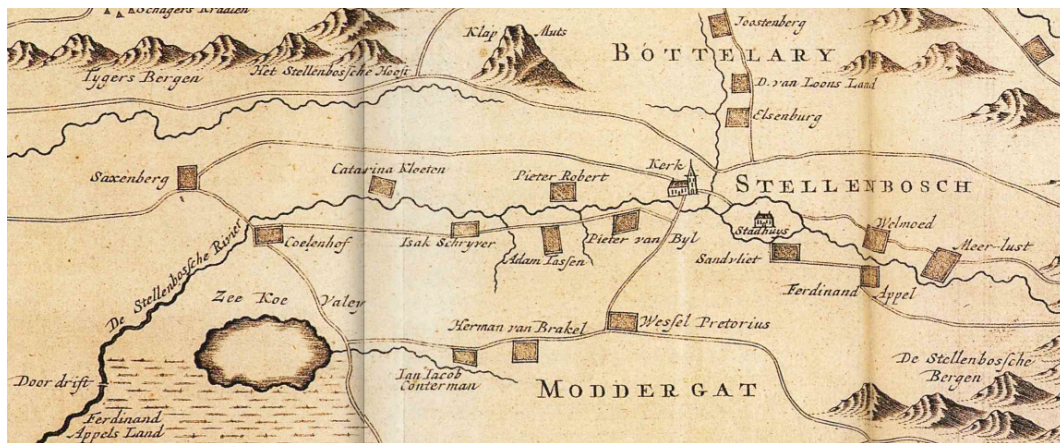
¹¹ Phillida Brooke Simons (2003). *Meerlust: 300 Years of Hospitality*. Fernwood Press: Vlaeberg, Cape Town.



Source: Meerlust: 300 Years of Hospitality, pp 28-29.

Figure 4-8: Map of the Colony of Stellenbosch by Peter Kolb (1741).

Found in the voorhuis of Meerlust, it shows the main features remembered, rather inaccurately, by the author. *Meer-lust* is indicated east of Stellenbosch next to *Welmoed*! It is rather a who's who of the colony.



Source: Meerlust: 300 Years of Hospitality, pp 28-29.

Figure 4-9: Detail of the Map of the Colony of Stellenbosch by Peter Kolb (1741).

The Bonte River Valley is indicated more or less accurately to the south of Stellenbosch, sadly, less the positions of *Welmoed* and *Meerlust*, if not *Spier*. The track that became Annandale Road can be seen above MODDERGAT (Helderberg) with the properties of *Jan Jacob Conterman* and *Herman van Brakel* indicated.



Source: Britain at the Cape 1795-1803, M Boucher & N Penn Ed (1992).

Figure 4-10: Detail of the Cape of Good Hope Coast (1795-1803).

“Map of the situation of the north-western coast of the Cape of Good Hope, from the best-available documents, commissioned in the year 1798 for the purpose of assisting the enquiry into the military conduct of Sluysken¹² by CL Neethling¹³”.¹³ The full map is shown in the margin. It shows the two main east-west trekpaths between Cape Town and Simon's Town.



The 1880 Survey Series (see Figure 4-11) shows the status quo in the Cape and Stellenbosch Divisions at the time. The properties boundaries known today were not yet fully formed having developed further in the 20th century.

Stellenbosch Commonage

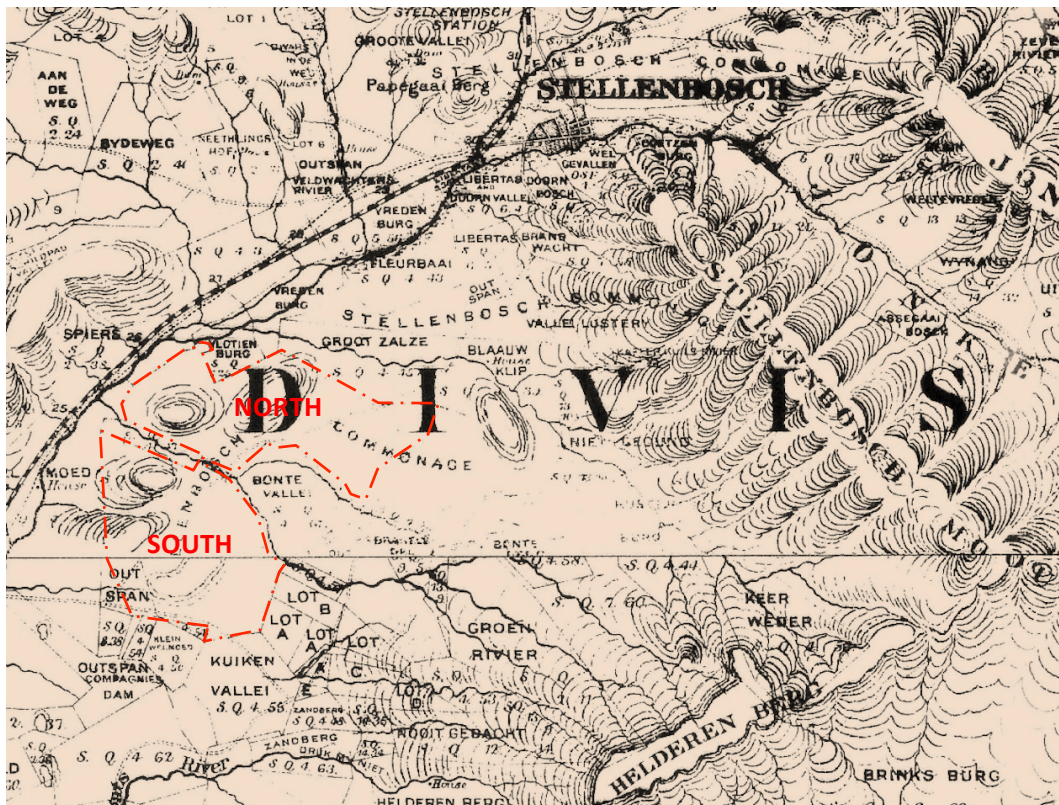
The map shows the extensive **Stellenbosch Commonage** that then ran across the valley to the southwest. This was bounded by all the quit-rent grant properties that bounded it as in the extract from SHS&MP Appendix 1 (see page 49 ff).

The property that became Remainder 502 only included the western portion that was excised along a trekpath between *Brakels Dal* and *Blaauw Klip*.



¹² Sluysken is rather notorious, hence, the military reference. Erasmus (2004, p 21) notes the following in his section on Muizenberg: “A perfunctory battle was fought at Muizenberg on 7 August 1795 between the local garrison and a British expeditionary force that had been dispatched to wrest the Cape from the Dutch. The Dutch royal family, the House of Orange, had fled to England after Holland had become the Batavian republic and an ally of France. The Prince of Orange virtually ordered the Cape government to welcome the British as allies, **but Commissioner Sluysken decided to defend the settlement on behalf of the moribund Dutch East India Company**, which was still nominally the owner. Although the military at Muizenberg was considerably strengthened to halt the British advance from Simon's Town to Cape Town, the defenders offered only token resistance and allowed large amounts of supplies to fall into British hands.”

¹³ Maurice Boucher and Nigel Penn (1992) Ed. *Britain at the Cape 1795 to 1803*. Illustration on pp 46-47. The Brenthurst Press: Houghton, SA.



Source: Surveyor General Cape Town, SW Districts Survey: Sheet 1 Cape (1880).

Figure 4-11: Survey Detail from Stellenbosch to the Helderberg (1880).

Louw's Bos is diagrammed as part of the extensive STELLENBOSCH COMMONAGE stretching from the southern OUTSPAN and bounded by Quitrent Grants (SQ) WELMOED – SPIERS – VLOTTENBURG – GROOT ZALZE – BRAKELS DAL – BONTE VALLEI and further west across the high ground towards the STELLENBOSCH MOUNTAINS and NIET GEGUN. The eastern portion of commonage is not included south of BLAAUW KLIP to BONTEBERG and BRAKELS DAL. The old commonage in the SW mostly includes a triangular OUTSPAN located there above KLEIN WELMOED. The farm number R502 is derived from these Quitrent Grants and Commonage. Boundaries and trekpaths are not clear in this map copy unfortunately.

Outspans and Trekpaths

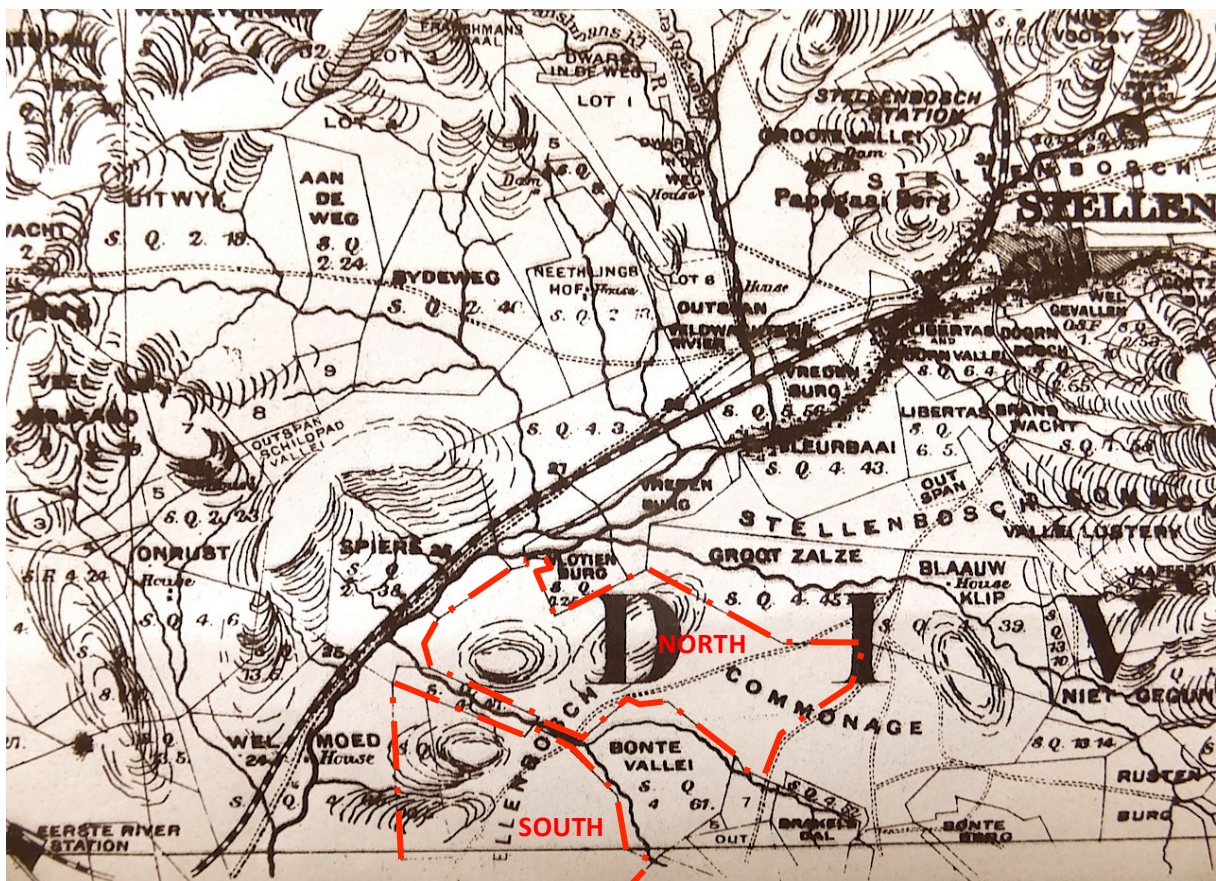
The maps show numerous trekpaths that traversed the commonage in the direction of Stellenbosch. **There is a triangular Outspan in the southwestern corner of the site** and a little further south, one property away, another Outspan at *Compagnies Dam*. These formed part of the network of Outspans and Trekpaths that were the transport system of the day.

There is therefore a connection between this property application and the related Calcutta Bos Memorial Park¹⁴ to the NW of Stellenbosch which both contain old Outspan sites, in whole as in *Calcutta Bos*, or in part, as in *Louw's Bos*. **The reference to a Bos/Wood is significant as when the old obsolete outspans were no longer required, they were often planted to gum plantation or woodlots.** This happened at *Calcutta 29* where the old outspans was planted to gum plantation/ woodlot/*bos*. It is not clear now why *Louw's Bos* but it was probably planted to woodlot earlier. Another outspan can be seen on the route north on

¹⁴ Bruce Eitzen (November 2018). *Calcutta Bos Memorial Park HIA*. New World Associates, Fish Hoek.

the commonage just south of *Libertas*. Not clear on the map detail below but visible on the next enlargement (see Figure 4-11) is what appears to be yet another triangular Outspan just to the SW of *Bonte Vallei* west of *Brakels Dal*. It is interesting that the farm names on these maps are more akin the original Dutch with split words but somewhat Anglicised as opposed to the Afrikaans tendency to join words up e.g. *Brakelsdal*, etc.

A clearer extract of the same map series is included below (see Figure 4-12). Unfortunately, the copy only covers a part of the southern site. It allows a more detailed view of the treckpath and boundary features not obvious in the detail above. The hilly nature of the site with four hills indicated in the NW is clear, as is the river valley or *Bonte Vallei*. The land rises to another hill in the NE south of *Blaauw Klip*, the site of today's aerodrome built on high ground.



Source: Surveyor General Cape Town, SW Districts Survey: Sheet 1 Cape (1880).

Figure 4-12: Survey Detail of Stellenbosch around Louw's Bos North (1880).

Louw's Bos is diagrammed as part of the extensive STELLENBOSCH COMMONAGE stretching from the southern OUTSPAN and bounded by Quitrent Grants (SQ) WELMOED – SPIERS – VLOTTENBURG – GROOT ZALZE – BRAKELS DAL – BONTE VALLEI and further west across the high ground towards the STELLENBOSCH MOUNTAINS and NIET GEGUN. The eastern portion of commonage is not included south of BLAAUW KLIP to BONTEBERG and BRAKELS DAL. The old commonage in the SW mostly includes a triangular OUTSPAN located there above KLEIN WELMOED. The erf number R502 is derived from these Quitrent Grants and Commonage. Boundaries and treckpaths are easier to see in this version.

This larger detail of the 1880s map series clearly shows the old boundaries and trek-paths across the site. **A single trekpath can be seen crossing NE to SW across the northern to the southern portions of R502 on the western side of the old Stellenbosch Commonage.**

4.7.3 Stellenbosch Heritage Survey and Management Plan (SHS&MP) (2018)

Further information about the area generally can now be gleaned from this excellent survey recently completed and published online. It is referred to by abbreviation SHS&MP in this report. This is powerful and invaluable resource provides at long last an authoritative and comprehensive survey of heritage resources in this heritage rich municipality, making it easier to determine the heritage context of developments.

Appendix 1: An Archaeological, Archival, Oral and Spatial History

This appendix provides some useful background information on commonage and out-spans (bold added):¹⁵

4.1.5 Early Freehold Land Grants

In 1813 perpetual quitrents were introduced by the British government. The resulting flurry of land grants allocated during this period attests to how the open land surrounding freehold grants came to be more formally carved up. **The so called 'open land' surrounding freehold properties had actually been informally used throughout the 18th century by farmers and as Company and public outspans, and as the 18th century had worn on it was increasingly utilized as rental or quitrent property.** By the early 19th century increasing numbers of these quitrents became permanent leaseholds that could be purchased and transferred the same as freehold property.

4.5.1 Outspans and Commonage, Wire Fencing and Wind Pumps

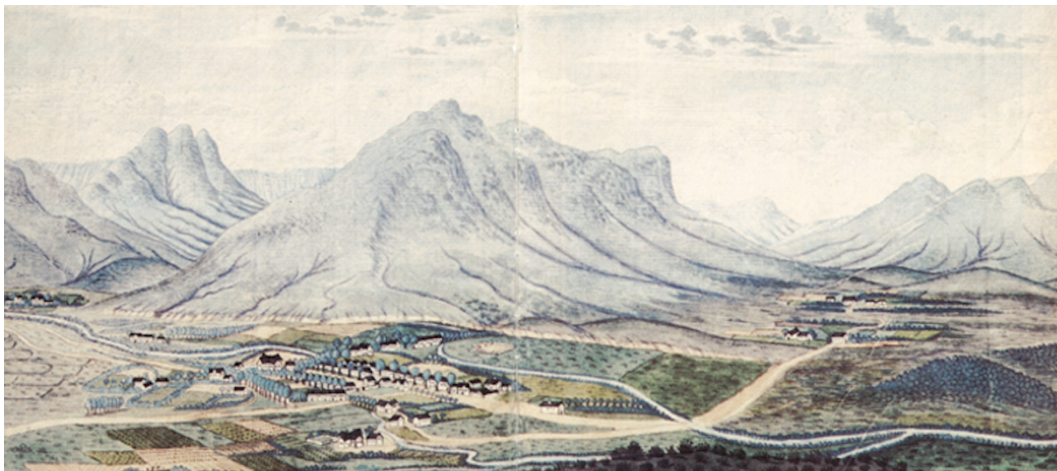
Historically, Commonage provided a place for town residents to keep their transport animals, milking cows, animals for slaughter and butcher's stock. Stock being moved between grazing lands could depasture on the commonage (Anderson & Pienaar 2003). Commonage regulations made detailed provision for these different uses. The nature and content of the rights of commonage users to 'traditional' commonage were afforded in different ways to white settlers when villages were established during the early to mid-1800s and residential sites in such areas were allocated and transferred in ownership. **The initial practice was to afford persons to whom sites were transferred a right of access to depasture a set number of stock on the commonage in terms of a condition contained in the title deed of a village erf.** If the erf was transferred, the new owner of the erf acquired the right or 'servitude'. As the village grew it became necessary to limit access to the commonage.

¹⁵ Antonia Malan (April, 2018). *Appendix 1: An Archaeological, Archival, Oral and Spatial History* in **Stellenbosch Heritage Survey and Management Plan (2018)**. Stellenbosch Municipality.

During the early 1900s it became standard practice to regulate access to the commonage of a village in terms of municipal by-laws. In the former Cape Province, such regulations were promulgated in terms of the Cape Municipal Ordinance 10 of 1912. Holders of servitude rights and other inhabitants were therefore only permitted access to the commonage in terms of the regulations. **With technological change (such as motor vehicles and refrigerators) and increased wealth, white inhabitants became less and less dependent on the commonage, which was increasingly leased out to commercial farmers at market rentals to generate income for municipalities. These significant tracts of 'traditional' commonage land were therefore no longer made available as 'commonage', since the public character of the land is extinguished once access is afforded through market-related rental.** Racial discrimination was formally and informally regulated and implemented by local authorities from before the turn of the 19th century and resulted in the benefits of the town not being shared with the residents of the 'location' (black residential area).

Appendix 5: Landscape Character Study¹⁶

Some images from the early period help to understand the layout of Stellenbosch and surrounds. Stellenbosch developed early into a formal village with farm fields and roads, homesteads and avenues of trees situated along the Eerste River and stretching up into the mountains.



Source: <http://www.spier.co.za/farm/heritage>.¹⁷

Figure 4-13: Watercolour of Stellenbosch by J Schumacher (1776).

Taken from the Pappegaaienberg slope it shows Stellenbosch as a proper village with a distinct urban node set in a prosperous landscape. Dorp Street has an unbroken row of houses and the church has moved to the top of Church Street. There are about a dozen farm complexes nearby. The Bonte River Valley occurs downstream the Eerste River to the right off the drawing.¹⁸

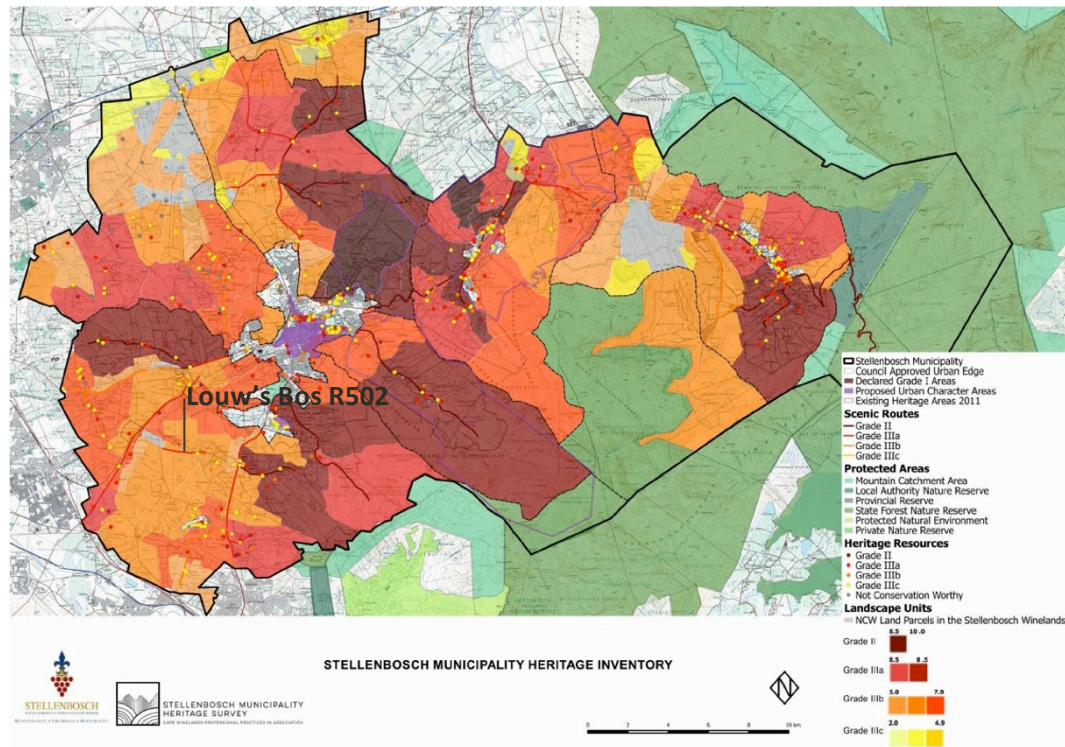
¹⁶ Liana Jansen and Fabio Todeschini (2018). *Appendix 5: Landscape Character Study in Stellenbosch Heritage Survey and Management Plan (2018)*. Stellenbosch Municipality.

¹⁷ This is not a picture of *Spier* as their web site suggests but a picture of Stellenbosch.

¹⁸ Extracted from Illustration 48 caption, p 68, *Old Towns and Villages of the Cape*, Hans Franssen (2006).

Landscape Character Zones

SHS&MP's *Appendix 5: Landscape Character Study* is invaluable to appreciating the heritage significance of landscape sites such as that at R502 Louw's Bos. The Stellenbosch Inventory divides the region up into various zones (see Figure 4-15). R502 Louw's Bos occurs in the SW Landscape Character zone **C Eerste River**. The site lies in the heart of this area as per the Stellenbosch Municipality Heritage Inventory Map shown in Figure 4-16 below. Landscapes in this area are generally graded **Grade IIIb**.



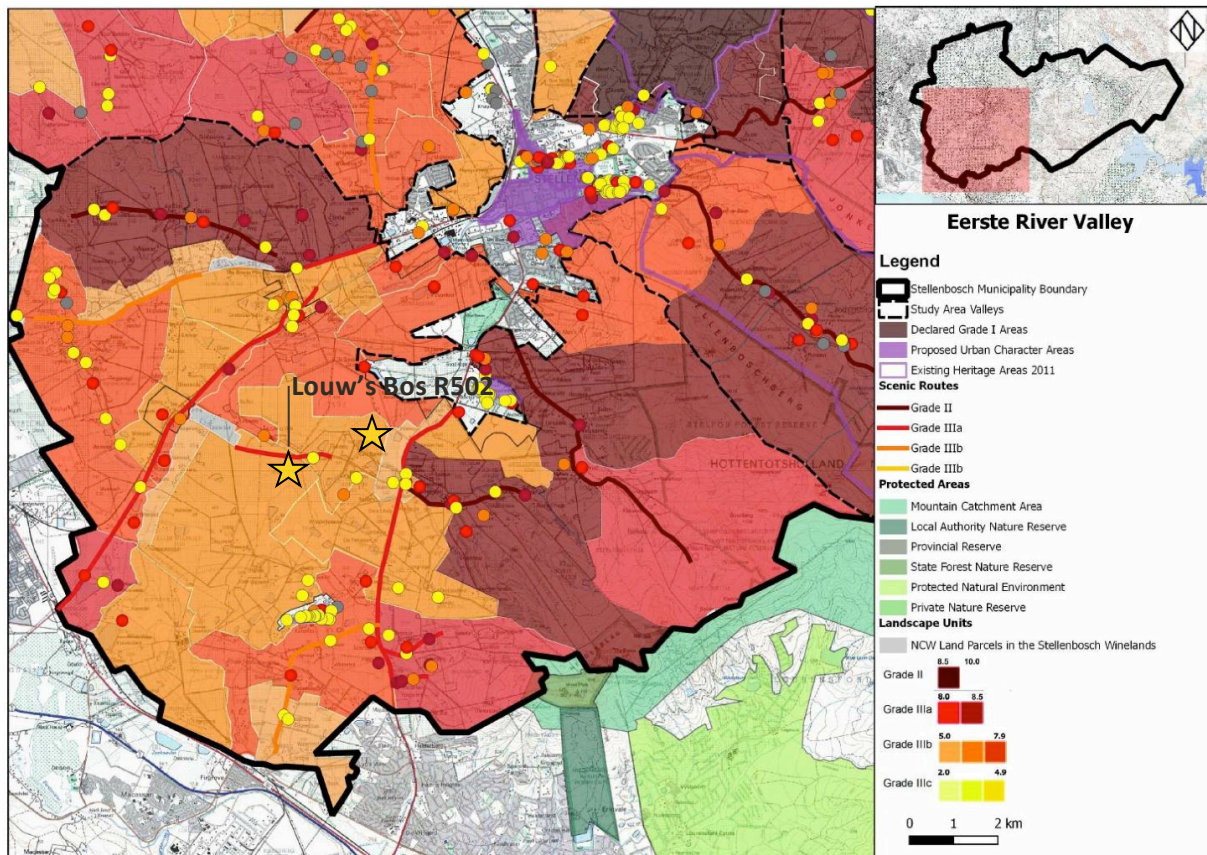
Source: Appendix 5 in SHS&MP (2018).

Figure 4-16: Stellenbosch Municipality Heritage Inventory Map (2018).

This map shows the overall context of heritage sites and landscapes and their grading. R502 north and south and the general area are ranked Grade IIIb.

Landscape Unit: Eerste River Valley

The grading of this area, on Landscape Units **C17 Annandale Road** (6.4 points) and **C19 Central Commonage** (6.25 points) is **Grade IIIb**. They occur in an area generally designated Grade IIIb but to the north they abut onto the slightly higher ranked but still **Grade IIIb C11 Spier and Welmoed** (7.55 points) and **C12 Commonage and Renosterveld with Archaeological Sites** (7.5 points).



Source: Appendix 5 in SHS&MP (2018).

Figure 4-17: Stellenbosch Municipality Heritage Inventory Map: C Eerste River Valley (2018).

This map shows the overall context of heritage sites and landscapes in the Krom River zone and their grading. **R502 Louw's Bos** is zoned as a **Grade IIIb Landscape**. Both areas north and south of R502 are ranked as 6 (medium orange), the mid Grade IIIb forming part of the grading of that area. The section of Annandale Road between the sites, particularly along the southern site is designated **Grade IIIa Scenic Route**.

Graded Heritage Sites

While there are numerous **Grade IIIc** ● and **Grade IIIb** ● sites in the general vicinity of R502, and several **Grade IIIa** sites ● further afield, the nearest to it on the scenic stretch of Annandale Road are **Grade IIIc** ● *Soverby* on the south side of the road, and **Grade IIIb** ● *Mon Villa (Eureka)* on the north side. The nearest **Grade II** site ● is at *Groot Zalze* just north of the Aerodrome. These are not named on the maps but have to be found on the interactive online map.¹⁹

Graded Scenic Routes

The section of Annandale Road that runs on the western side of the R502 has been graded **Grade IIIa Scenic Route**.

¹⁹ <http://stellenboschheritage.co.za/smhs/map/#13/-33.8508/18.8097>. Rather confusingly, the online site proposes a **Grade IIIa** ● site to *Groot Zalze*.

Landscape Character Areas

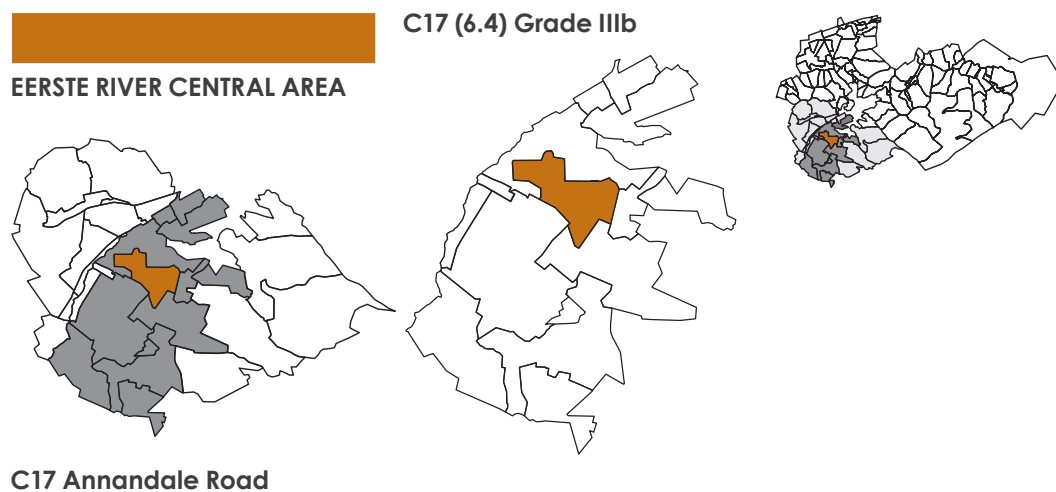
Eerste River Valley: Central Rolling Area

The Landscape Character Zones of the SHS&MP are further divided into **Landscape Character Areas**. R502 Louw's Bos falls into **Central Rolling Area C15-24**. They are described in the following extract from Appendix 5 (see Figure 4-18). The North site falls into **C17 Annandale Road** while the South site falls into **C19 Central Commonage**.

The central rolling hills of the Eerste River, associated with gradients of less than 1:10, are divided into smaller segments by three small streams that find their origin in the Helderberg and run into the Eerste River: the Blouklip, Bonte and Moddergats River. It is along these streams that we find the first freehold farms. **Large areas of historic commonage (C16 and C19) correlate with some of the critical biodiversity areas which adds to the significance and potential of this central area.** The historic mission town of Raithby (C23) is a special node within this landscape with a number of other historic features in this vicinity. The historic werf of *Happy Vale (Verdruk-My-Niet)* (C23) has special landmark significance. Annandale Road has intrusive infrastructure associated with the production of strawberries (C16 and C20). Another set of important land units are those defending the southern border of the Stellenbosch Municipality against further urban creep.

C17 Annandale Road (Louw's Bos North)

The following diagrams indicate the location of C17 at varying scales and contexts (see Figure 4-18).

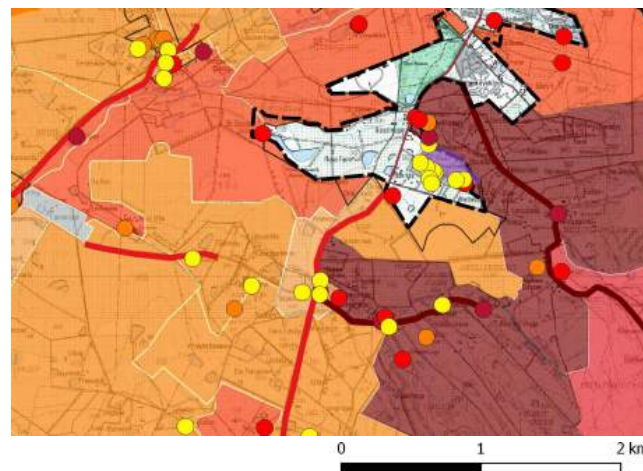


Source: Appendix 5 in SHS&MP (2018).

Figure 4-18: Stellenbosch Municipality Heritage Inventory Map: C17 Annandale Road Location (2018).

This area occurs to the north of Annandale Road and contains the north site. **C17 is ranked Grade IIIb scoring 6.4.**

The layout of the nearest graded heritage sites can be more easily seen in the following diagram. The specific detail for Louw's Bos North is noted in unit C17 as shown below (see Figure 4-19).



Source: Appendix 5 in SHS&MP (2018).

Figure 4-19: Stellenbosch Municipality Heritage Inventory Map: C17 Annandale Road Grading (2018).

Grade IIIc ● *Soverby* is on the south side of the road, and Grade IIIb ● *Mon Villa (Eureka)* on the north side. The nearest Grade II site ● is at *Groot Zalze*.

C17 Annandale Road scores 6.4 points = Grade IIIb. The description of the unit is as follows (**bold added, ibid**):

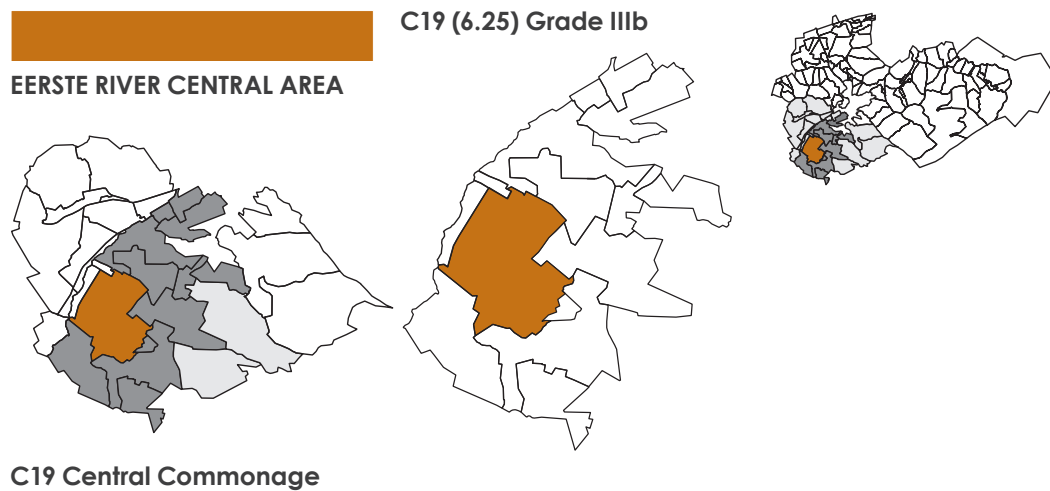
C17 Annandale Road

This landscape unit is defined by a rolling landscape with distant views towards the Stellenbosch mountains through a highly articulated agricultural environment. **Annandale Road cuts through this landscape unit, with the northern section sloping up and continuing down towards the Bonte River where the early freehold land grants were allocated. The southern section of the unit is bound by the Bontevlei Stream and features a number of dams.** Farm werfs, workers' housing, dams and rows of trees punctuate this rolling landscape next to the Annandale Road, but devoid of regular pattern. The north-western section of the unit has a rectangular pattern of vineyards and field crops, on medium suitable soils. Workers' cottages in the cultural landscape add to its significance. **A large area of commonage is found in this land unit.**

This landscape shows a highly articulated agricultural environment, enclosed by rolling hills on all sides, and far views towards the Helderberg Mountains. It has scenic and contextual significance.

C19 Central Commonage (Louw's Bos South)

The following diagrams indicate the location of C19 at varying scales and contexts (see Figure 4-20).



Source: Appendix 5 in SHS&MP (2018).

Figure 4-20: Stellenbosch Municipality Heritage Inventory Map: C19 Central Commonage Location (2018).

This area occurs to the south of Annandale Road and contains the south site. **C19 is ranked Grade IIIb scoring 6.25.**

The layout of the nearest graded heritage sites can be more easily seen in the following diagram. The specific detail for Louw's Bos South is noted in unit C19 as mapped in Figure 4-21.



Source: Appendix 5 in SHS&MP (2018).

Figure 4-21: Stellenbosch Municipality Heritage Inventory Map: C19 Central Commonage Grading (2018).

Grade IIIc ● *Soverby* is on the south side of the road, and Grade IIIb ● *Mon Villa (Eureka)* on the north side. The nearest Grade II site ● is at *Groot Zalze*.

C19 Central Commonage scores 6.25 points = Grade IIIb. The rock cairn by the old outspan to the south is significant. The description of the unit is as follows (**bold added, ibid**):

C19 Central Commonage

This rather hidden landscape is rich in texture with expansive 360-degree views over the Helderberg, Bottelary Hills and False Bay. **The combination of wilderness and cultivated landscape that varies in use from vineyards to field crops and open fallow land are the building blocks of this rural landscape.** The central rolling foothills directs the structure of this land unit with streams flowing from the mostly convex bulging of the land. Ecological support areas are found around these drainage lines, and north of Raithby areas of critical biodiversity are found in the intact Renosterveld pockets. **The only access to this land unit is via a gravel road from Annandale.** The highest point of the central rolling hills has good quality soil, while the rest of the rolling landscape is of medium quality with the concave folds around drainage lines of low quality. A small area of early freehold land grants is seen in the southwestern corner close to Raithby. **A large area of commonage on the northern border next to Annandale Road, features small plots of different agricultural use, some with dilapidated greenhouse structures.** An outspan ('Lot no 1') is situated directly next to the commonage, and at that intersection, a cairn of rocks is a landmark feature in the fork of the road. The 'Compagnies drift' outspan starts as a small unit next to the Eerste River and stretches up the slope. **These outspan areas were placed in close proximity to an old wagon route that used to traverse this central area.**

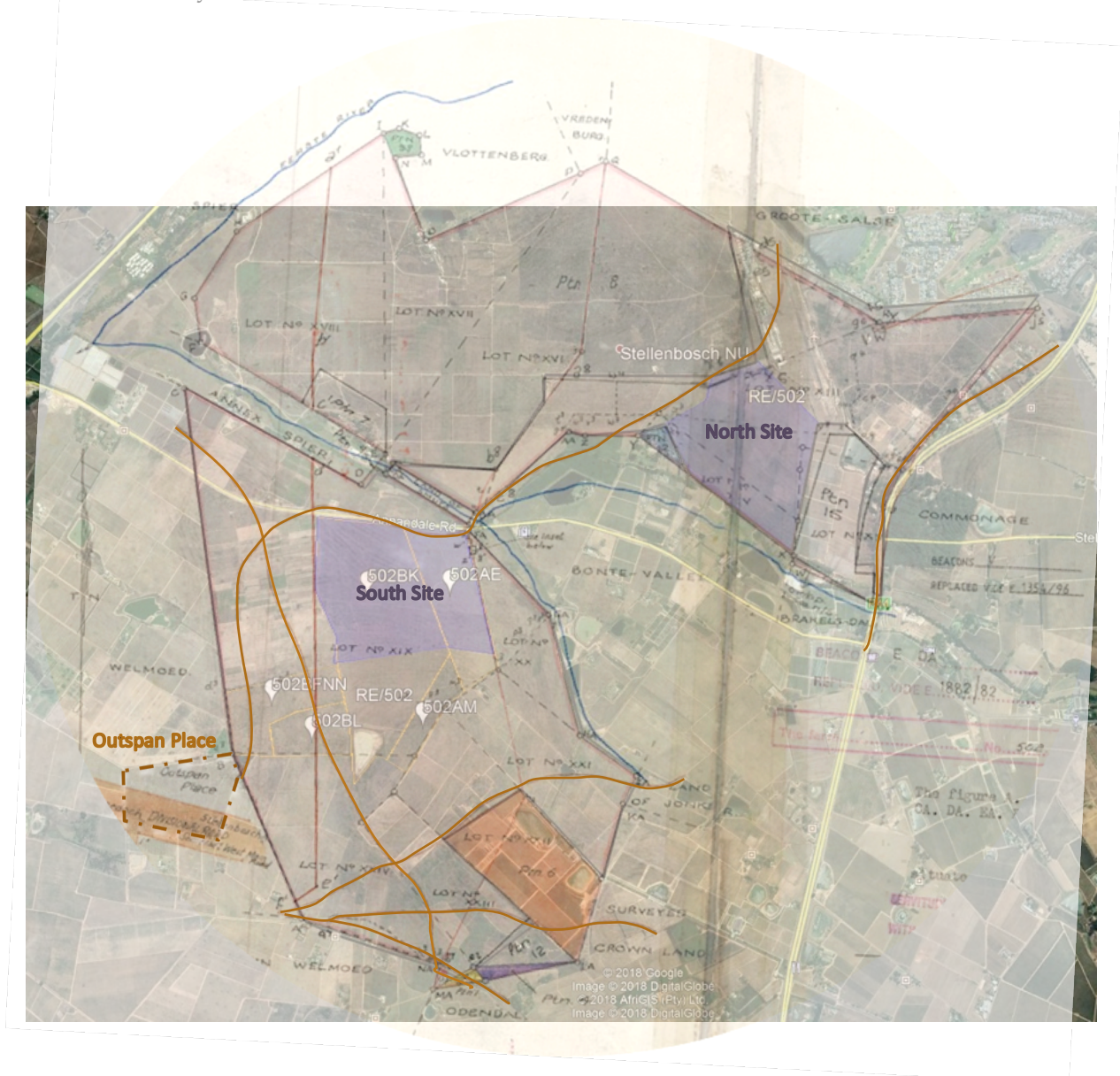
This land unit has significance for its historic layering of commonage and outspan areas and the secluded character from the rest of the Stellenbosch Municipal area. Therefore it has a high degree of historic, scenic, aesthetic and associated cultural significance. The commonage has the potential to address some of the social needs of access to land for crop production, recreational areas and access to medicinal plants.

Mixed agricultural landscape and pattern, single access, large commonage and outspans near to the old wagon trail or trekpath are the key features of this extensive open area. **The most historic features in this open landscape is the old commonage along Annandale Road – although the entire area was commonage in the nineteenth century – the old trekpath/s and outspan points (see the cairn in Figure 4-21),** if the old trekpath/s are even intact anymore, and the general pattern of farm fields and open spaces. Research into historic aerial photos from the mid twentieth century may help determine the land use patterns at that time and how they compare to today's use (see p 61).

Trekpaths and Outspan

In the figure overleaf (see Figure 4-22), the 1957 survey diagram based on the 1883 diagram has been overlain on a current aerial image. They approximately match although the northern portion is a little skewed. **The numerous OLD TREKPATHS shown as brown lines are clearly seen; so is the old OUTSPAN PLACE to the SW just outside R502.** Some have been retained along existing routes, whilst farm fields obliterate others. A triangular section on the NE corner of the old outspan but within R502 has been planted to gum plantation and is a prominent woodlot in this otherwise open landscape.

In respect of the two proposed sites, **the one TREKPATH running from the old OUT-SPAN PLACE from SW to NE crosses to the west of the South site, more-or-less running along its northern boundary, today's Annandale Road.** It crosses Annandale Road on what appears to be a bridge or level crossing before snaking up the valley NE towards Groot Zalze and Stellenbosch. It runs just to the south along the southern boundary of the northern portion of R502 **before crossing it to run along the eastern boundary of the proposed North site** before finally topping out and crossing the Aerodrome high ground. Another trekpath is shown on today's R44 to the east.



Source: CK Rumboll & Vennote / WC Government Agriculture; overlay by New World Associates.

Figure 4-22: Aerial imagery showing the R502 boundaries and the two sites overlain by the survey diagram of 1957/1883.

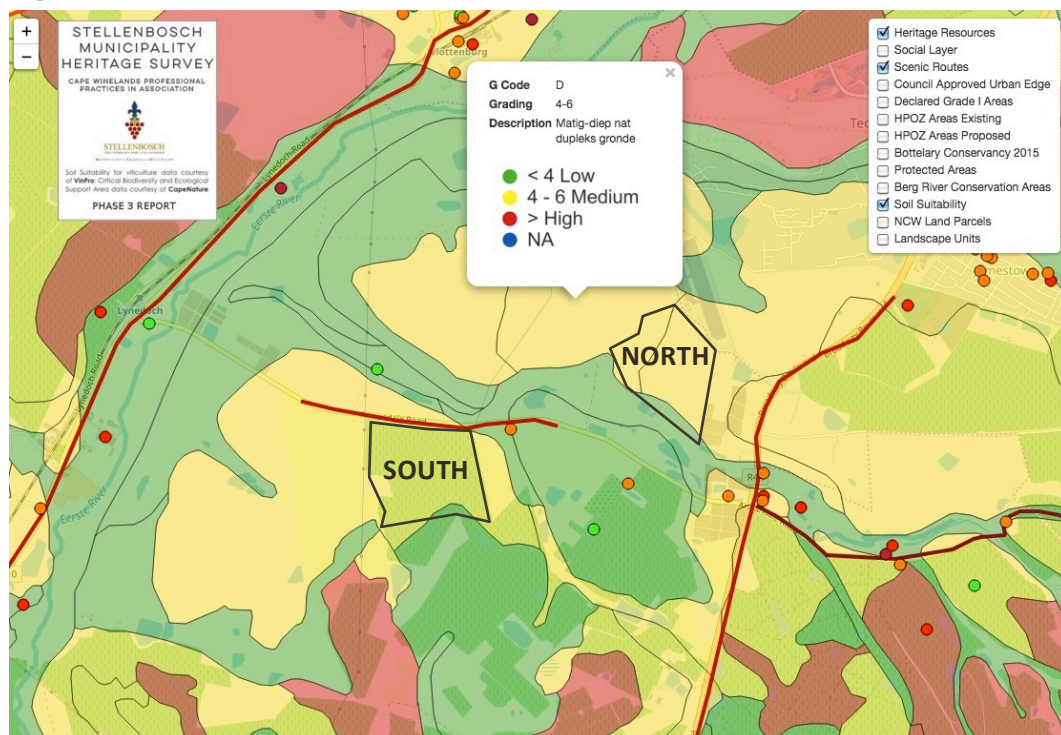
The purple areas on this map version show the **South** and **North** sites on today's land use. The old **TREKPATHS** and **OUTSPAN PLACE** are shown in brown.

Other trekkpaths cross to the south of the site and one long one from SE to NW passing to the west of the South site and crossing the other SW-NE trekpath.

Farm Field Patterns

Also looking at the old survey diagram overlay in Figure 4-22 above, the old pattern of farm fields seems largely intact with the old portion boundaries still in existence. However, the current situation of leases breaks up this landscape with the two biggest chunks being 502BK and 502AB in the north of R502 South. While the North site takes a sizable but logically bound area in RE/502 North stopping at the Aerodrome, the South site seems to hang along more modern edges of its northern boundary along Annandale Road on existing portions 502BK and 502AB.

Agriculture and Viticulture



Source: Stellenbosch Municipal Heritage Survey Online.²⁰

Figure 4-23: Stellenbosch Municipality Heritage Survey Map: Soil Suitability.

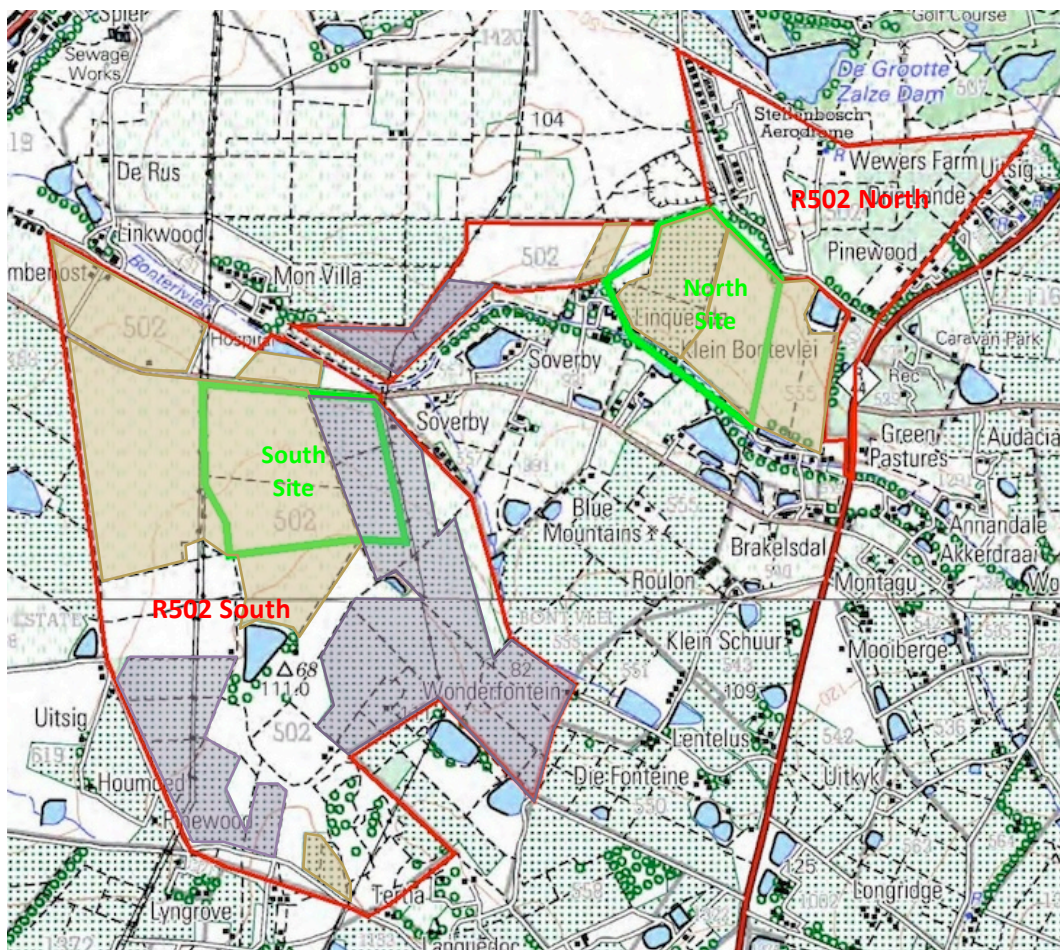
SMHS online has various layers relevant to heritage including Soil Suitability. It is graded as per the key shown for most of the northern site except its lowest reaches, and much of the southern site also as D: 4-6, moderately deep, wet, duplex soil. The green areas are mostly Dv: < 4 Flat, wet, duplex soil. The Red is B+C: > 6, red and yellow apedal soil.

Due to the area being intensively farmed for viticulture and the great extent of R502, one of the key considerations in an agricultural landscape is the soil. This is used to help determine the best site in terms of the soils versus the development type. The best soils should be used for agriculture or conservation purposes. In selecting the best locations for the Me-

²⁰ <http://stellenboschheritage.co.za/smhs/map/#14/-33.9983/18.8070> accessed 16 November 2018.

memorial Park sites to be used as cemeteries, the municipality and town planners came to choose the two possible sites of North and South based on the need for 30 hectares and other agricultural and heritage factors. The soil on the two sites is similar having **Medium** agricultural value, being graded **D: 4-6, moderately deep, wet, duplex soil** for most of the northern site except its lowest reaches, and much of the southern site also. There is little difference in terms of the soils.

The agricultural and viticultural use of the land is of great heritage significance. The use of the old Commonage for pasture and grazing in historical times and today for vegetable farming has to be seen against the overall intensive viticultural practice of the winelands. The general area is intensively farmed for wine grapes with R502 being the general exception. The maps indicate that much of R502 is either cultivated or grapes, with the remainder being natural to semi-natural. The vineyard/orchard on the North site is now lucerne.



Source: CK Rumboll & Vennote / WC Government Agriculture; shading by New World Associates.

Figure 4-24: Agriculture, viticulture and natural use of the site.

Portion of a 1:50,000 map of South Africa showing the site locations (3318 DD Stellenbosch, 5th Edition 2000). NTS. **Vineyards** are in purple, **Cultivation** areas in tan. The remainder (clear) is **Semi-natural**. NB The 1:50,000 underlay is out-of-date showing some vineyards/orchards no longer there, notably on the North site.

Historical Aerial Photography

The following 1977 aerial photograph shows just how much a landscape can change in just one generation or forty years. The photograph shows an extensive plantation, presumably gum trees, on both north and south portions of R502, the proverbial 'bos' of *Louw's Bos*. There is no sign of this today except perhaps in the degraded grassland that now replaces them near Annandale Road. Vegetable fields take up the rest of the southern portion and pasture the northern portion. The AIA reported that today's north site was used for vegetable farming also a decade or two ago. The other significant change in land use is the great increase in the amount of intensive vineyards in the general area. West of Soverby on the eastern portion of the South site is today an old vineyard but a generation ago was either a pasture and/or a wheat field.



Source: Chief Directorate: National Geo-spatial Information – Image 794-002-00119.

Figure 4-25: Aerial Photograph of R502, Stellenbosch (1977).

Remarkable to see the massive change in the landscape in 40 years. The area was even more extensively farmed but with heavy gum plantations in the heart of the R502 south and all over R502 north – the *bos* of *Louw's Bos*. The vineyards at *Soverby* were not even planted; today they are old. There were also far fewer vineyards than there are today.

4.7.4 Outspans

A reduced section on Outspans is included here extracted from the related *Calcutta Bos Memorial Park HIA* because of the close connection the Commonage had with the southwestern outspans as noted previously.²¹

Outspan Definition

A quintessential South African term, *outspan* is integral to the history and development of the country. Rhodes University's *A Dictionary of South African English on Historical Principles* (DSAE)²² provided the following definition and literary references:

1. In full *outspan place*: **a. hist.** In the days of waggon transport: land near a public road, set aside for public use, on which travellers broke their journey or camped while allowing their draught-animals to rest and graze. **b. transf.** **COMMONAGE**. **c. fig.** Any place at which one may break a journey (see Prance quot. at 1937). **d.** In recent times: any piece of land formerly designated as an outspan place. Also *attrib.* In all senses formerly also called **UITSPAN** *n.*

[1812 A. Plumptre tr. of H. Lichtenstein's Trav. in Sn Afr. (1928) I. 19 One of the many stations to which the name of Auspannplatze was given, because they 'were established by the Government for the benefit of travellers as resting-places.']

1821 C.I. Latrobe Jrnl of Visit 167 A team or set of oxen or horses put to a waggon, is called by the Dutch a Spann, and those places in the wilderness, where halt is made and the oxen unyoked, an Outspann-place.

The most significant work on a Cape outspan is probably **Edmund H Burrow's *Overberg Outspan: Overberg Outspan: A Chronicle of People and Places in the South Western Districts of the Cape*** (1952), Maskew Miller: Cape Town. Regrettably not seen at the time of the HIA.

Outspan Sites

The 1890 map of the Stellenbosch area shows numerous Outspan sites. These became *Uitspan* on later maps of the 20th century. Regardless of the linguistic history, outspan/*uitspan* sites developed in their own way as modern forms of motorised transport developed leaving behind obsolete pieces of land, the remnants of the 19th century transport outspan system. The literature references in the Appendix trace the amazing history of outspan points from its early Dutch days to its high point under colonial British administration.

Outspans and Transport

These were often transport riders travelling the rough routes to the interior, but they also included farmers travelling to town and people travelling in the untamed country gen-

²¹ Bruce Eitzen (2018). *Calcutta Bos Memorial Park HIA*. New World Associates, Fish Hoek.

²² *A Dictionary of South African English on Historical Principles*. Dictionary Unit for South African English: Associated Institute for Rhodes University. <http://dsae.co.za/#!/searchword/5458> (accessed 31 October 2018).

erally. The modern road network and high speed nature of motorised travel and before that, the railways, made these places highly habituated and regularly in use by all and sundry. Therefore, they formed key places of socialisation by those on the road, if not relaxation at the end of a hard day's travel or in-between. Depending on the going, draught animals might have to stop up to three times in a day so they would have formed key points to stop and have a drink/meal break.

Outspan and Related Acts

Acts relating to Outspans are numerous and give an idea of the extent of this now-forgotten aspect of life at the Cape and into the 20th Century. Extracts can be found in the Appendices taken mostly from the 3,300 plus page tome *Statutes of the Cape of Good Hope, 1652-1905*.²³ They cover aspects related to the powers of the Divisional Councils, Trespass, Forests, Exemptions, Public Outspans, Animal Diseases, Disposal of Crown Lands, Pounds & Trespasses, Montagu Railway, Fencing and Wild Ostriches. This plethora of Acts regulating outspans was eventually consolidated in **The Public Outspans Act, 1893** which consolidated four earlier Acts, namely, The Divisional Councils Act, 1889; The Fencing Act, 1883; The Fencing Law Amendment Act, 1891; and the Pounds Act, 1892.

In the early 20th Century various Acts continued to regulate **Public Outspans** and associated **Trekpaths**:

- The Outspans Act (1902, 1906, 1909)
- The Leasing of Outspans Act (1909)
- The Trekpaths Act (1908)
- The Trekpaths Amendment Act (1909).
- The Cape Outspans Acts (1937).

These were updated in the 1937 Act and amended/updated only in 2011.

4.8 Heritage Contexts

The following heritage contexts are relevant to this site in terms of the provincial guideline for heritage studies (pp 21-27, see our report section 3.3.4), namely, palaeontological, archaeological and visual-aesthetic landscapes. All three have been assessed for likely heritage impact issues associated with the proposed development.

²³ H. Tennant and E.M. Jackson (1895). Revised and Edited by E.M. Jackson (1905). *Statutes of the Cape of Good Hope, 1652-1905*. Cape Town: Cape Times Limited, Government Printers. Digitised by the University of Pretoria, Library Services, 2013.

4.8.1 Palaeontological Landscape

John Almond of Natura Viva cc prepared a Palaeontological Impact Assessment (PIA) in November 2018.²⁴ The full text of the PIA can be found in the Appendices.

The PIA notes (p 10) as follows (**bold** added):

No fossil remains were recorded on Farm Re/502 Louw's Bos during the short palaeontological site visit. It is concluded that the palaeontological sensitivity of the Memorial Park study area is very low.

4.8.2 Archaeological Landscape

Jonathan Kaplan conducted an Archaeological Impact Assessment (AIA) of the project sites in October/November 2018.²⁵ The full text of the AIA can be found in the Appendices.

The AIA notes (pp 1-2) as follows (**bold** added):

Results of the Study

A field assessment of the proposed Louw's Bos Airfield cemetery site was undertaken on the 18th October 2018, and an assessment of the proposed Louw's Bos South cemetery site was undertaken on the 13th November, 2018.

The following observations were made:

Louw's Bos North

No archaeological remains were recorded in the footprint area of the proposed cemetery site, which comprises old agricultural land covered in grazing grass and weeds. There is barely any surface stone covering the proposed development site.

Relatively large numbers of Early Stone Age (ESA) resources were, however, recorded on a portion of Rem. Farm 502, on deeply ploughed agricultural land alongside Annandale Road and the floodplain of the Bonterivier, that included chunks, cores, flakes, cleavers and several bifaces/handaxes, struck from round quartzite river cobbles. The remains all occur in a highly transformed context.

Louw's Bos South

A small number of ESA implements including chunks, cores and flakes were recorded in a large block of wheat fields on the upper slopes of the proposed cemetery site. No archaeological resources were recorded on the remainder of the proposed development site, which comprises old, unused agricultural land covered in very dense grass, weeds, and large patches of recovering veld. The receiving environment has historically been totally transformed by agriculture.

²⁴ John E Almond, PhD (November 2018). *Proposed Memorial Park on Farm RE/502 Louw's Bos near Stellenbosch, Cape Winelands District Municipality, Western Cape*. Nature Viva, Cape Town.

²⁵ Jonathan Kaplan (November 2018). *Archaeological Impact Assessment: Proposed Municipal Cemetery Louw's Bos Airfield and Louw's Bos South, Remainder Farm 502, Stellenbosch, Western Cape*. Agency for Cultural Resource Management: Rondebosch.

The small numbers and highly transformed context (i.e. wheat fields) in which they were found, mean that the remains have been graded as having *low* (Grade IIIC) archaeological significance.

4.8.3 Visual-Aesthetic Landscape

A Visual Impact Assessment²⁶ was prepared and can be found in the Appendices. Visual-aesthetic issues relate to the likely impact of this cemetery development on the **Grade IIIb agricultural landscape and the Grade IIIa Scenic Route portion of Annandale Road**. The VIA summarises the visual environment as follows (p 36):

1. The sites lie adjacent to Annandale Road, a stretch near the South site being a Grade IIIa scenic route. The route is of mixed scenic value being more rural in its central length, but hard to appreciate at this time due to the road works.
2. The landscape is extensive comprising rolling hills around the Bonte River Valley surrounded by pastures, a variety of new and old homesteads, dams, vineyards and some businesses.
3. The North site is further away from Annandale Road and less prominent than the South site, which is split between old vineyards in the east and pastures in the west. The historic farm *Soverby* and neighbouring *Linquenda* are embedded between the two sites.

4.9 Heritage Significance

The proposed development of a large cemetery will have various types of impact on the heritage environment, **primarily historic, associative, scenic and aesthetic**.

4.9.1 Historic Significance

R502 Stellenbosch is a major surviving portion of land that once formed the extensive Stellenbosch Commonage to the south of the town. During the 19th century access to commonage became increasingly restricted and exclusive, eventually being leased out to commercial farmers to generate municipal income, thus making the commonage defunct in the traditional sense. There remain several one-year leases in operation on the southern portion of the site that are still used for farming (see section 5.4) including wheat and grapes (see AIA, § 3.2, p 8). The northern portion is also commercially farmed, the last 15 years for pasture, but for many years prior to that for the cultivation of broccoli and cauliflower for Pick 'n Pay (see AIA, § 3.1, p 6).

²⁶ Bruce Eitzen (November 2018). *Louw's Bos Memorial Park VIA, R502 Stellenbosch*. New World Associates, Fish Hoek.

4.9.2 Aesthetic Significance

The aesthetic significance of R502 Stellenbosch is in its open space agricultural setting along the Bonte River. Over the years the history of farming practice has varied with more plantations occurring in the past and more vineyards today. The rural quality of the Bonte River Valley with its historic riverside and other properties, and its large tracts of open space and farmland have remained intact for centuries, although the intensity of various farming practices has changed with time. It forms part of the peri-urban, agricultural environment of the Stellenbosch Winelands and is a significant open space tract.

4.9.3 Scientific Significance

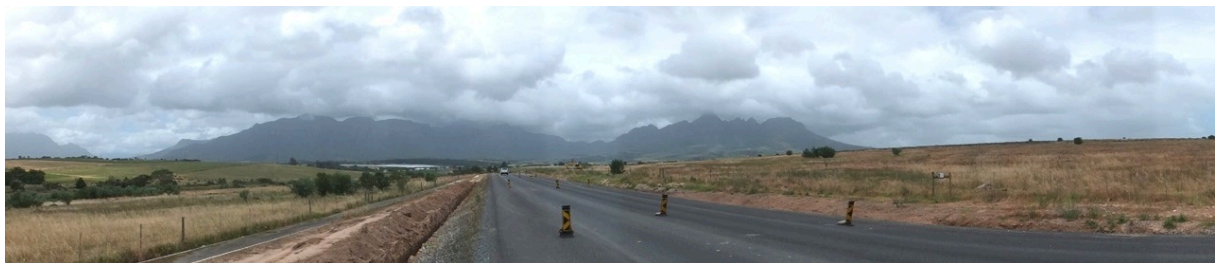
The potential scientific significance of the site lies in the possibility of uncovering any significant archaeological or palaeontological remains. The PIA found that the area had little chance of containing significant palaeontological remains and none were discovered during the field survey. While the AIA found no archaeological remains on the North site, ESA tools were found on R502 North to the west, and a small number of ESA implements on the South site. They were all found in disturbed agricultural contexts and graded as having **Low (Grade IIIc) Archaeological Significance**.

4.9.4 Heritage Grading

There are no structures on either sites to grade but the Landscape Character Areas (LCA) of **Eerste River Valley: Central Rolling Area** have already been graded **Grade IIIb** in the SHS&MP (2018). Much of the surrounding LCAs in Eerste River Valley are also ranked Grade IIIb.

4.10 Site Photographs

The following photographs show the site as it is today (taken 30 October 2018).



Source: All photographs in this report by Bruce Eitzen © 2018.

Photograph 1: Panorama on Annandale Road with North site (left) and South site (right).

The above panorama taken from Annandale Road looking east towards the Stellenbosch Mountains shows the North site to the left, further in the distance, and the South site to the right.



Photograph 2: View of R502 South site from Annandale Road showing old pasture and alien *Acacia* (right).

The above view shows the west side of the South site only with vineyards on the left horizon crossing over to the east part of the site at *Soverby*. The area is old lands and pastures invaded by alien *Acacia* at right. The power pylon at far right is the west boundary of the South site.



Photograph 3: View of R502 North site from Annandale Road showing *Linqenda* and vineyards behind (left) and *Klein Bontevlei*/cultivated lands (right).

The above view of the North site shows its relationship to *Linqenda* and vineyards, which occur on the west side of the north site, the remainder being old fields, now pasture.



Photograph 4: Panorama of R502 North across its central pasture north/behind *Soverby*.



Photograph 5: Panorama of R502 North looking north across *Soverby* and pasture behind.



Photograph 6: Panorama of R502 South showing the vineyard behind/west of *Soverby* (right); *Soverby* workers cottages (left).



Photograph 7: Panorama of R502 North behind *Soverby* (left) and North site behind *Linquenda* (right).



Photograph 8: Panorama of R502 South showing semi-natural pasture.



Photograph 9: Panorama of R502 South showing cultivated fields.



Photograph 10: Panorama of R502 South showing cultivated fields.



Photograph 11: Panorama of R502 South showing bush vines.



Photograph 12: Panorama of R502 South showing semi-natural renosterveld.



Photograph 13: Panorama of R502 South showing bush vines (left) and semi-natural renoster-veld (right).



Photograph 14: Panorama of R502 South along power line on west boundary of South site showing old cultivated lands.



Photograph 15: Panorama of R502 South site (left) and cattle grazing (right).



Photograph 16: View of R502 South site showing cultivated lands.



Photograph 17: View of R502 South showing old cultivated lands.



Photograph 18: View of R502 South showing old cultivated lands and alien *Acacia*.

NWA

5 Project Description

5.1 Summary

The proposed Memorial Park at R502 *Louw's Bos* is one of two regional cemeteries being planned for the Stellenbosch Municipality. The Memorial Park concept plan prepared by OvP Landscape Architects (October 2018) is a first draft only. It shows a formal layout on a larger portion of the site than is now under consideration, so will have to be reworked. It imposes itself on the surrounding landscape which is otherwise just open fields and pastures.

5.2 Introduction

Combined with Section 3, this chapter presents the relevant project data required to develop an HIA of the development for EIA or other application purposes. This chapter reviews the relevant basic aspects of the proposed development and includes plans and diagrams as appropriate to this end.

5.2.1 Reporting Requirements

This report is generally based on South African environmental management procedures and, more specifically, on the latest provincial guideline endorsed by the Provincial Government of the Western Cape (PGWC) on 3 November 2005: *Guideline for Involving Heritage Specialists in EIA Processes* (June 2005, PGWC).

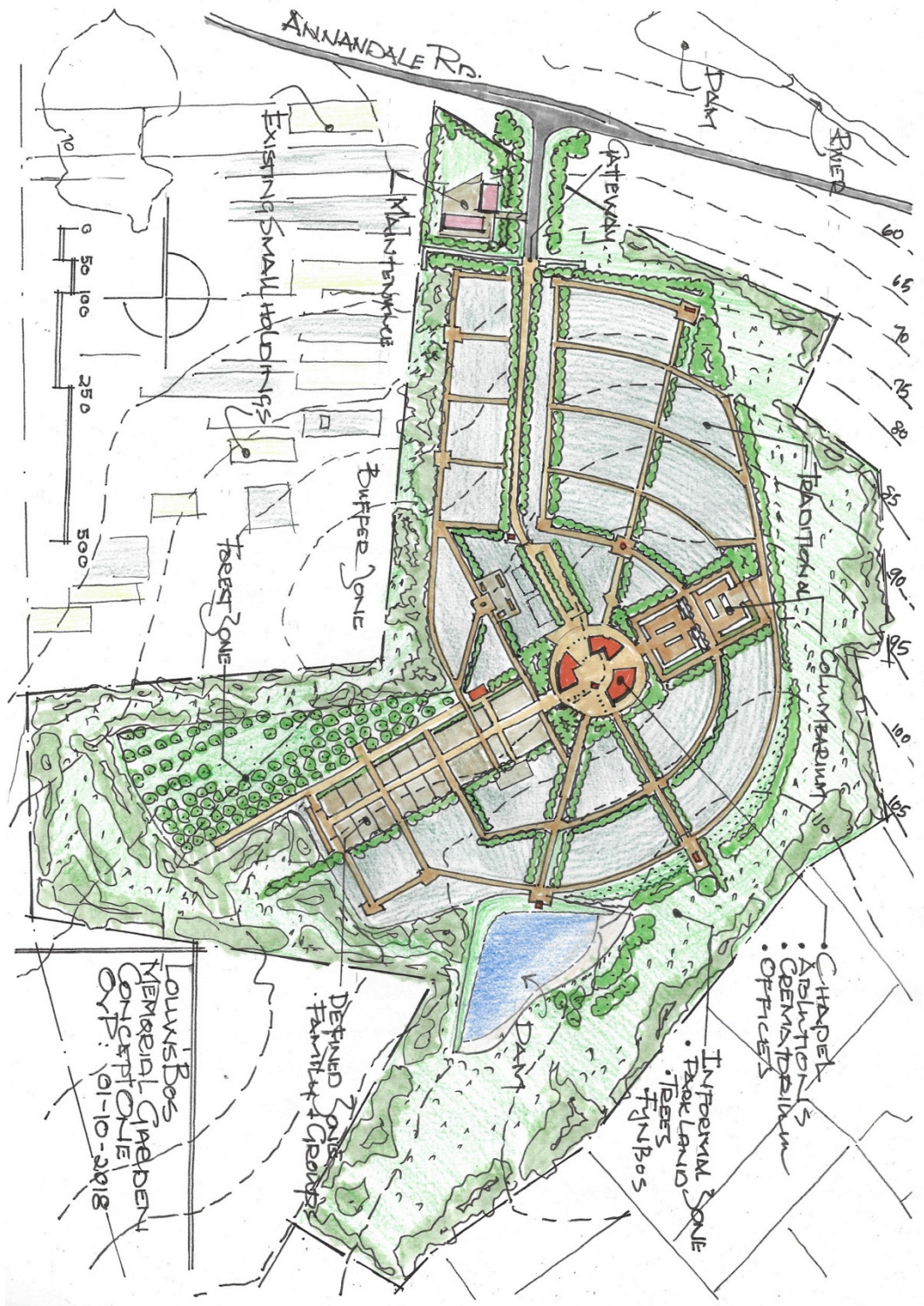
5.3 Development Proposal

5.3.1 Town Planning Application

The applicant wishes to develop a Memorial Park for the Stellenbosch Municipality on the site.

5.3.2 Memorial Park Concept

An initial First Draft has been prepared by OvP Landscape Architects (see Figure 5-1). However, as the site area has been substantially reduced, it will have to be reworked. Overall, the concept shows a formal layout using much more of the site than is now available.



Source: OvP Landscape Architects.

Figure 5-1: OvP Draft Concept Plan One (1 October 2018).

This first draft is an initial concept only and was not intended for public consumption. No heritage informants were available at the time but the site was walked.²⁷ The area of the South site has subsequently been reduced substantially so this concept plan will have to be reworked.

²⁷ Johan van Papendorp (OvP), personal communication (7 November 2018).

5.3.3 Landscape and Environment

The landscape is detailed in the above plan. Its formal arrangement is a major new type of development in this area of open farm fields and old pastures but further comment is premature as the plan is defunct. The very open and undeveloped nature of the site makes its integration into the landscape all the more challenging.

5.4 Alternatives

At Louw's Bos, there are two possible sites under consideration, known as the North and South sites. The North site was the initial location under consideration but the option of the South site arose. Therefore, there information about both sites was provided in the previous chapter and a comparative analysis will be performed.



Source: CK Rumboll & Vennote.

Figure 5-2: Map showing the two sites under consideration (2018).

The purple areas are the two sites while the orange areas have one-year leases.

The town planners, CK Rumboll & Vennote included the following explanation:²⁸

The purple figures on the attached map were:

- What was accessible and closest to the road and at least 30ha in extent
- And approved by council.

²⁸ CK Rumboll & Vennote, email dated 15 November 2018.

The southern section has lease areas (for one year at a time) registered across it. Although the project manager at Stellenbosch Municipality would like ... to keep what was approved, the marked leased areas (502 – BK, EK, AM, BFNN and BL) have been entertained by various informants – geotech, landscaping, conservation and linking the park to the environment, use of “*uitval grond*” i.e. the old mine sites BFNN and BL and many more.

That is, access and site area are prime considerations.

NWA

6 Heritage Impact Assessment

6.1 Summary

A potentially very high level of overall heritage impact is initially indicated due to the high Category D ranking of the project type and Context 2 medium to high heritage value of this Grade IIIb Landscape and Site requiring a Level 4 HIA. The HIA shows the potential for significant palaeontological or archaeological impacts is low for both sites. The historic impact is high for both sites but the associative impact is moderate for both sites. The visual-aesthetic impact is moderate to high for the South site due to its high visibility but more moderate to high for the North site due to its moderate visibility. Recommendations to mitigate the various potential heritage impacts are made.

6.2 Introduction

This chapter uses the information collected in the previous chapters to determine the likely significant heritage impacts of the proposed project on the heritage environment.

There are four possible areas of heritage identified in the study that could be affected by the development: **archaeological, historical, associative** and **visual-aesthetic landscape**.

6.2.1 Key Issues

1. R502 Louw's Bos belongs to the Stellenbosch Municipality; prior to that it was Crown Land and was set aside as the extensive Stellenbosch Commonage.
2. The proposed cemetery development is very unlikely to entail significant impacts on palaeontological heritage.
3. The study has identified no significant impacts to pre-colonial archaeological heritage that will need to be mitigated prior to the proposed development commencing.
4. Both sites are visible from Annandale Road but the South site is more prominent being situated next to it.

5. The first draft concept plan of the South site has to be reworked as it is for a larger portion than is now under consideration.

6.3 Heritage Impact Assessment

6.3.1 Significance of Heritage Impacts Expected

The following table helps identify the likely level of heritage impact. The result may vary once field trips and impact assessments have been prepared.

HERITAGE CONTEXT	TYPE OF DEVELOPMENT			
	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY D
CONTEXT 1 High heritage value	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected	Very high heritage impact expected
CONTEXT 2 Medium to high heritage value	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected
CONTEXT 3 Medium to low heritage value	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected
CONTEXT 4 Low to no heritage value	Little or no heritage impact expected	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected

Source: DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 28).

Figure 6-1: The relationship between the Significance of a Heritage Context, the Intensity of Development and the Significance of Heritage Impacts to be expected.

Based on the above table, the overall heritage context can be described as Context 2 being “of medium to high intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3B heritage resources” combined with a Category D development (highest project order), a **Very High Heritage Impact** is predicted (PGWC Heritage Specialist Guideline, p 28). This requires a **Level 4 Heritage Impact Assessment** (*ibid*, p 39).

Heritage Contexts

The following table describes the features of the various heritage contexts.

Context 1:	Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources
Context 2:	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources.
Context 3:	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources
Context 4:	Of little or no intrinsic, associational or contextual heritage value due to disturbed, degraded conditions or extent of irreversible damage.

Source: DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 28).

Figure 6-2: Key to Heritage Contexts.

Categories of Development

The following table describes the various development categories.

Category A: Minimal intensity development	<ul style="list-style-type: none"> No rezoning involved; within existing use rights. No subdivision involved. Upgrading of existing infrastructure within existing envelopes Minor internal changes to existing structures New building footprints limited to less than 1000m²
Category B: Low-key intensity development	<ul style="list-style-type: none"> Spot rezoning with no change to overall zoning of a site Linear development less than 100m Building footprints between 1000m²-2000m² Minor changes to external envelop of existing structures (less than 25%) Minor changes in relation to bulk and height of immediately adjacent structures (less than 25%).
Category C: Moderate intensity development	<ul style="list-style-type: none"> Rezoning of a site between 5000m²-10 000m² Linear development between 100m and 300m Building footprints between 2000m² and 5000m² Substantial changes to external envelop of existing structures (more than 50%) Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 50%)
Category D: High intensity development	<ul style="list-style-type: none"> Rezoning of a site in excess of 10 000m² Linear development in excess of 300m Any development changing the character of a site exceeding 5000m² or involving the subdivision of a site into three or more erven Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 100%)

Source: DEA&DP Guideline for Involving Heritage Specialists in EIA Processes (p 29).

Figure 6-3: Key to Categories of Development.

Heritage resources are conserved, firstly, by identifying their location on site and their significance; and, secondly, by making recommendations to retain that significance and mitigate potential impacts. Extracts and discussion from the PIA, AIA and VIA follows with particular reference to potential heritage impacts and recommendations to mitigate them.

6.4 Palaeontology²⁹

6.4.1 Conclusions

- Late Caenozoic superficial deposits (sandy soils, ferricrete) as well as the underlying, deeply-weathered Cape Granite in the Memorial Park study area are all of low to very low palaeontological sensitivity (Almond & Pether 2008).
- The proposed cemetery development is very unlikely to entail significant impacts on palaeontological heritage.
- There is no preference on palaeontological heritage grounds for one or other of the development sites under consideration.
- There are no objections on palaeontological heritage grounds to authorisation of the proposed development.

²⁹ PIA (p 10).

6.4.2 Recommendations

It is recommended that, pending the exposure of significant new fossils (e.g. mammalian bones and teeth) during construction, exemption from further specialist palaeontological studies and mitigation be granted for this development.

6.5 Archaeology³⁰

6.5.1 Impact Statement

The results of the study indicate that the proposed development of a new municipal cemetery on Remainder Farm No. 502 near Stellenbosch, will not impact of important pre-colonial archaeological heritage. ESA resources in a highly transformed context were documented on the farm, but have been graded as having low (Grade IIIC) archaeological significance.

6.5.2 Conclusion

The study has identified no significant impacts to pre-colonial archaeological heritage that will need to be mitigated prior to the proposed development commencing. The receiving environment (i.e. transformed agricultural land) is not a sensitive or threatened archaeological landscape.

6.5.3 Recommendations

The following recommendations are made:

6.1 Louw's Bos North

- 1. No archaeological mitigation is required prior to construction activities commencing.**
- 2. The property is suitable for development.**

6.2 Louw's Bos South

- 1. No archaeological mitigation is required prior to construction activities commencing.**
- 2. The property is suitable for development**

6.6 Historic and Associative

The associative status of *R502 Louw's Bos* general landscape and sites has already been identified and graded IIIb by the SHS&MP (2018). The historic nature of the area and its late nineteenth to contemporary practice and usage as leased agricultural land would still feature highly in the local community. The value of this huge agricultural/semi-natural open space is also of significance today in Stellenbosch as so much of the landscape is transformed to intensive vineyards with controlled access.

³⁰ AIA (p 2).

6.6.1 Impact Assessment

The potential impact of the proposed cemetery site on both sites is significant in that it is a wholesale change of land use from agriculture/open space to cemetery. This would be a new type and scale of development being imposed on the landscape and this in-between portion of the SW Winelands of Stellenbosch.

North Site

1. **Historical Impact:** High. Significant change in land use.
2. **Associative Impact:** Moderate. Public access retained.

South Site

1. **Historical Impact:** High. Significant change in land use.
2. **Associative Impact:** Moderate. Public access retained.

6.6.2 Recommendation

The following recommendations are therefore made to mitigate the potential historical and associative impact of the cemetery development:

1. **Change from vineyards to cemetery:**
 - The potential loss of vineyards to *Soverby* to be carefully considered in terms of its current setting and screening.
 - Possible reallocation of proposed portions under vineyards to be extended into cultivated land south of the South site if preferred.
 - This will retain the existing vineyards as part of this historic farm and contain the homestead in an appropriate heritage context.
2. **Change from cultivated fields to cemetery:** No particular mitigation required.
3. **Commonage Interpretation:**
 - The development of the historic Commonage's sites should be prepared including interpretive information and signage about the history of the Common.³¹
 - The possible development of a trekpath-outspan trail on the remainder of R502 could be considered.

6.7 Visual-Aesthetic

The greatest likely impact is on the visual environment being rural and partially scenic along this route.

³¹ At this time of the first HIA draft, November 2018, feedback from the Stellenbosch Municipality and local heritage bodies had yet to be obtained. They may well have more information to hand than was available at the time of writing that can be used in these recommendations.

6.7.1 Summary Visual Impact Assessment³²

1. **VISUAL IMPACT:** The proposed development will have a high impact on the landscape (both sites) causing noticeable (South site) to some (North site) change to the visual environment.
2. **VISIBILITY:** The development has moderate (North site) to high (South site) visual exposure, moderate (both sites) visual absorption capacity, medium (both sites) compatibility, and is moderately (North site) to highly visible (South site) along Annandale Road.
3. **NATURE OF IMPACT:** The development's visual impact has district extent, long term duration, medium intensity, definite probability, and medium significance on the landscape for both sites.
4. **COMPARATIVE ASSESSMENT:** The South site has a moderate to high impact while the North site has a more-moderate to high impact, particularly a more-moderate-visibility due to not being sited on Annandale Road.

6.7.2 VIA Recommendations

The following recommendations were extracted from the VIA (pp 66-68). Construction, Operation and Decommissioning recommendations are made on VIA pp 68-69.

Mitigation Recommendation: Planning and Design

The plan presented to date is an initial concept only. Therefore it is well able to take on any mitigation recommendations.

1. **Site Development Plan:** As noted previously, the concept plan is very preliminary and covers a wider area than the final extent of the South site:
 - 1.1 Taller structures such as the central facilities should be set back from the road as they are currently indicated and should not be moved to the edges of the site or nearer Annandale Road.
 - 1.2 A landscape buffer along the edges is important and should be well planted to prevent views into the site except at strategic locations such as on-axis.
 - 1.3 The western boundary's relationship with the power lines needs to be carefully handled and pulled away from it if possible due to restrictions on tree planting and the aesthetic impact of the power lines themselves.
 - 1.4 As this area has a history of mixed agricultural-viticultural practices, historically being planted to gum trees, more recently in part to vineyards, either are acceptable practices in and around the site/s.
 - 1.5 As there are already old vineyards near *Soverby* it may be feasible to maintain them in part or integrate new vineyards to maintain the vineyard buffer to *Soverby Guest House*.³³

³² VIA (p 54).

³³ This would keep the cemetery within one visual catchment zone i.e. without crossing a ridgeline.

- 1.6 The choice of planting is more open to the wide range of historical agricultural, viticultural and silvicultural practices. These could, perhaps, be negotiated with local landowners and the municipality to create the best mix.
- 1.7 Sustainable site development and Green Building principles or standards should be employed to enhance the environmental aesthetic.
- 1.8 Lighting must be carefully managed to minimise excessive lighting wherever possible (see Operation Phase below).
2. **Colouration:** Careful colouration of fences in particular needs to be made, as well as any other landscape furniture such as lighting, benches and water features. These should preferably be in a natural colour palette that will not stand out from the agricultural landscape nor draw attention to itself with bright colouration. Likewise, building colours, walls and roofs, should be subtle.
3. **Landscape Plan:** The Landscape Plan should retain its existing features overall and not be changed to something completely different such as a freeform design. The traditional arrangement of cemeteries, the avenues and bounding walls will fit well into both the historical and cultural landscape.
 - 3.1 Wherever possible the greening/planting of the scheme needs to be maximised.
 - 3.2 Permeable paving and other sustainable practices should be incorporated into the landscape plan.
 - 3.3 Planting using indigenous and preferably endemic species from the area should be planned from the beginning; traditional exotic trees are acceptable.
 - 3.4 Planting of harvestable flowers and/or herbs in and around the cemetery may be a productive way of incorporating useful planting into the heritage matrix.
 - 3.5 Large trees should be incorporated into the Landscape Plan to screen tall buildings or unsightly areas such as the nursery/maintenance yard.
 - 3.6 Gum trees, pines and oaks, while not indigenous, are typically the only major trees that can survive the rugged environment and achieve the necessary scale. They are also traditional cultural elements and not out of place as a result.
 - 3.7 Indigenous/endemic trees can also be used but are not as tall or traditional as gums.
4. **Perimeter Treatment:** As described above this may incorporate screening trees or fences. The treatment of perimeter fencing and any signage needs to be carefully considered.
 - 4.1 Unsightly massive walls are not appropriate but the traditional low Cape farm werf wall may suffice well on the boundary and help locate the site on Annandale Road.
 - 4.2 Should fencing be required use clear-view fencing or similar is preferred, not palisade. It should be coloured a dull green to match the local environment and not black, silver, brown or other unnatural, standard commercial colours.

5. **Biodiversity:** As noted above, where possible, endemic planting schemes should be used with the exception of traditionally planted trees, which are permissible for practical and cultural landscape reasons.
6. **Maintenance:** Scheme maintenance both of buildings and landscape need to be undertaken with commercial maintenance projects with this intention from the outset for the duration of the project. Good site tidiness should be maintained at all times.
7. **Visual Assessor Review:** The proposed Landscape Plan should be referred to the visual impact assessor, namely, New World Associates, for review before it is approved, to ensure that it meets the recommendations of this report.

This concludes the Heritage Impact Assessment.

A select Bibliography follows.

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Bibliography

- Cape Winelands Professional Practices in Association (2018). *Stellenbosch Heritage Survey and Management Plan*. Stellenbosch Municipality.
- CNdV Africa (November 2005). *Provincial Spatial Development Framework*. PGWC, CT.
- DEA&DP (December 2005). *Provincial Urban Edge Guideline*. PGWC, CT.
- Department of Environment Affairs (1992). *Integrated Environmental Management Guideline Series: 2 Guidelines for Scoping*. Also 1 *The Integrated Environmental Management Procedure*; 3 *Guidelines for Report Requirements*; 4 *Guidelines for Review*; 5 *Checklist of Environmental Characteristics*; 6 *Glossary of Terms used in Integrated Environmental Management*.
- Department of Environmental Affairs and Tourism & CSIR (February 2000). *Strategic Environmental Assessment in South Africa: Guideline Document*.
- Department of Environmental Affairs and Tourism (April 1998). *Environmental Impact Management: A National Strategy for Integrated Environmental Management in South Africa*.
- Erasmus, BPJ (2004). *On Route in South Africa*. Jonathan Ball Publishers, Jeppestown.
- Republic of South Africa, Statutes of. *National Environmental Management Act No. 107 of 1998* (NEMA).
- Republic of South Africa, Statutes of. *National Environmental Management: Biodiversity Bill, 2003* (BB).
- Republic of South Africa, Statutes of – Land. *Environment Conservation Act No. 73 of 1989*.
- Winter, S & Baumann, N (2005). *Guideline for Involving Heritage Specialists in EIA Processes: Edition 1*. CSIR Report No. ENV-S-C 2005 053 E. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.

Historical Bibliography

- Deeds Office records, Cape Town
- Surveyor General records, Cape Town
- Cape Metropolitan Council, Land Survey Branch, Historical Map Section
- Department of Surveys and Mapping, Mowbray

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Appendices

Containing various appendices as referred to in the text.

- A. Palaeontological Impact Assessment (PIA)
- B. Archaeological Impact Assessment (AIA)
- C. Visual Impact Assessment (VIA)
- D. Local Heritage Body Comment

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Appendix A: Palaeontological Impact Assessment (PIA)

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Proposed Memorial Park on Farm RE/502 Louw's Bos near Stellenbosch, Cape Winelands District Municipality, Western Cape

John E. Almond PhD (Cantab.)
Natura Viva cc, PO Box 12410 Mill Street,
Cape Town 8010, RSA
naturaviva@universe.co.za

November 2018

EXECUTIVE SUMMARY

Late Caenozoic superficial deposits (sandy to gravelly soils, ferricretes) as well as the underlying, deeply-weathered granitic bedrocks of the Late Precambrian – Early Cambrian Cape Granite Suite on the two Memorial Park study areas on Farm Louw's Bos RE/502 are all of low to very low palaeontological sensitivity. No fossil remains were recorded here during a short palaeontological site visit. The proposed cemetery development is very unlikely to entail significant impacts on palaeontological heritage. There is no preference on palaeontological heritage grounds for one or other site. There are no objections on palaeontological heritage grounds to authorisation of the proposed development.

It is recommended that, pending the exposure of significant new fossils (e.g. mammalian bones and teeth) during construction, exemption from further specialist palaeontological studies and mitigation be granted for this development.

If fossil material is discovered during construction, this should be safeguarded, preferably *in situ*, and the ECO should alert Heritage Western Cape (Contact details: Protea Assurance Building, Green Market Square, Cape Town 8000. Private Bag X9067, Cape Town 8001. Tel: 086-142 142. Fax: 021-483 9842. Email: hwc@pgwc.gov.za) so that appropriate mitigation (*i.e* recording, sampling or collection) can be taken by a professional palaeontologist. A tabulated Chance Fossil Finds Protocol is appended to this report. These recommendations should be incorporated into the Environmental Management Plan for the proposed developments.

1. PROJECT OUTLINE

It is proposed to establish a new Memorial Park on Farm RE/502 Louw's Bos, situated either side of the Annandale Road near Jamestown and approximately 7 km SW of Stellenbosch in the Cape Winelands District Municipality, Western Cape (Figs. 1 & 2). Two Municipal Approved Areas are under consideration (blue polygons in Fig. 2). The proposed development footprint will occupy approximately 30 ha and will comprise a cemetery and memorial park, promoting the conservation of sensitive biodiversity areas which may exist within the development footprint. Proposed associated infrastructure includes access roads leading to and within the site, entrance wall and perimeter fencing, parking, a remembrance wall, ablutions and a possible borehole.

A desktop Heritage Screener for the development has been submitted by CTS Heritage, Plumstead (5 March 2018). The present combined desktop and field-based palaeontological heritage comment has been commissioned by CK Rumboll & Partners, Malmesbury (Contact details: Mr Ruben Bower. CK Rumboll & Partners, PO Box 221, 16 Rainiersstraat, Malmesbury 7299. Tel: 022 482 1845. E-mail: leap@rumboll.co.za). A short palaeontological site visit was undertaken by the author on 7 November 2018 to supplement the desktop study.

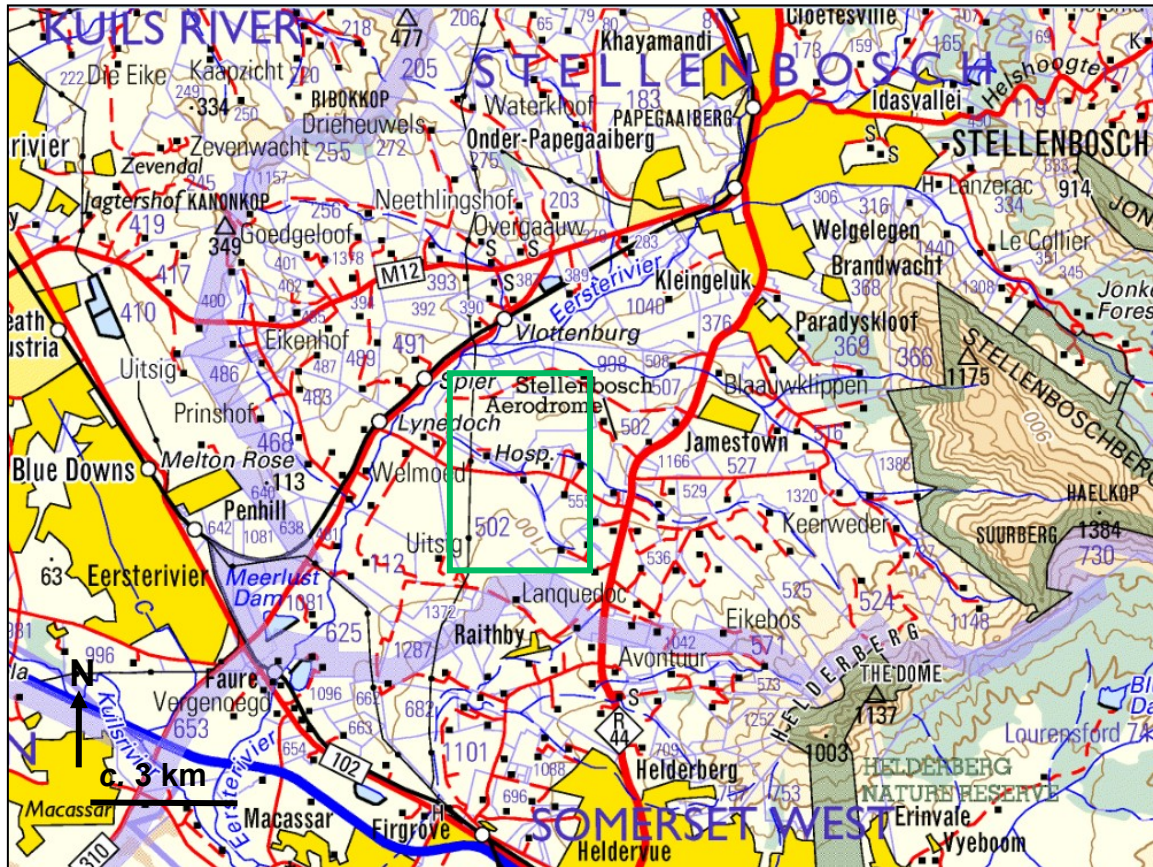


Figure 1. Extract from 1: 250 000 topographical sheet 3318 Cape Town (Courtesy of the Chief Directorate: National Geo-Spatial Information, Mowbray) showing the approximate location of the proposed Memorial Park study area on Farm RE/502 Louw's Bos near Stellenbosch, Western Cape (green rectangle).

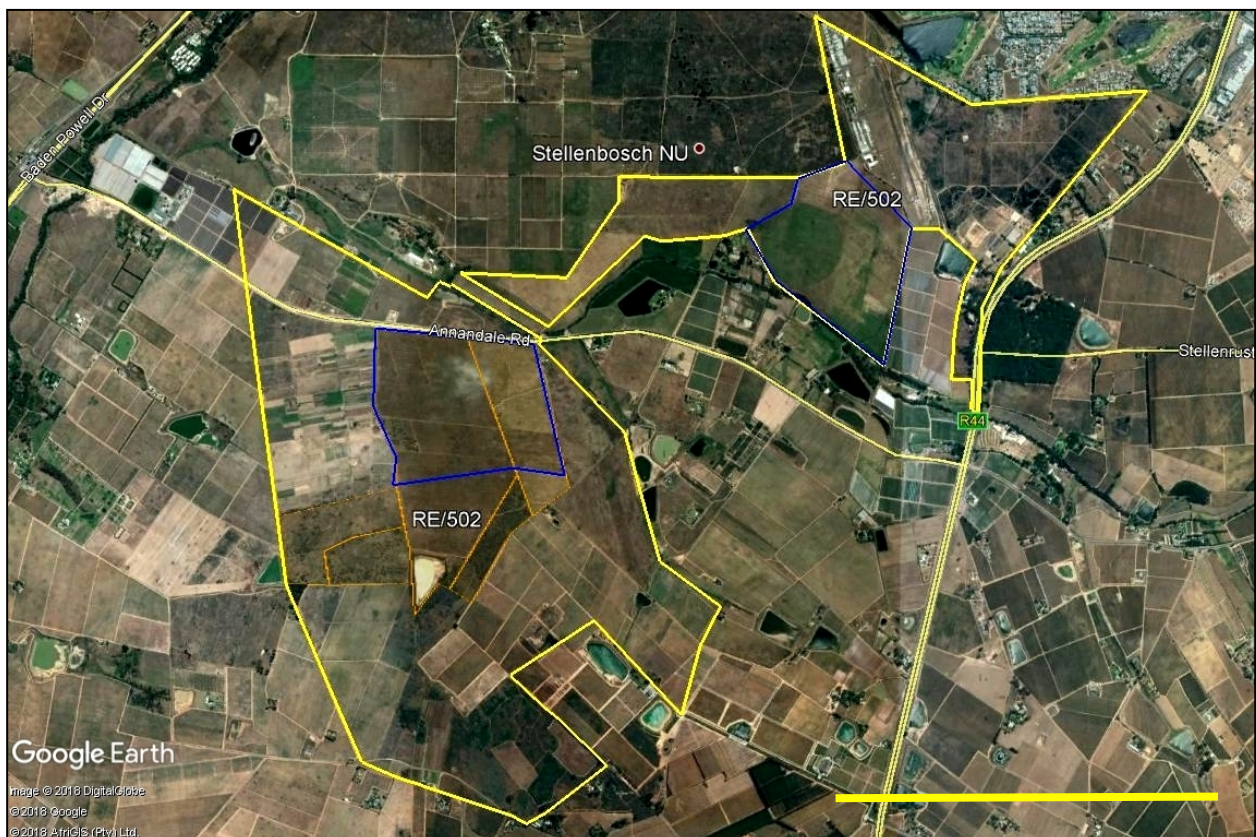


Figure 2. Google Earth© satellite image of Farm RE/502 Louw's Bos (yellow polygon) located on either side of Annandale Road near Jamestown, c. 7 km SW of Stellenbosch. The two Municipal Approved Areas are indicated by the blue polygons. The study area comprises agricultural lands and grassy fields with no obvious bedrock exposure. Pale clays and saprolite derived from weathered granitic bedrocks are visible in the large dam on the southern portion of the farm. Scale bar = 2 km.

2. GEOLOGICAL CONTEXT

The northern study site on Farm RE/502 Louw's Bos (Fig. 5) is situated close to Stellenbosch Aerodrome and comprises grassy terrain at between 70-90 m amsl that slopes gently down towards the Bonterivier and the Annandale Road in the SW. The southern study site (Fig. 4) slopes northwards from c. 100 to 60 m amsl and largely comprises grassy to bushy fallow agricultural lands with some disturbance in the form of drainage ditches, small farm dams and farm tracks.

The geology of the two study areas near Stellenbosch is very similar and is shown on 1: 250 000 geology sheet 3318 Cape Town (Fig. 3) (Theron *et al.* 1992). The areas are underlain at depth by Late Precambrian to Early Cambrian granites of the **Cape Granite Suite** (Scheepers & Schoch 2006) – in this case the coarse-grained, porphyritic **Kuilsrivier – Helderberg Pluton** (N-Ck, orange in Fig. 3) but fresh (unweathered) Cape Granite is not exposed here. Pale grey, to creamy kaolinitised granite *saprolite* (*in situ* weathered bedrock) is exposed in the lower parts of the large farm dam in the southern sector of Louw's Bos as well as in several drainage ditches (Figs. 6 & 7). This is overlain locally by up several meters of granite saprolite slurry (possibly of debrite origin, or perhaps generated during dam construction) consisting of poorly-sorted, highly-weathered granitic and ferricrete within a clay-rich matrix (Figs. 8 & 9). A well-developed, finely- to coarsely gravelly **ferricrete hardpan** (< 1m) directly overlies the weathered bedrock and is seen *in situ* along drainage ditches in the southern sector of the study area (Fig. 10). Blocks of ferricrete have been extensively used to armour the dam walls. Local heaps of well-rounded Table Mountain Group quartzite boulders might be relicts of pre-existing High Level Gravel terraces (perhaps cleared from fields) or have been imported from elsewhere for construction purposes (Fig 13). Farm tracks and fields feature **sandy surface soils** with abundant fine to rubbly ferricrete gravels, occasional blocks of kaolinitised granite and *Grus* (quartzo-feldspathic grits derived from weathered granite), as well as sporadic cobbles of Table Mountain Group quartzite (Fig. 11). Some of these last are anthropogenically flaked (Fig. 12) and it is noted that Early Stone Age (Acheulean) artefacts of the local Stellenbosch Industry have been reported at several sites in the region, including near Lynedoch some 3 km to the northwest (*cf* Péringuey & Corstophine 1900, Seddon 1966, 1967).

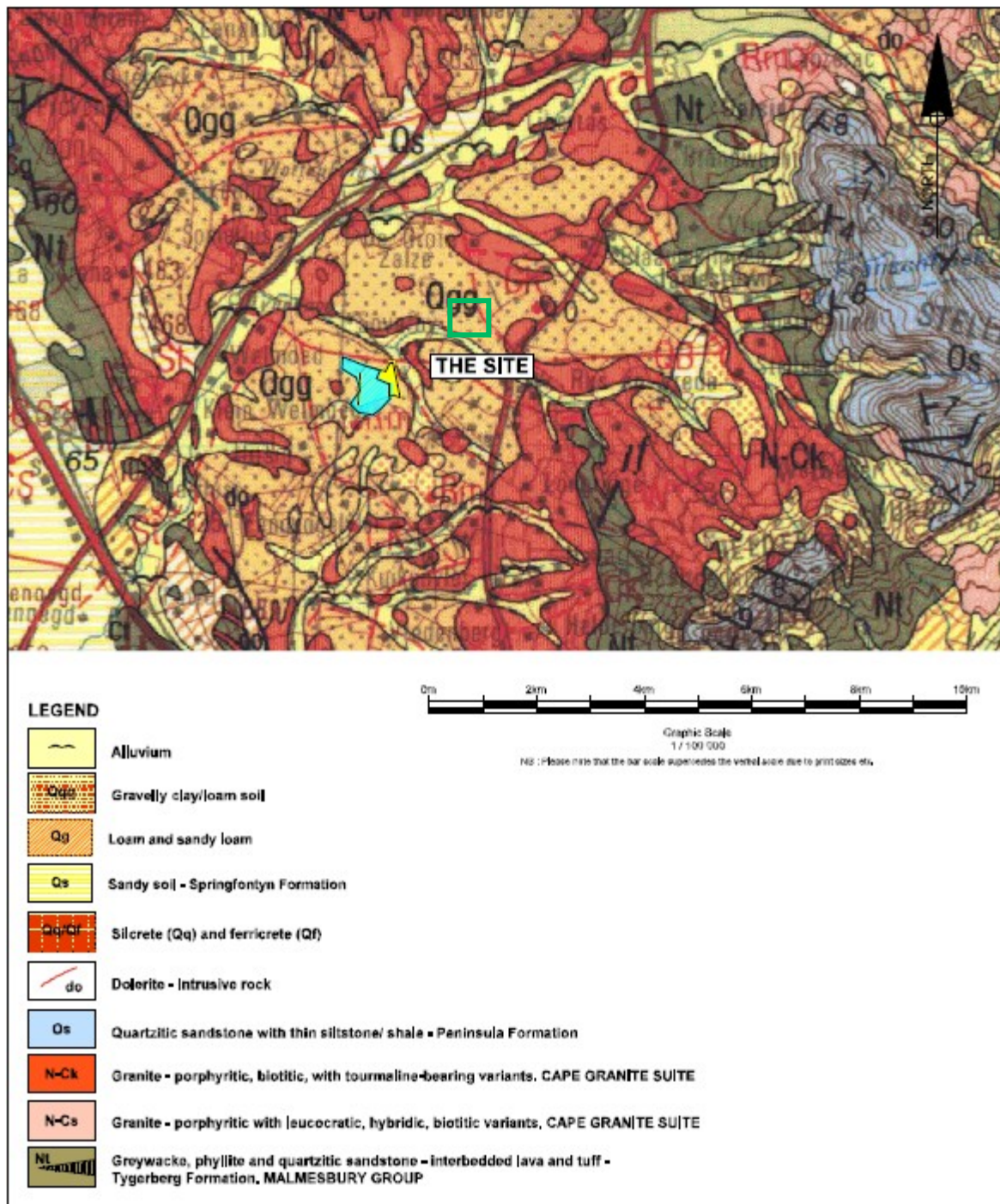


Figure 3. Geological map of the RE/502 Louw's Bos Memorial Park study sites (pale blue and green polygons) based on 1: 250 000 geological sheet 3318 Cape Town (Council for Geoscience, Pretoria) (Image slightly modified from 2018 geotechnical report by Gondwana Geo Solutions (Pty) Ltd, Durbanville). Both study sites are underlain at depth by weathered granitic saprolite of the Cape Granite Suite (Kuilsvier – Helderberg Pluton, N-Ck, orange) that is mantled by Late Caenozoic loamy and sandy soils (Qg, yellow with orange cross-hatch) as well as ferricrete (Qf).



Figure 4. Overgrown, grassy, gently sloping fallow lands in the southern study area on Farm RE/502 Louw's Bos, viewed from the NW.



Figure 5. Gently-sloping grassy fields in the northern study area on Farm RE/502 Louw's Bos, viewed from the N.



Figure 6. Deep excavation into pale cream to pinkish granitic saprolite and overlying weathered regolith along the margins of a large dam in the southern sector of Louw's Bos 502. The upper walls of the dam are armoured by locally-derived ferricrete blocks.



Figure 7. Close-up of clay-like *in situ* granite saprolite exposed in the farm dam basin shown above (Hammer = 30 cm).

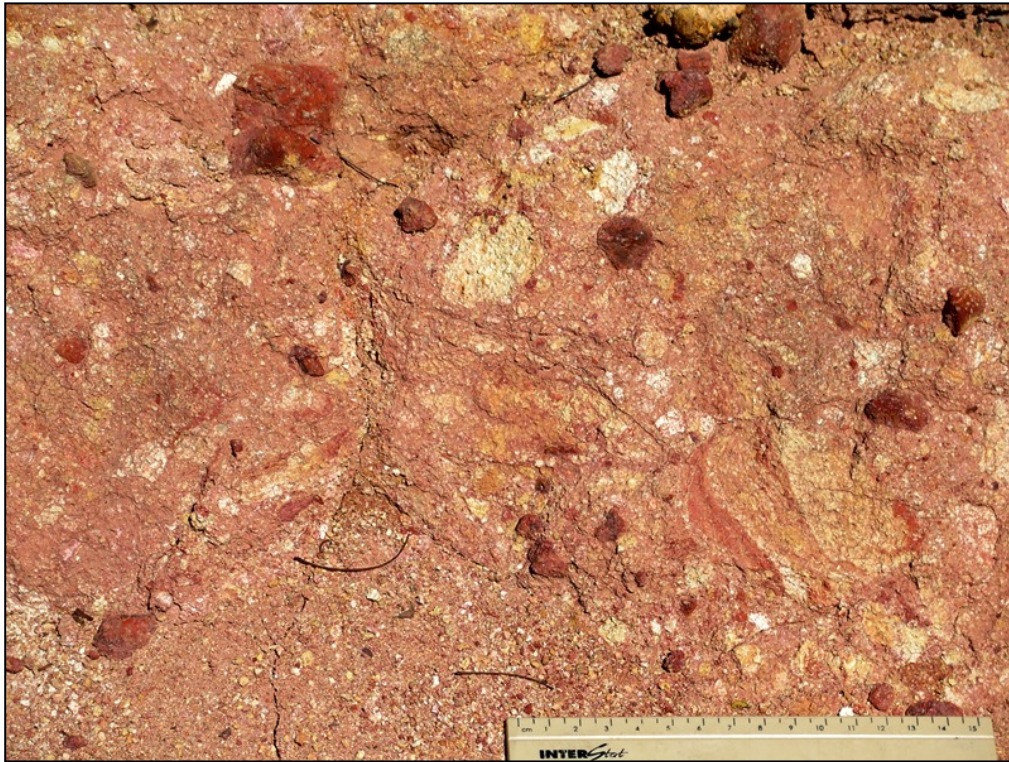


Figure 8. Close-up of pinkish, poorly sorted regolith with highly-weathered clasts of granite and reddish-brown ferruginous sandstone or ferricrete exposed in the upper part of the dam wall (Scale in cm). These deposits may be of ancient debris flow origin or were perhaps generated during dam wall construction.



Figure 9. Sandy ferricrete rubble overlying pale kaolinitized granite saprolite within the main farm dam basin (Hammer = 30 cm).



Figure 10. Thick ferricrete hardpan exposed in the wall of a drainage ditch, southern sector of Louw's Bos 502 (Hammer = 30 cm).



Figure 11. Farm track in the southern sector of Louw's Bos 502 exposing the near-surface, rusty-brown ferricrete hardpan and overlying gravelly sands with sporadic pale yellowish-grey cobbles of Table Mountain Group quartzite (Hammer = 30 cm).



Figure 12. Flaked quartzite artefact (ESA biface) at surface among downwasted fericrete gravels in the southern sector of Louw's Bos 502 (Scale in cm). Hand axes of the Stellenbosch Industry were among the first stone tools recorded from the SW Cape.



Figure 13. Heaps of well-rounded Table Mountain Group quartzite boulders in the southern sector of Louw's Bos 502. It is unclear if these are High Level terrace gravels of local provenance or were imported from elsewhere (Hammer = 30 cm).

3. PALAEONTOLOGICAL HERITAGE

The Late Precambrian to Cambrian **Cape Granites** represented at depth beneath the Louw's Bos 502 study areas are entirely unfossiliferous igneous rocks.

The **Late Caenozoic residual and sandy soils** mantling the weathered bedrocks in the two study areas are generally of low palaeontological sensitivity. They might locally contain sparse remains of transported plant material (e.g. peats, subfossil wood), calcretized rhizoliths (root casts), termitaria and other burrows, freshwater invertebrates (e.g. molluscs such as unionid bivalves, gastropods), tortoise remains or rare mammalian bones, horn cores and teeth (*cf* Klein 1983, 1984). To the author's knowledge, fossils have not been recorded from within the widespread Late Caenozoic **ferricretes** of the interior Western Cape. However, at near-coastal fossil dune sites (e.g. Elandsfontein near Saldanha) mammalian bones and teeth as well as stone artefacts of Pleistocene and younger age may be deflated down onto the upper surface of ferricrete hardpans. These were often formed in areas of high water tables, such as around vleis and streams, that would have attracted game animals as well as humans, amphibians and freshwater molluscs in the past (*cf* Roberts 1996, Klein *et al.* 2006). There are no fossil records of Tertiary or Quaternary vertebrates from the study region mentioned in the key reviews by Hendey (1984) and Klein (1984).

No fossil remains were recorded on Farm Re/502 Louw's Bos during the short palaeontological site visit. It is concluded that the palaeontological sensitivity of the Memorial Park study areas is very low.

4. CONCLUSIONS & RECOMMENDATIONS

Late Caenozoic superficial deposits (sandy soils, ferricrete) as well as the underlying, deeply-weathered Cape Granite in the Memorial Park study area are all of low to very low palaeontological sensitivity (Almond & Pether 2008). The proposed cemetery development is very unlikely to entail significant impacts on palaeontological heritage. There is no preference on palaeontological heritage grounds for one or other of the development sites under consideration. There are no objections on palaeontological heritage grounds to authorisation of the proposed development.

It is recommended that, pending the exposure of significant new fossils (e.g. mammalian bones and teeth) during construction, exemption from further specialist palaeontological studies and mitigation be granted for this development.

If fossil material is discovered during construction, this should be safeguarded, preferably *in situ*, and the ECO should alert Heritage Western Cape (Contact details: Protea Assurance Building, Green Market Square, Cape Town 8000. Private Bag X9067, Cape Town 8001. Tel: 086-142 142. Fax: 021-483 9842. Email: hwc@pgwc.gov.za) so that appropriate mitigation (*i.e* recording, sampling or collection) can be taken by a professional palaeontologist. The specialist involved in mitigation work would require a collection permit from Heritage Western Cape. Fossil material must be curated in an approved repository (e.g. museum or university collection) and all fieldwork and reports should meet the minimum standards for palaeontological impact studies developed by SAHRA (2013). A tabulated Chance Fossil Finds Protocol is appended to this report. These recommendations should be incorporated into the Environmental Management Plan for the proposed developments.

Please note that:

- All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from Heritage Western Cape or SAHRA;

- The palaeontologist concerned with potential mitigation work will need a valid fossil collection permit from HWC or SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);
- All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies developed by HWC (2016) and SAHRA (2013).

5. KEY REFERENCES

ALMOND, J.E. & PETHER, J. 2008. Palaeontological heritage of the Western Cape. Interim SAHRA technical report, 124 pp. Natura Viva cc., Cape Town.

BELCHER, R.W. & KISTERS, A.F.M. 2003. Lithostratigraphic correlations in the western branch of the Pan-African Saldania Belt, South Africa: the Malmesbury Group revisited. *South African Journal of Geology* 106: 327-342.

CTS HERITAGE 2018. Proposed cemetery at Louw's Bos on the Remainder of Farm 502, Stellenbosch Heritage Screener, 27 pp. CTS Heritage, Plumstead.

GONDWANA GEO SOLUTIONS 2018. Geotechnical Investigation carried out for the Louw's Bos South RE/502 Cemetery Site, Stellenbosch, Western Cape, 39 pp.

GRESSE, P.G., VON VEH, M.W. & FRIMMEL, H.E. 2006. Namibian (Neoproterozoic) to Early Cambrian successions. In: Johnson, M.R., Anhaeusser, C.R. & Thomas, R.J. (Eds.) *The geology of South Africa*, pp. 395-420. Geological Society of South Africa, Marshalltown.

HERITAGE WESTERN CAPE (2016). Guide for minimum standards for archaeology and palaeontology reports submitted to Heritage Western Cape, 5pp. Approved: HWC Council June 2016.

HENDEY, Q.B. 1984. Southern African late Tertiary vertebrates. In: Klein, R.G. (Ed.) *Southern African prehistory and paleoenvironments*, pp 81-106. Balkema, Rotterdam.

KLEIN, R.G. 1983. Palaeoenvironmental implications of Quaternary large mammals in the Fynbos region. In: Deacon, H.J., Hendey, Q.B., Lambrechts, J.J.N. (Eds.) *Fynbos palaeoecology: a preliminary synthesis*. South African National Scientific Programmes Report No. 10, pp. 116-133.

KLEIN, R.G. 1984. The large mammals of southern Africa: Late Pliocene to Recent. In: Klein, R.G. (Ed.) *Southern African prehistory and paleoenvironments*, pp 81-106. Balkema, Rotterdam.

KLEIN, R.G., AVERY, G., CRUZ-URIBE K. & STEELE, T.E. 2007. The mammalian fauna associated with an archaic hominin skullcap and later Acheulean artifacts at Elandsfontein, Western Cape Province, South Africa. *Journal of Human Evolution* 52, 164-186.

MACRAE, C. 1999. Life etched in stone. *Fossils of South Africa*, 305 pp. The Geological Society of South Africa, Johannesburg.

NAKASHOLE, A.N. 2004. Sedimentology of the Malmesbury Group's Tygerberg Formation on Robben Island, off Cape Town. Unpublished BSc Honours Thesis, University of Cape Town, South Africa, 41 pp.

PÉRINGUEY, L. & CORSTOPHINE, G.S. 1900. Stone implements from Bosman's Crossing. Stellenbosch. *Memoirs of the Proceedings of the South African Philosophical Society* 11, xxiv.

- ROBERTS, D. 1996. Geology of the Elandsfontyn fossil site. In: Almond, J.E. (Ed.), Excursion Guide: Fossil Sites in the Southwestern Cape. Palaeontological Society of South Africa, Stellenbosch, pp. 1-7.
- ROZENDAAL, A., GRESSE, P.G., SCHEEPERS, R. & LE ROUX, J.P. 1999. Neoproterozoic to early Cambrian crustal evolution of the Pan-African Saldania Belt, South Africa. *Precambrian Research* 97, 303-323.
- SAHRA 2013. Minimum standards: palaeontological component of heritage impact assessment reports, 15 pp. South African Heritage Resources Agency, Cape Town.
- SCHEEPERS, R. & SCHOCH, A.E. 2006. The Cape Granite Suite. In: Johnson, M.R., Anhaeusser, C.R. & Thomas, R.J. (Eds.) *The geology of South Africa*, pp. 421-432. Geological Society of South Africa, Marshalltown.
- SEDDON, J.D. 1966. The Early Stone Age at Bosman's Crossing, Stellenbosch. *The South African Archaeological Bulletin* 21 (No. 83), pp. 133-137.
- SEDDON, D. 1967. Some Early Stone Age surface sites around Stellenbosch, S.W. Cape. *The South African Archaeological Bulletin* 21 (No. 86), pp. 56-59.
- THERON, J.N., GRESSE, P.G., SIEGFRIED, H.P. & ROGERS, J. 1992. The geology of the Cape Town area. Explanation to 1: 250 000 geology sheet 3318 Cape Town, 140 pp. Council for Geoscience, Pretoria.
- THERON, J.N. 1984. The geology of Cape Town and environs. Explanation to 1: 50 000 geological sheets 3318CD & DC, 3418AB, AD & BA, 77 pp. Council for Geoscience, Pretoria.
- VON VEH, M.W. 1983. Aspects of the structure, tectonic evolution and sedimentation of the Tygerberg Terrane, southwestern Cape Province. *Bulletin of the Precambrian Research Unit, University of Cape Town*, B32, 88 pp.

QUALIFICATIONS & EXPERIENCE OF THE AUTHOR

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape, Limpopo, Gauteng, KwaZulu-Natal, Mpumalanga, Northwest and Free State under the aegis of his Cape Town-based company *Natura Viva* cc. He has been a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHP (Association of Professional Heritage Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development project, 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.



Dr John E. Almond
Palaeontologist
***Natura Viva* cc**

CHANCE FOSSIL FINDS PROCEDURE: Proposed Memorial Park on Farm Louw's Bos RE/502 near Stellenbosch		
Province & region:	WESTERN CAPE, Cape Winelands District Municipality	
Responsible Heritage Resources Authority	Heritage Western Cape (Contact details: Protea Assurance Building, Green Market Square, Cape Town 8000. Private Bag X9067, Cape Town 8001. Tel: 086-142 142. Fax: 021-483 9842. Email: hwc@pgwc.gov.za)	
Rock unit(s)	Weathered Cape Granite, Late Caenozoic soils, ferricretes, alluvium	
Potential fossils	Calcretized rhizoliths (root casts), termitaria and other burrows, freshwater molluscs, ostrich egg shells, sparse bones, teeth and horn cores of mammals, and tortoise remains	
ECO protocol	1. Once alerted to fossil occurrence(s): alert site foreman, stop work in area immediately (<i>N.B.</i> safety first!), safeguard site with security tape / fence / sand bags if necessary.	
	2. Record key data while fossil remains are still <i>in situ</i> : <ul style="list-style-type: none"> Accurate geographic location – describe and mark on site map / 1: 50 000 map / satellite image / aerial photo Context – describe position of fossils within stratigraphy (rock layering), depth below surface Photograph fossil(s) <i>in situ</i> with scale, from different angles, including images showing context (e.g. rock layering) 	
	3. If feasible to leave fossils <i>in situ</i> : <ul style="list-style-type: none"> Alert Heritage Resources Authority and project palaeontologist (if any) who will advise on any necessary mitigation Ensure fossil site remains safeguarded until clearance is given by the Heritage Resources Authority for work to resume 	3. If <i>not</i> feasible to leave fossils <i>in situ</i> (emergency procedure only): <ul style="list-style-type: none"> <i>Carefully</i> remove fossils, as far as possible still enclosed within the original sedimentary matrix (e.g. entire block of fossiliferous rock) Photograph fossils against a plain, level background, with scale Carefully wrap fossils in several layers of newspaper / tissue paper / plastic bags Safeguard fossils together with locality and collection data (including collector and date) in a box in a safe place for examination by a palaeontologist Alert Heritage Resources Authority and project palaeontologist (if any) who will advise on any necessary mitigation
	4. If required by Heritage Resources Authority, ensure that a suitably-qualified specialist palaeontologist is appointed as soon as possible by the developer.	
	5. Implement any further mitigation measures proposed by the palaeontologist and Heritage Resources Authority	
Specialist palaeontologist	Record, describe and judiciously sample fossil remains together with relevant contextual data (stratigraphy / sedimentology / taphonomy). Ensure that fossils are curated in an approved repository (e.g. museum / university / Council for Geoscience collection) together with full collection data. Submit Palaeontological Mitigation report to Heritage Resources Authority. Adhere to best international practice for palaeontological fieldwork and Heritage Resources Authority minimum standards.	

Appendix B: Archaeological Impact Assessment (AIA)

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ARCHAEOLOGICAL IMPACT ASSESSMENT

**PROPOSED NEW MUNICIPAL CEMETERY: LOUW'S BOS NORTH
AND LOUW'S BOS SOUTH, REMAINDER FARM 502,
STELLENBOSCH, WESTERN CAPE**

Assessment conducted under Section 38 (3) of the National Heritage Resource
Act (No. 25 of 1999)

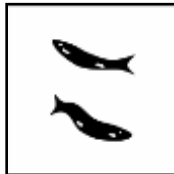
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**NOVEMBER
2018**

Executive summary

1. Introduction

ACRM was appointed to conduct an Archaeological Impact Assessment (AIA) for a proposed new municipal cemetery on Remainder Farm No. 502 near Stellenbosch in the Western Cape.

Two proposed, alternative cemetery sites are under consideration; namely Louw's Bos North and Low's Bos South. Both sites are located alongside Annandale Road, off the R44 north between Somerset West and Stellenbosch.

The proposed cemetery will occupy a footprint area of about 30ha and will include a memorial park, perimeter fencing, parking, a memorial wall, and ablution facilities. Existing access roads will be upgraded.

2. Aim of the study

The aim of the study is to assess the sensitivity of archaeological resources in the two proposed alternative cemetery sites, to determine the potential impacts on such resources, and to avoid and/or minimise such impacts by means of management and/or mitigation measures.

The AIA forms part of a wider Heritage Impact Assessment (HIA) that will be conducted by Bruce Eitzen of New World Associates.

3. Results of the study

A field assessment of the proposed Louw's Bos North cemetery site was undertaken on the 18th October 2018, and an assessment of the proposed Louw's Bos South cemetery site was undertaken on the 13th November, 2018.

The following observations were made:

3.1 Louw's Bos North

No archaeological remains were recorded in the footprint area of the proposed cemetery site, which comprises old agricultural land covered in grazing grass and weeds. There is barely any surface stone covering the proposed development site.

Relatively large numbers of Early Stone Age (ESA) resources were, however, recorded on a portion of Rem. Farm 502, on deeply ploughed agricultural land alongside Annandale Road and the floodplain of the Bonterivier, that included chunks, cores, flakes, cleavers and several bifaces/handaxes, struck from round quartzite river cobbles. The remains all occur in a highly transformed context.

3.2 Louw's Bos South

A small number of ESA implements including chunks, cores and flakes were recorded in a large block of wheat fields on the upper slopes of the proposed cemetery site. No archaeological resources were recorded on the remainder of the proposed development

site, which comprises old, unused agricultural land covered in very dense grass, weeds, and large patches of recovering veld. The receiving environment has historically been totally transformed by agriculture.

The small numbers and highly transformed context (i. e. wheat fields) in which they were found, mean that the remains have been graded as having *low* (Grade IIIC) archaeological significance.

4. Impact statement

The results of the study indicate that the proposed development of a new municipal cemetery on Remainder Farm No. 502 near Stellenbosch, will not impact of important pre-colonial archaeological heritage. ESA resources in a highly transformed context were documented on the farm, but have been graded as having *low* (Grade IIIC) archaeological significance.

5. Conclusion

The study has identified no significant impacts to pre-colonial archaeological heritage that will need to be mitigated prior to the proposed development commencing. The receiving environment (i. e. transformed agricultural land) is not a sensitive or threatened archaeological landscape.

Insofar as a comparative study of the two proposed development sites is concerned, no one site is preferred over the other.

6. Recommendations

The following recommendations are made:

6.1 Louw's Bos North

1. No archaeological mitigation is required prior to construction activities commencing.
2. The property is suitable for development.

6.2 Louw's Bos South

1. No archaeological mitigation is required prior to construction activities commencing
2. The property is suitable for development

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1. INTRODUCTION

ACRM was appointed by CKR & Partners, on behalf of the Stellenbosch Municipality, to conduct an Archaeological Impact Assessment (AIA) for a proposed new municipal cemetery on Remainder Farm No. 502 near Stellenbosch in the Western Cape (Figures 1-2).

Two proposed, alternative cemetery sites are under consideration; namely Louw's Bos North and Low's Bos South. Both sites are located alongside Annandale Road, off the R44 north between Somerset West and Stellenbosch.

The proposed cemetery will occupy a footprint area of about 30ha and will include a memorial park, perimeter fencing, parking, a memorial wall, and ablution facilities. Existing access roads will be upgraded.

The AIA forms part of a wider Heritage Impact Assessment (HIA) that will be conducted by Bruce Eitzen of New World Associates.



Figure 1. 1:50 000 locality map (3318DD Stellenbosch). The green polygons indicate the location of the proposed, and proposed alternative cemetery sites; namely Louw's Bos North (LBA) and Louw's Bos South (LBS)



Figure 2. Google satellite map of the proposed, and proposed alternative cemetery sites on Remainder of Farm 502 near Stellenbosch

2. HERITAGE LEGISLATION

The National Heritage Resources Act (Act No. 25 of 1999) makes provision for a compulsory Heritage Impact Assessment (HIA) when an area exceeding 5000 m² is being developed. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development.

3. DESCRIPTION OF THE RECEIVING ENVIRONMENT

3.1 Louw's Bos North

The proposed development site is located to the north of Annandale Road, about 10kms south west of Stellenbosch (Figure 3). Access to the site is via the R44 between Somerset West and Stellenbosch. The proposed cemetery site comprises old agricultural land. There is barely any visible surface stone covering the site. Historically, for many years, vegetables such as broccoli and cauliflower were grown on the farm to supply large retailers such as Pick & Pay (Wrench Louw pers. comm. October, 2018). For the last 15 years or so, the land has been used for grazing and centre pivot farming. The site has been divided into several large grazing camps where cattle are rotated between camps. The receiving environment has therefore been totally transformed by agriculture (Figures 4-6). There are no significant landscape features on the proposed development site, although the Bonterivier runs just below the southern boundary of the proposed development site. Surrounding land use is agriculture (grazing, vineyards & strawberry farming), farm dams, guest accommodation, and the Stellenbosch North to the north east.



Figure 3. Google satellite map indicating the footprint area (red polygon) for the proposed Louw's Bos North Cemetery on Rem. Farm 502, Stellenbosch



Figure 4. View of the proposed cemetery site facing west



Figure 5. View of the proposed cemetery site facing south east with the Simonsig in the distance



Figure 6. View of the cemetery site facing east

3.2 Louw's Bos South

The proposed cemetery site is located directly alongside (i.e. south of) Annandale Road (Figure 7). The eastern sector of the proposed development site comprises a large block of vineyards and wheat fields (Figures 8 & 9). The remainder of the site (i. e. the western sector) comprises old agricultural lands that have not been worked for more than 10 years and are covered in a mix of extremely dense Kikuyu grass, weeds such as Lupens, natural grasses, and large patches of recovering veld, on a substrate of loose, weathered quartzitic sands (Figures 10-13). Some gravel and Koffieklip was also noted. Existing infrastructure comprises gravel farm roads, barely visible twee-spoor tracks, some farm fencing and poles. There is barely any surface stone covering the western portion of the proposed site, even alongside Annandale road, where visibility is still fairly good. There are no significant landscape features on the proposed site, and no springs, pans or sources of natural water. Surrounding land use is agriculture (vineyards, vacant agricultural lands & vegetable farming to the west), roads and farm dams.



Figure 7. Close up Google satellite map indicating the footprint area of the proposed Louw's Bos South Cemetery site (red polygon) on Rem. Farm 502, Stellenbosch



Figure 8. Vineyards in the eastern sector of the proposed cemetery site. View facing north east



Figure 9. Wheat fields in the eastern sector of the proposed cemetery site. View facing north



Figure 10. Western sector of the proposed cemetery site. View facing north east



Figure 11. Western sector of the proposed cemetery site. View facing east



Figure 12. Western sector of the proposed cemetery site. View facing west



Figure 13. Western sector of the proposed cemetery site alongside Annandale Road. View east

4. STUDY APPROACH

4.1 Method

The overall purpose of the study is to assess the sensitivity of archaeological resources in the proposed two cemetery sites, to determine the potential impacts on such resources, and to avoid and/or minimise such impacts by means of management and/or mitigation measures.

The significance of archaeological resources was assessed in terms of their content and context. Attributes considered in determining significance include artefact and/or ecofact types, rarity of finds, exceptional items, organic preservation, potential for future research, density of finds and the context in which archaeological traces occur.

A field assessment of the proposed development sites was undertaken on 18th October (Louw's Bos North) and 14th November (Louw's Bos South), 2018.

A track path of both surveys was captured.

A desktop study was also carried out to assess the heritage context surrounding the proposed development sites.

4.2 Constraints and limitations

There were no constraints or limitations associated with the study, although visibility was very poor across both proposed development sites, due to dense vegetation cover. Access to both sites was unrestricted and mobility was unhindered.

4.3 Identification of potential risks

The results of the study have shown that there are no archaeological risks associated with the proposed development. Limited numbers of ESA resources were identified on the proposed Louw's Bos South site, but these occur in a highly transformed context (wheat fields).

4.4 Archaeology of the study area

Early Stone Age (ESA) implements were first discovered by the French entomologist Dr Louis Peringuey in 1899 at Bosman's Crossing at the foot of the Papagaaiberg alongside the Eerste River in Stellenbosch (Peringuey 1902, 1911; Seddon 1966). The artefacts, exposed in the railway cutting, are associated with the younger gravels of the course alluvial fan on which much of Stellenbosch is situated, and are dated to the earlier part of the Middle Pleistocene, between 700 000 and 300 000 years ago (Deacon & Goosen 1997). Among these tools was an artefact type of great antiquity recognized as an early handaxe. For many years after this, the ESA of South Africa was referred to as the 'Stellenbosch Culture' until the term was re-defined in the 1960s (Goodwin & Van Riet Lowe 1929). A large sandstone boulder marks the location of the Bosman's Crossing Provincial Heritage Site (PHS) which was declared a National Monument in 1962.

Today the ESA is divided into the 'Olduwan' period, which is up to 1.7 million years old. This industry is associated with the oldest and most simple human-made artefacts. This was followed by the 'Acheleun' Tradition, a more developed stone artefact industry, characterised by the presence of specific types of stone tools such as handaxes, choppers and cleavers. Acheleun sites have been recorded throughout the country and are especially associated with river terraces, streams, and certain types of rock outcrops. Acheleun tools are also commonly found on mountain slopes, and in degraded and transformed areas such as slope washes, cuttings, excavations, and in vineyards.

ESA artefacts have been documented at numerous locations in the Stellenbosch area, on the farms Spier, Meerust, Lynedoch, Hartlands, Vlottenberg and De Wijnlanden (Kaplan 2002), and on several farms to the east of the R310, at Croyden (Kaplan 2005, 2004) and Faure (Kaplan 2006). Large numbers of tools including handaxes, cleavers, cores, and flakes have also been documented in agricultural lands and vineyards during an investigation of the De Zalze Golf Estate (Kaplan 2009), directly north of the proposed Louw's Bos North cemetery site, while a rich Acheleun site occurs on the Farm Blaauklippen, on the upper slopes of the Helderberg to the east of the R44 (Deacon and Goosen 1997). ESA flakes and angular chunks have also been found on the lower slopes of the Papagaaienberg near the cemetery (Kaplan 2010). ESA tools were also recently encountered alongside Adam Tas Road, and in Devon Road, Stellenbosch during a Heritage Impact Assessment (HIA) for the proposed Plankenbrug sewer pipeline (Kaplan 2015a), and at Vlottenburg Hamlet inside the urban edge (Kaplan 2015b).

5. RESULTS OF THE STUDY

5.1 Louw's Bos North

No archaeological remains were recorded in the proposed ± 30 ha footprint area of the proposed Louw's Bos North Cemetery north of Allandale Road (Figure 14). The receiving environment is quite waterlogged across the lower slopes and covered in very thick grass. A large centre pivot field (much of it covered in Lupens) also covers a large portion of the proposed development site. There is barely any surface stone on the site, apart from a few large pieces of Koffieklip.

Relatively large numbers of ESA resources were, however, recorded in heavily ploughed fields in the south western portion of Farm 502 alongside Allandale Road, where these tools have been brought to the surface by ploughing activities (Figure 14 & Table 1). The majority of the finds comprise chunks, flaked chunks, round cores, partially modified flakes, and several cleavers. Three pear-shaped, Acheleun bifacial handaxes were also recorded. All the artefacts have been struck from round quartzite river cobbles, and occur in a highly transformed context. A number of tools were also found embedded in the gravel farm roads that ring the fields, and among large piles of quartzite cobbles and Koffieklip that have been removed from the surrounding fields. It is interesting to note that the lithics in this area are located close to the banks/floodplain of the Bonterivier, where quartzite river cobbles would have been readily available to early ESA hominins as a source material for making tools. The surrounding fields also contain many unworked cobbles of varying sizes.

A collection of tools and the context in which they were found study is illustrated in Figures 14-26.

5.1.1 Grading

The highly transformed context, in which they were found, means that the remains have been graded as having *low* (Grade IIIC) archaeological significance.

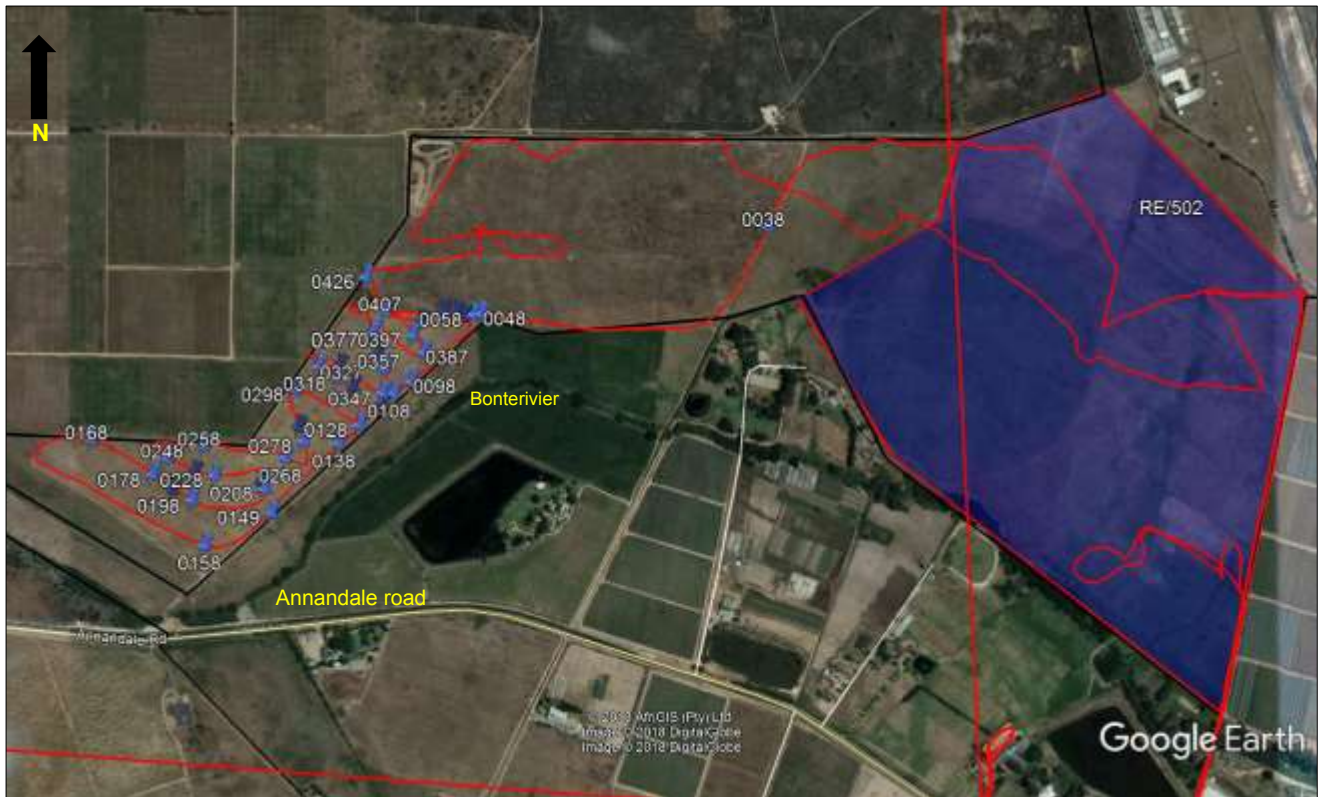


Figure 14. Trackpaths in red and waypoints of archaeological finds. The proposed cemetery site is the blue shaded area



Figure 15 Collection of tools (Points 048-068). Scale is cm.



Figure 16. Collection of tools. Scale is in cm



Figure 17. Context in which the remains were found



Figure 20. Cleaver (Point 0218) among stones in road



Figure 18. Context in which the remains were found



Figure 21. Collection of tools. Scale is in cm



Figure 19. Collection of tools. Scale is in cm



Figure 22. Collection of tools. Scale is in cm



Figure 23. Handaxe & flake. Scale is in cm



Figure 24. Biface on pile of Koffieklip (0426).



Figure 25. Classic Acheulean handaxe (0397). Scale in cm



Figure 26. 0426. Context in which the remains were found

Point	Name of farm	Lat/long	Description	Mitigation
	Rem. Farm 502, Stellenbosch		All ESA All in quartzite unless otherwise indicated	
0038		S33° 59.056' E18° 48.765'	Retouched chunk in road	None required
0048		S33° 59.139' E18° 48.436'	Retouched flake in road	None required
0058		S33° 59.140' E18° 48.427'	Round core in road	None required
0068		S33° 59.137' E18° 48.407'	Round core in fields	None required
0078		S33° 59.137' E18° 48.392'	Chunk in fields	None required
0088		S33° 59.142' E18° 48.414'	Cleaver	None required
0098		S33° 59.203' E18° 48.356'	Biface on cortex flake in ploughed fields alongside gravel road	None required
0108		S33° 59.215' E18° 48.335'	Chunks and unworked cobbles in ploughed field	None required

AIA proposed Louw's Bos Cemetery near Stellenbosch

0118		S33° 59.226' E18° 48.322'	Same as above	None required
0128		S33° 59.245' E18° 48.295'	Same as above	None required
0138		S33° 59.262' E18° 48.272'	Same as above	None required
0149		S33° 59.329' E18° 48.195'	Chunk and flake among pile of cobbles alongside gravel ring road	None required
0158		S33° 59.359' E18° 48.118'	Core	None required
0168		S33° 59.259' E18° 47.988'	Chunk	None required
0178		S33° 59.292' E18° 48.058'	Several chunks and flakes son large patch/scatter of stone in fields.	None required
0189		S33° 59.306' E18° 48.081'	Same as above	None required
0198		S33° 59.316' E18° 48.103'	Same as above	
0208		S33° 59.306' E18° 48.187'	Core in gravel road	None required
0218		S33° 59.299' E18° 48.183'	Cleaver & core in packed cobble bed in gravel road	None required
0228		S33° 59.293' E18° 48.130'	Chunks and several flakes among scatter of river stone in ploughed fields	None required
0238		S33° 59.290' E18° 48.107'	Same as above	None required
0248		S33° 59.276' E18° 48.075'	Chunk	None required
0258		S33° 59.265' E18° 48.117'	Pointed flake/biface in gravel farm road	None required
0268		S33° 59.276' E18° 48.211'	Core, x 2 chunks in fields	None required
0278		S33° 59.260' E18° 48.231'	Core in fields	None required
0288		S33° 59.246' E18° 48.226'	Several chunk, flake in fields – lots of surface river stone	None required
0298		S33° 59.211' E18° 48.223'	Core	None required
0308		S33° 59.208' E18° 48.288'	2 chunks, flaked chunk in fields	None required
0318		S33° 59.201' E18° 48.271'	Incomplete core	None required
0327		S33° 59.189' E18° 48.249'	Chunk	None required
0337		S33° 59.189' E18° 48.274'	Large Cutting Tool (LCT), 3 chunks, core – scatter of stone in fields	None required
0347		S33° 59.214' E18° 48.323'	Core/flaked chunk	None required
0357		S33° 59.191' E18° 48.324'	Core	None required
0367		S33° 59.177' E18° 48.318'	Pointed flake/biface	None required
0377		S33° 59.158' E18° 48.311'	X 2 chunks and flake	None required
0387		S33° 59.176' E18° 48.370'	Retouched flake/LCT	None required
0397		S33° 59.159' E18° 48.357'	Handaxe	None required
0407		S33° 59.137' E18° 48.325'	Small core	None required
0417		S33° 59.146' E18° 48.366'	Handaxe	None required
0426		S33° 59.104' E18° 48.303'	Biface/core among pile of Koffieklip and cobbles removed from fields	None required

Table 1. Spreadsheet of waypoints and description of archaeological finds

5.2 Louw's Bos South

A small number of ESA implements including chunks, cores and modified flakes were recorded in the highly transformed wheat fields on the upper slopes of Farm No. 502 (Figure 27 & Table 2). A few tools were also recorded embedded in the gravel farm roads as well.

No archaeological remains were recorded in the western sector of the proposed Louw's Bos site, which comprise old agricultural land covered in very dense grasses, weeds, and large patches of recovering natural veld.

A collection of tools recorded during the study is illustrated in Figures 28 and 29.

5.2.1 Grading

The limited numbers and highly transformed context in which they were found mean that the remains have been graded as having *low* (Grade IIIC) archaeological significance.

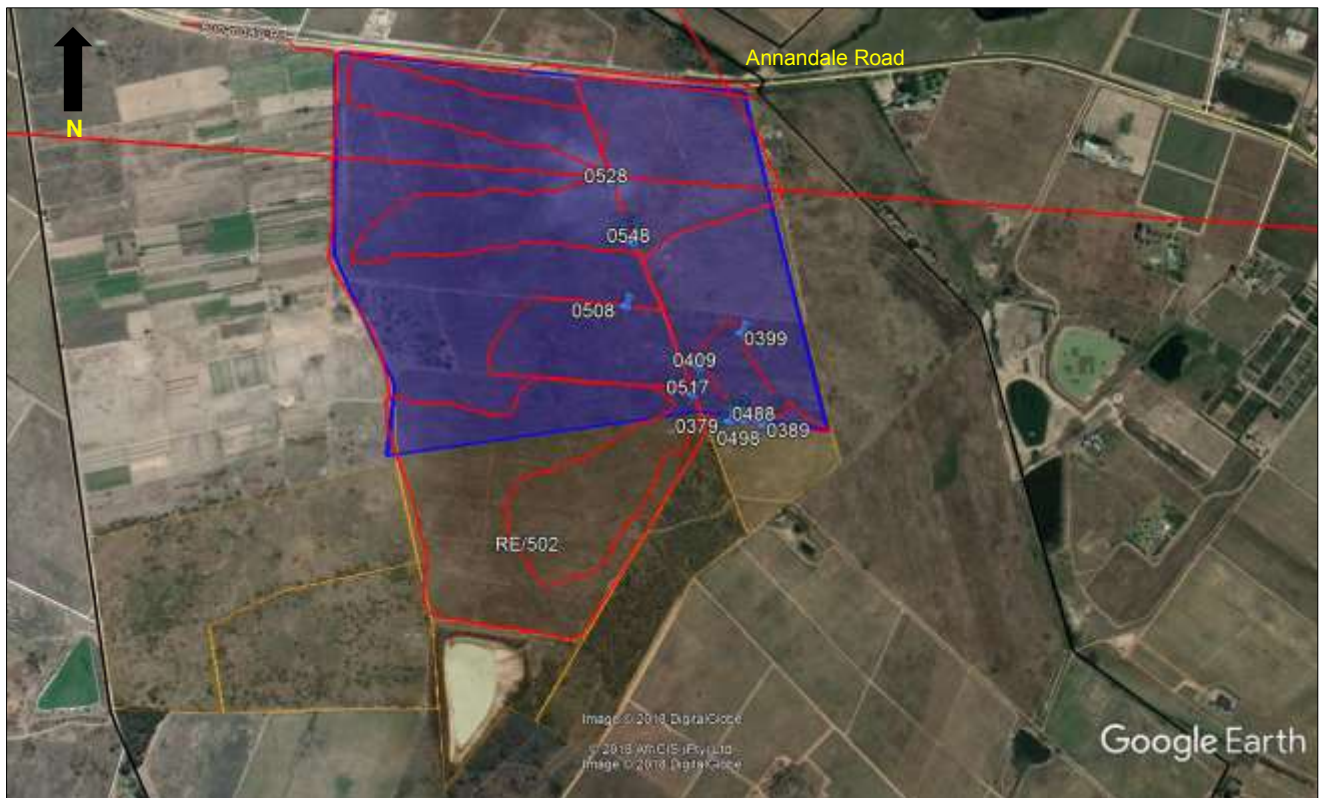


Figure 27. trackpaths (in red) and waypoints of archaeological finds

AIA proposed Louw's Bos Cemetery near Stellenbosch

Point	Name of farm	Lat/long	Description	Mitigation
	Rem. Farm 502, Stellenbosch		All ESA All in quartzite unless otherwise indicated	
				None required
0369		S33° 59.830' E18° 48.017'	Retouched flake/biface in gravel farm road	None required
0379		S33° 59.832' E18° 48.028'	Small, thin snapped cortex flake	None required
0389		S33° 59.837' E18° 48.076'	MSA flake/prepared platform in gravel farm road	None required
0399		S33° 59.731' E18° 48.046'	Heavy chunk/core in wheat fields	None required
0409		S33° 59.770' E18° 47.987'	Flaked chunk	None required
0419		S33° 59.815' E18° 48.030'	Core	None required
0428		S33° 59.817' E18° 48.035'	Chunk	None required
0438		S33° 59.817' E18° 48.039'	Chunk/core	None required
0448		S33° 59.820' E18° 48.045'	Chunk	None required
0458		S33° 59.820' E18° 48.045'	Flake	None required
0468		S33° 59.815' E18° 48.091'	Flake/biface	None required
0478		S33° 59.831' E18° 48.078'	Chunk	None required
0488		S33° 59.831' E18° 48.068'	Broken flake	None required
0498		S33° 59.831' E18° 48.047'	Flake	None required
0508		S33° 59.700' E18° 47.886'	Chunk embedded in road	None required
0517		S33° 59.801' E18° 47.977'	Chunk embedded in road	None required
0528		S33° 59.560' E18° 47.866'	Flake embedded in road	None required
0538		S33° 59.607' E18° 47.887'	Chunk	None required
0548		S33° 59.628' E18° 47.896'	chunk	None required

Table 2. Spreadsheet of waypoints and description of archaeological finds



Figure 28. ESA tools. Scale is in cm



Figure 29. ESA tools. Scale is in cm

6. IMPACT STATEMENT

The results of the study indicate that a proposed new municipal cemetery on Remainder Farm No. 502 will not have an impact of great significance on pre-colonial archaeological heritage.

In the case of the proposed Louw's Bos North cemetery north of Allandale Road, relatively large numbers of ESA implements were recorded outside the proposed cemetery footprint area alongside Annandale Road, while limited numbers of similar types of tools were recorded in transformed wheat fields in the footprint on the proposed Louw's Bos South cemetery site, south of Allandale Road.

The overall impact significance of the proposed development on archaeological resources is therefore rated as being LOW, and indications are that the receiving environment is not a sensitive or threatened archaeological landscape.

7. CONCLUSION

The study has identified no significant impacts to pre-colonial archaeological heritage that will need to be mitigated prior to the proposed development commencing.

The receiving environment (transformed agricultural land) is not a threatened archaeological landscape.

Insofar as a comparative study of the two proposed development sites is concerned, no one site is preferred over the other.

8. RECOMMENDATIONS

With regard to the proposed establishment of a proposed and proposed alternative municipal cemetery on Remainder Farm 502 near Stellenbosch, the following recommendations are made:

8.1 Louw's Bos North

1. No mitigation is required prior to construction activities commencing.
2. The site is suitable for development.

8.2 Louw's Bos South

1. No mitigation is required prior to construction activities commencing.
2. The site is suitable for development.

9. REFERENCES

Deacon, H.J. and Goosen, R.J. 1997. Phase 1 Archaeological investigation De Zalze Golf and Agricultural Estate. Report prepared for De Zalze Development (Pty) Ltd. Department of Archaeology, University of Stellenbosch.

Goodwin, A.J.H. & Van Riet Lowe, C. 1929. The Stone Age Cultures of South Africa. Annals of the South African Museum. 27.

Kaplan, J. 2015a. Kaplan, J. 2015. Heritage Impact Assessment, proposed, Plankenbrug Sewer Outfall Pipeline, Stellenbosch. Report prepared for Withers Environmental Consultants. ACRM Cape Town

Kaplan, J. 2015b. Archaeological Impact Assessment, the proposed Vlotenburg Settlement near Stellenbosch. Report prepared for Withers Environmental Consultants. ACRM Cape Town

Kaplan, J. 2012. Heritage Impact Assessment, the proposed Adam Tas Anaerobic Waste Water Treatment Facility on Erf 2684, Stellenbosch. Report prepared for Resource Management Services. ACRM Cape Town

Kaplan, J. 2010. Archaeological Impact Assessment proposed establishment of a new cemetery on the Onder Papagaaiberg (Farm 183) Stellenbosch, Western Cape. Report prepared for Cape Lowlands Environmental Services. ACRM Riebeeck West

Kaplan, J. 2009. Archaeological Impact Assessment De Zalze Winelands Golf Estate, Southern Extension. Erf 4 de Zalze and Portion 10 of Farm 502 Stellenbosch. Report prepared for DJ Environmental Consultants. ACRM Riebeeck West

Kaplan, J. 2006. Archaeological heritage assessment pre-feasibility study Faure Farms Faure (Helderberg). Report prepared for Chand Environmental Consultants. ACRM Riebeeck West.

Kaplan, J. 2005. Archaeological report Croyden Olive Estate. Report prepared for Ecosense Consulting Environmentalists and Ecologists. ACRM Riebeeck West

Kaplan, J. 2004. Archaeological scoping for the proposed Croyden Vineyard Estate Farm 654 Croyden. Report prepared for Ecosense Consulting Environmentalists and Ecologists. ACRM Riebeeck West

Kaplan, J. 2002. Phase 1 Archaeological Impact Assessment proposed development De Wijnlanden Residential Estate. Report prepared for Greenfield Consultants. ACRM Riebeeck West

Péringuey, L. 1902. Stone Implements from Paarl and Stellenbosch. Transactions of the South African Philosophical Society 11 (4).

Péringuey, L. 1911. The Stone Ages of South Africa as represented in the collection of the South African Museum. Annals of the South African Museum 8:180-201

Seddon, D. 1966. Some Early Stone Age surface sites around Stellenbosch, S.W. Cape. South African Archaeological Bulletin 22:57-59.

Appendix C: Visual Impact Assessment (VIA)

NWA



LOUW'S BOS MEMORIAL PARK

VISUAL IMPACT ASSESSMENT

NOVEMBER 2018  PHOTOGRAPH 1 VIEW OF THE SITES FROM ANNANDALE ROAD, NORTH SITE (TOP RIGHT), SOUTH SITE (BELOW)

researched and produced by

New World Associates © for CK Rumboll & Vennote



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This report should be printed double-sided if at all.

Reflection

“The term ‘**visual and aesthetic**’ is intended to cover the broad range of visual, scenic, cultural, and spiritual aspects of the landscape. However, for the purpose of brevity, the term ‘**visual**’ is used in the text’ (p 1). **Thus it includes aspects of “the area’s sense of place, ... natural and cultural landscapes, ... the identification of all scenic resources, protected areas and sites of special interest, together with their relative importance in the region, ... the need to include both *quantitative* criteria, such as ‘visibility’, and *qualitative* criteria, such as landscape or townscape ‘character’ (pp 1-2).”**

This report (p 21) from the *PGWC Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (November 2005)*

“**Visual impact. The value of the environment is often under-estimated from a visual perspective.** It is the visual quality of the environment that, to a large degree, generates the attraction for the tourism industry and draws people to certain areas as desired locations for living a lifestyle outside of the large cities and densely developed urban areas. **The visual resources of rural areas, such as scenic landscapes and the cultural streetscapes and farmsteads,** and environments such as the Garden Route [Swartland], constitute major tourist attractions. ...

Each area has its own unique visual character and atmosphere, which plays an important role in the quality of any tourist experience. The diversity of the landscapes makes it essential to consider all development **and more particularly the expansion of urban areas, an issue that requires special consideration.** The intention is to manage urban development in such a way that no development would detract from the visual quality of the environment **and that all development conform to a characteristic style and urban form that suits the character of the area.”**

This report (p 23) from the *PGWC Urban Edge Guideline (December 2005)*

∞ Beauty is in the eye of the beholder.

What the eye doesn't see, the heart doesn't grieve over.

English Proverbs

∞ Do not seek revenge or bear a grudge against one of your people,
but love your neighbour as yourself. I am the LORD.

Mosaic Law, Leviticus 19.18, The Holy Bible (NIV)

NWA

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NWA

1 Executive Summary

1.1 Recommendation

The proposed Louw's Bos Memorial Park is a new regional cemetery with an initial concept showing a formal layout. The site and area is an open hillside on the south side of the Bonte River Valley along Annandale Road. Two sites are under consideration, North and South, with the South site being the preferred option. Visibility is moderate to high with the North site being set back 1km from Annandale Road, while the South site is immediately adjacent it, making the South site more visible. The visual and aesthetic sensitivity of the area is moderate and the anticipated impact on scenic resources is moderate. Recommendations are made to minimise visual and aesthetic impacts.

1.2 Project Description (see page 14)

1. The proposed Memorial Park at R502 *Louw's Bos* is one of two regional cemeteries being planned for the Stellenbosch Municipality.
2. The Memorial Park concept plan prepared by OvP Landscape Architects (October 2018) is a first draft only.
3. It shows a formal layout on a larger portion of the site than is now under consideration, so will have to be reworked.
4. Two sites have been considered with the South site being the preferred option.

1.3 Legal and Administrative Requirements (see page 18)

1. There is a long history of environmental protection and management in South Africa rooted in EIA and, later, IEM, which has given rise to the current requirement for VIA. The latest document (November 2005) prepared by the Provincial Government of the Western Cape defines the scope and preparation of VIAs and has now been approved and adopted.

2. Provision in the various Acts is made for special areas and landscapes that have an important effect on the ranking of visual impact in these areas.
3. The SHS&MP (2018)¹ provides graded heritage and landscape character information for the Stellenbosch Municipality. VIA is integral to assessing heritage impact in scenic heritage areas like the winelands.

1.4 Visual Environment Description (see page 36)

1. The sites lie adjacent to Annandale Road, a stretch near the South site being a Grade IIIa scenic route. The route is of mixed scenic value being more rural in its central length, but hard to appreciate at this time due to the road works.
2. The landscape is extensive combining rolling hills around the Bonte River Valley surrounded by pastures, a variety of new and old homesteads, dams, vineyards and some businesses.
3. The North site is further away from Annandale Road and less prominent than the South site, which is split between old vineyards in the east and pastures in the west. The historic farm *Soverby* and neighbouring *Linquenda* are embedded between the two sites.

1.5 Visual Impact Assessment (see page 54)

1. Annandale Road is scenic in the central zone where the South site is well exposed to it, while the North site is set further back.
2. The proposed development will have a high impact on the landscape (both sites) causing noticeable (South site) to some (North site) change to the visual environment.
3. The development has moderate (North site) to high (South site) visual exposure, moderate (both sites) visual absorption capacity, medium (both sites) compatibility, and is moderately (North site) to highly visible (South site) along Annandale Road.
4. The development's visual impact has district extent, long term duration, medium intensity, definite probability, and medium significance on the landscape for both sites.
5. COMPARATIVE ASSESSMENT: The South site has a moderate to high impact while the North site has a more-moderate to high impact, particularly a more-moderate-visibility due to being sited on Annandale Road.
6. Recommendations are made to minimise visual and aesthetic impact.

¹ Cape Winelands Professional Practices in Association (2018). *Stellenbosch Heritage Survey & Management Plan*. Stellenbosch Municipality.

1.6 Visual Management and Monitoring Plan (see page 70)

1. Sound Visual Management is the ultimate aim of the VIA process. The Mitigation Recommendations developed in the report need to be implemented.
2. This process of implementation will occur throughout the lifetime of the project, hence, the need for a Monitoring Plan. Institutions, individuals and organisations referred in the Monitoring Plan must develop a means of achieving the monitoring otherwise this report serves no purpose.
3. Once the VIA Report has been approved, the Developers must seek the implementation of the recommendations as soon as possible.

NWA

2 Project Description

2.1 Summary

The proposed Memorial Park at R502 *Louw's Bos* is one of two regional cemeteries being planned for the Stellenbosch Municipality. The Memorial Park concept plan prepared by OvP Landscape Architects (October 2018) is a first draft only. It shows a formal layout on a larger portion of the site than is now under consideration, so will have to be reworked. Two sites have been considered with the South site being the preferred option.

2.2 Introduction

Combined with Section 3, this chapter presents the relevant project data required to develop a Visual Impact Assessment (VIA) of the development for Environmental Impact Assessment (EIA) purposes, in particular, Heritage Impact Assessment (HIA). This chapter reviews the relevant basic aspects of the proposed development and includes plans and diagrams as appropriate to this end.

2.2.1 Background

New World Associates was commissioned by the Town and Regional Planners CK Rumboll & Vennote to prepare the VIA for this project. EnviroAfrica is undertaking the environmental application. Developments of this scale and nature in scenic and historic environments, within or without the Urban Edge, require Visual Assessments in accordance with the PGWC Guideline for Specialist Visual Studies (pp 11-12).

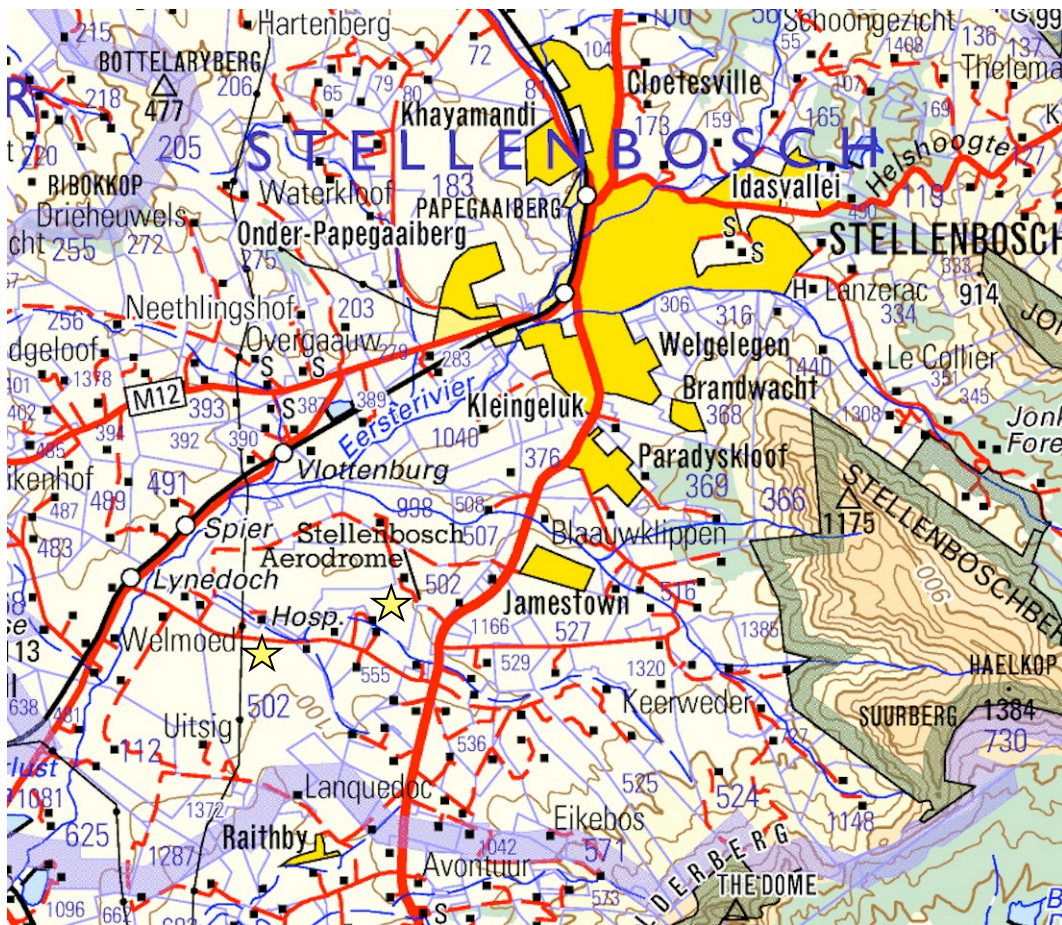
2.2.2 Accreditation

Bruce Eitzen ML BSc PrLArch MEMBER ILASA APHP conducted this assessment. He is a registered Landscape Architect and Environmental Planner with the South African Council of Landscape Architecture Professionals (SACLAP), and Specialist Practitioner in Visual and Landscape Heritage. He has thirty years experience across the board of Landscape Architecture and Environmental Planning and has practised in South Africa, Central Africa and East Africa. He holds a BSc (Botany) from the University of Cape Town and a Masters in Landscape Architecture from

the University of Pretoria. His public service includes serving for three years on the Association of Heritage Practitioners Executive Committee chairing Professional Practice. He also served on the National Executive Committee of the Institute for Landscape Architects in South Africa and was the Chair of ILASA Cape for four years.

2.2.3 Statement of Independence

New World Associates is an independent consulting firm practising in the abovementioned fields. None of its members have any financial interest in the proposed development nor are involved in any other projects being undertaken by the developer.



Source: Reproduced courtesy of the Chief Directorate: Surveys and Mapping, State Copyright 2000.

Figure 2-1: Regional Context.

Portion of a 1:250,000 map of South Africa showing the site locations (3318 Cape Town, 9th Edition 2000). NTS.

2.2.4 Reporting Requirements

This report is generally based on South African environmental management procedures and, more specifically, on the latest provincial guideline was endorsed by the Provincial Government of the Western Cape (PGWC) on 3 November 2005: *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (November 2005, PGWC).

2.3 Project Proposal

2.3.5 Location

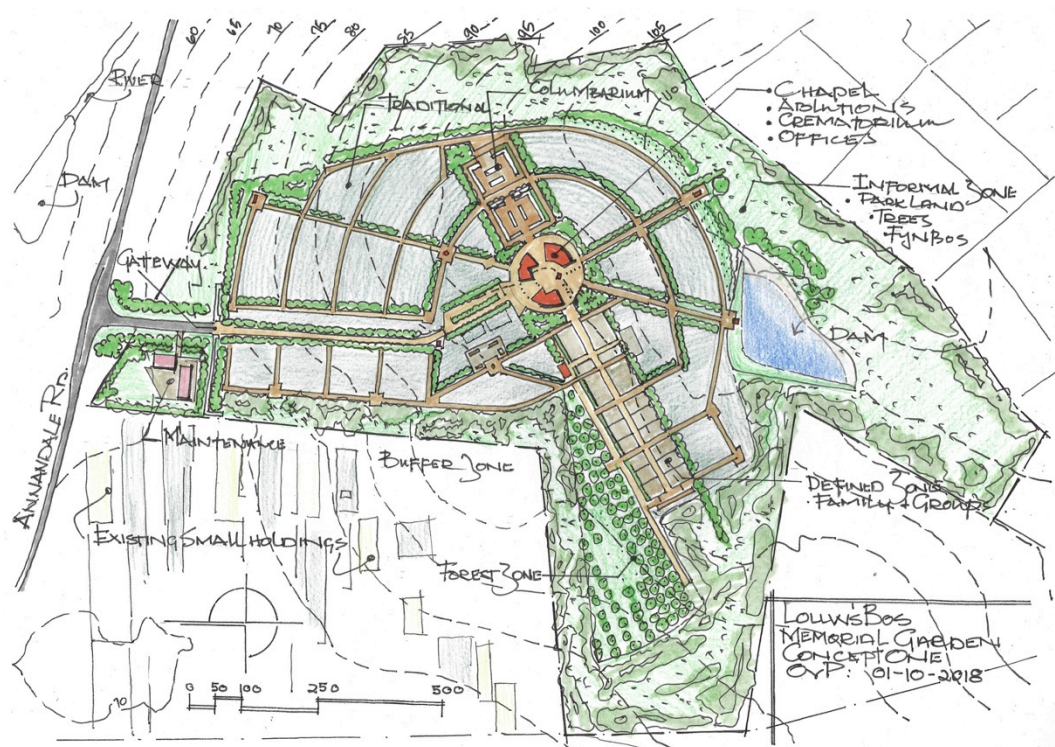
The site is situated on either side of Annandale Road, SW of Stellenbosch (see Figure 2-1 above).

2.3.6 Town Planning Application

The applicant wishes to develop regional cemetery on the site as indicated in the concept plan. It is one of three such new cemeteries proposed by the Stellenbosch Municipality.

2.3.7 Site Development Plan

An initial First Draft has been prepared by OvP Landscape Architects (see Figure 2-2). However, as the site area has been substantially reduced, it will have to be reworked. Overall, the concept shows a formal layout using much more of the site than is now available.



Source: OvP Landscape Architects.

Figure 2-2: OvP Draft Concept Plan One (1 October 2018).

This first draft is an initial concept only and was not intended for public consumption. No heritage informants were available at the time but the site was walked.² The area of the South site has subsequently been reduced substantially so this concept plan will have to be reworked.

2.3.8 Landscape and Environment

The landscape is detailed in the above plan. Its formal arrangement is a major new type of development in this area of open farm fields and old pastures but further comment is premature

² Johan van Papendorp (OvP), personal communication (7 November 2018).

as the plan is defunct. The very open and undeveloped nature of the site makes its integration into the landscape all the more challenging.

2.4 Alternatives

At Louw's Bos, there are two possible sites under consideration, known as the North and South sites. The North site was the initial location under consideration but the option of the South site arose. Therefore, there information about both sites was provided in the previous chapter and a comparative analysis will be performed.



Source: Appendix 5 in SHS&MP (2018).

Figure 2-3: Map showing the two sites under consideration (2018).

The purple figures on the attached map were: What was accessible and closest to the road and at least 30ha in extent and approved by council. The southern section has lease areas (for one year at a time) registered across it.³

That is, access is also a prime consideration; however, the leases also need to be considered.

NWA

³ “Although the project manager at Stellenbosch Municipality would like ... to keep what was approved, the marked leased areas (502 – BK, EK, AM, BFNN and BL) have been entertained by various informants – geotech, landscaping, conservation and linking the park to the environment, use of “*uitval grond*” i.e. the old mine sites BFNN and BL and many more.” CK Rumboll & Vennote, email dated 15 November 2018.

3 Legal and Administrative Requirements

3.1 Summary

There is a long history of environmental protection and management in South Africa rooted in EIA and, later, IEM, which has given rise to the current requirement for VIA. The latest document (November 2005) prepared by the Provincial Government of the Western Cape defines the scope and preparation of VIAs and has now been approved and adopted. Provision in the various Acts is made for special areas and landscapes, which has an important effect on the ranking of visual impact in these areas. The SHS&MP⁴ (2018) provides graded heritage and landscape character information for the Stellenbosch Municipality. VIA is integral to assessing heritage impact in scenic heritage areas like the winelands.

3.2 Introduction

This chapter provides the important and necessary policy, legal and administrative background for the visual impact study. A general overview of the relevant documents with specific reference to those applicable to visual planning is included. Particular mention is made of local planning guidelines that have the most direct bearing on the project such as the Spatial Development Framework (SDF) for the given area.

3.2.1 Background

The policy, legal and administrative framework for conservation, EIA and development in South Africa has long roots. Visual Impact Assessment (VIA) is mentioned in the national requirements for EIA under the National Environmental Management Act (NEMA) and the Environmental Conservation Act. Furthermore, the provincial government now endorsed its own guidelines for various EIA processes including VIA (PGWC, November 2005). Specific require-

⁴ Cape Winelands Professional Practices in Association (2018). *Stellenbosch Heritage Survey & Management Plan*. Stellenbosch Municipality.

ments for VIA may also included in local Spatial Development Frameworks (SDF) and Integrated development Plans (IDP).

3.3 Policy Framework

3.3.1 Environment Conservation Act No. 73 of 1989 (ECA), Part I: Policy for Environment Conservation

The policy for environmental protection and management is found in the Environment Conservation Act (ECA) No. 73 of 1989, Part I: Policy for Environment Conservation and is well established in South African environmental policy and law.

3.3.2 IEM Guideline Series (1992)

This Guideline Series issue by the DEA in 1992 is the foundation of the current IEM procedure and contains highly useful information on IEM and EIA in South Africa including the preparation of EIA reports and the typical outline used in this VIA. *IEM Guideline Series: 3 Guidelines for Report Requirements* included “Cultural and historic environment (e.g. site of architectural and cultural interest, visual impact).” This is the first specific reference to Visual Impact in the national legislation and documentation covering EIA.

3.4 Legal Framework

This review of current documentation is made with specific reference to requirements for VIA in the Law and by National Guidelines.

3.4.1 Environmental Impact Management: A National Strategy for IEM in South Africa (April 1998)

This discussion document on Integrated Environmental Management (IEM) defines IEM as: “the coordinated planning and management of all human activities in a defined environmental system, to achieve and balance the broadest possible range of short- and long-term environmental objectives.” Further: “The overarching goal of IEM is to help ensure that South Africa’s developing economy is redirected (or reoriented) from environmentally unsustainable growth and development towards environmental sustainability” (p 14). “Activities that IEM should manage” include: land use zoning plans and schemes, new activities, existing activities, and activities undertaken in terms of a land use zoning plan or scheme that has already been approved through IEM.”

In terms of Scoping as it relates to the compilation of reports such as this VIA, the Main Aims of Scoping are “to focus the study on reasonable alternatives and relevant issues to ensure that the resulting *Impact Assessment* is useful to the decision-maker and addresses the concerns of interested and affected parties” (p 5, *IEM Guideline Series: 2 Guidelines for Scoping*, 1992).

3.4.2 National Environmental Management Act No. 107 of 1998 (NEMA)

This Act is “To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.” Chapter 5: Integrated Environmental Management has among its general objectives: (b) “identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2” (p 34). The Act also allows for Chapter 7: Compliance, Enforcement and Protection of Part 1: Environmental Hazards and the Duty of Care and Remediation of Environmental Damage (28). Chapter 9: Administration of Act allows for Model Environmental Management Bylaws (46), “aimed at establishing measures for the management of environmental impacts of any development with the jurisdiction of a municipality. ... (4) The purpose of the model bylaws...must be to—

1. (a) mitigate adverse environmental impacts;
2. (b) facilitate the implementation of decisions taken, and conditions imposed as a result of the authorisation of new activities and developments, or through the setting of norms and standards in respect of existing activities and developments; and
3. (c) ensure effective environmental management and conservation of resources and impacts within the jurisdiction of a municipality in co-operation with other organs of state.
5. ...must include measures for environmental management, which may include—(a) auditing, monitoring and ensuring compliance; and (b) reporting requirements and the furnishing of information.”

3.4.3 National Environmental Management: Biodiversity Bill, 2003 (BB)

This Bill is: “To provide for the management and conservation of South Africa’s biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.” Of particular interest here is Chapter 3: Biodiversity Planning and Monitoring; Chapter 4: Threatened or Protected Ecosystems and

Species; and Chapter 5: Species and Organisms Posing Potential Threats to Biodiversity, notably Part 1: Alien Species and Part 2: Invasive Species.

3.4.4 PGWC Guideline for Involving Visual and Aesthetic Specialists in EIA Processes (Edition 1, June 2005)

This newly endorsed guideline (November 2005) is the most relevant document that now guides VIA in the Western Cape. It is a highly useful document and has been used to guide this report. While lacking a definition of VIA, it states in the Introduction: “This visual guideline document is therefore an attempt to develop a ‘best practice’ approach for visual specialists, EIA practitioners and authorities involved in the EIA process. The term **‘visual and aesthetic’** is intended to cover the broad range of visual, scenic, cultural, and spiritual aspects of the landscape; however, for the purpose of brevity, the term **‘visual’** is used in the text” (p 1). **Thus it includes aspects of “the area’s sense of place, ... natural and cultural landscapes, ... the identification of all scenic resources, protected areas and sites of special interest, together with their relative importance in the region, ... the need to include both *quantitative* criteria, such as ‘visibility’, and *qualitative* criteria, such as landscape or townscape ‘character’** (pp 1-2).

3.4.5 South African National Heritage Resources Act, 1999 (NHRA)

NHRA regulations cover the protection of historic sites, objects, buildings and landscapes. It covers (ii) “archaeological items,” namely, “material remains resulting from human activity... older than 100 years;” rock art, wrecks and “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found (2 Definitions). The Definitions also include the term “(vi) ‘cultural significance’ [which] means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.” Further, (xxi) “‘living heritage’ means the intangible aspects of inherited culture, and may include: cultural tradition oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships.” (xxxi) “‘Palaeontological’ means any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.” (xxxviii) “Public monuments and memorials” and (xviii) “victims of conflict” relating to wars are also defined. A linear development over 300m long, or a bridge 50m long, or any development over 5,000 square metres (½ Hectare), or rezoning over 10,000 square metres (1 Hectare) requires an HIA to be submitted if a heritage resource is likely to be affected.

A Heritage Impact Assessment is being undertaken in terms of the provisions of Section 38 (8) of the NHRA.

3.4.6 PGWC Guideline for Involving Heritage Specialists in EIA Processes (Edition 1, June 2005)

Continuing on from the NHRA (1999), this now legally adopted Provincial Guideline further records (p 3): “Types of heritage resources as defined in the relevant legislation may include the following:

- Places, buildings, structures and equipment of cultural significance
- Places to which oral traditions are attached or are associated with living heritage
- Historical settlements or townscape
- Landscape and natural features of cultural significance
- Geological sites of scientific or cultural importance
- Archaeological and palaeontological sites
- Graves and burial grounds
- Sites related to the history of slavery (NHRA).”

These are the so-called “tangibles” of the heritage concept (p 5). Thus the “cultural landscape” is seen as having a range from Archaeology to Palaeontology to Historical Architecture to Social History to Public Memory and Natural Landscape (p 6). Two categories of heritage significance/sensitivity are used: Category 1: Formally protected heritage sites and Category 2: Landscapes of recognised or potential significance or sensitivity (not yet formally protected) (p 18). This extensive list of sites include Grade I-III, National and Provincial Heritage Sites and Protected Areas, as well as Provisionally Protected Sites, Urban Conservation Areas, Nature Reserves, proclaimed Scenic Routes, etc as well as World Heritage Sites e.g. Robben Island and Cradle of Humankind (Sterkfontein). A very large list of landscapes is also included starting with Scenic/Historical Routes or Landscapes, Pristine Natural Areas e.g. Cedarberg and many other types of landscapes including Historic Farm *Werfs* e.g. *Boschendal*, *Morgenster*, *Alphen*, and historical farmlands e.g. Winelands, Swartland, Karoolands, and many more.

This long list has been ordered into twelve types of Heritage Context in Table 1 (pp 21-27), namely:

1. Palaeontological Landscape
2. Archaeological Landscape
3. Historical Built Urban Landscape
- 4. Historical Farmland**
5. Historical Rural Town

- 6. Pristine/Natural Landscape
- 7. Relic Landscape**
- 8. Burial Ground and Grave Site
- 9. Associated Landscape**
- 10. Historical Farm *Werf*
- 11. Historical Institutional Landscape
- 12. Scenic/Visual Amenity Landscape.

Many of these could be grouped under the broad term Regional Cultural Landscapes (p 31). **Thus the Landscape is considered a vital part or domain of Heritage Resources.** As a visual resource, Landscape is very much seen and perceived in every human sense.

3.4.7 Other Documents

Other documents that refer to visual aspects of EIA include *Aide Memoir for the Preparation of Environmental Management Programme Reports for Prospecting and Mining* 5.2.13 Sensitive Landscapes and 5.2.14 Visual Aspects which states: "Describe the impact the project will have when viewed from scenic views, tourist routes and existing residential areas" (pp 17-18). The SAMOAC (South African Manual for Outdoor Advertising Control) controls also specifically define visual impact with particular reference to signage in natural, urban and rural landscapes.

3.5 Administrative Framework

3.5.1 Western Cape Provincial Urban Edge Guideline (DEA&DP December 2005)

This document notes the following on visual impact that has special reference to this and all similar types of development, bold added (p 30):

"Visual impact. The value of the environment is often under-estimated from a visual perspective. It is the visual quality of the environment that, to a large degree, generates the attraction for the tourism industry and draws people to certain areas as desired locations for living a lifestyle outside of the large cities and densely developed urban areas. **The visual resources of rural areas, such as scenic landscapes and the cultural streetscapes and farmsteads,** and environments such as the Garden Route, constitute major tourist attractions. Visual qualities of the environment also forms the backdrop to most other tourist activities, such as 4 x 4 routes, hiking trails, camping and recreational activities and even sporting facilities that sustain local economic activity. The growth of golf resorts in the Garden Route serve as examples of the attraction of the environment and more particularly the visual environment for interest in sporting facilities. Added thereto, the experience of reserves and resorts in the Cedarberg and Karoo are as much in the visual quality of the environment as it is in the attraction of the facilities.

Each area has its own unique visual character and atmosphere, which plays an important role in the quality of any tourist experience. The diversity of the landscapes makes it essential to consider all development **and more particularly the expansion of urban areas, an issue that requires special consideration.** The intention is to manage urban development in such a way that no development would detract from the visual quality of the environment **and that all development conforms to a characteristic style and urban form that suits the character of the area."**

This implies that edge development should not only be limited to certain areas through inclusion or exclusion, **but that edge development should also be subject to urban design guidelines, architectural consideration and general aesthetic treatment.** The visual quality of the environment is not limited to the natural environment. **The built environment has as much of an effect on the aesthetic appeal of an area as has the natural environment."**

3.5.2 Western Cape Provincial Spatial Development Framework

A Draft Interim Report to Council is available on the web dated November 2005 as prepared by CNDV Africa. The Western Cape Provincial SDF (WCPsDF) makes no specific discussion of the area around Hermanus as pertains visual impact, however, the following general issues apply.

The report's section 4.1.4 Topography, Visual Amenity and Architectural Style (Scenery), notes in their introduction (p 4-23): **"The impact of human activity has had a pronounced impact on the natural landscape and the need to manage and control such impacts are key to protecting the scenic qualities and visual resources of the Province."** They further note that visual carrying capacity is higher in undulating landscapes and we could add, in areas with numerous valleys and local ridgelines that screen off one area from the next. However, flat ground, or titled ground that offers a sweeping view is the most visible. Their report goes on to say in the section Visual Impact, Layout and Style (p 4-24):

The visual impact of urban settlements, structures and activities within different environments should enhance and respond to the natural environment and built heritage in which they are located. **This raises the issue of appropriate layout and architectural character within the Province.**

As much as they lament the concern about the impact of globalised styles such as Tuscan that is so foreign to the Cape, the lack of due care to traditional planning forms can also be endorsed. Scenic routes including the N1, N2, N7 and N12 along with mountain passes are broadly accepted as provincial and national assets. In their Spatial Summary they finally note the following:

- The topography and settlement patterns of the Western Cape resulted in a unique matrix of Romantic, Cosmic, Classical and Complex landscapes, ranging from the complex landscape of the City of Cape Town to the cosmic landscape of the Central Karoo. Human settlement needs to be understood in the context of the natural place that 'contains' them and therefore it is important that **more emphasis is put on defining guidelines for the appropriateness of different forms of human settlement within different landscapes;**
- **Areas with exposure to large numbers of people, especially passing tourist traffic, require special consideration; and,**
- **The preparation of guidelines for site planning and choice of building materials and their implementation, including settlement on farms need to be prioritized, especially in areas identified as pure cosmic, romantic or classic landscape areas (for example the Tulbagh Valley) and Scenic Routes.**

3.5.3 Western Cape Provincial Urban Edge Guideline (DEA&DP December 2005)

This document makes wide (14) mention of heritage resources recommending for cultural/heritage resources: **"Wide buffer to allow meaningful experience of the resource."**

3.5.4 Stellenbosch SDF (2007)

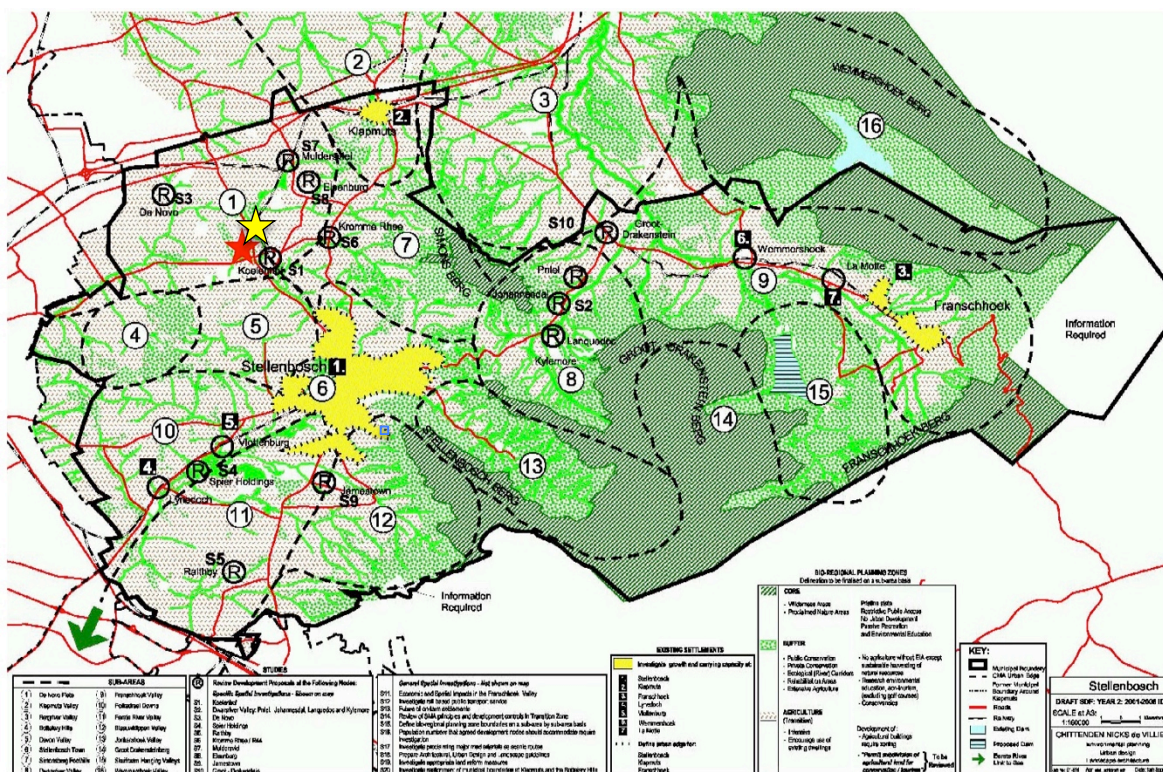


Figure 4.7 Stellenbosch Municipal Spatial Development Framework

CNdV africa planning and design CC
environmental planning, landscape architecture, urban design

29

KOELNHOFF SDF(06.1496)
December 2007

Source: Reproduced courtesy of CNdV Africa Planning and Design CC.

Figure 3-1: Stellenbosch Municipal SDF (2007) showing the site location (yellow star above red star).

An extract of the Stellenbosch SDF is shown below showing the location of the site. It shows the site located on the R304 just above Koelenhof. In the plan of December 2007 the site occurs just outside the northern boundary of the urban edge of Koelenhof.

The Stellenbosch SDF shows that Calcutta 29 occurs in the **hatched tan area = Agriculture (Transition)** Bioregional Planning Zone which covers most of the region in the West and NW of the Stellenbosch municipal area. Numerous **riverine courses** are also indicated as long green lines and one **Buffer Zone = light green hatch** near the Red Star.

The Stellenbosch SDF (p 9) *Synopsis: Heritage* notes the following (**bold added**):

HERITAGE

The sense of place of the Stellenbosch region is derived from a long agricultural and academic history coupled with well-preserved architecture and endemic biodiversity. Uncontrolled expansion of urban areas and industrialised agriculture into indigenous ecosystems threatens the unique fabric of the region, and may diminish the appeal of the area. **Several specific principles are proposed to protect the character of the area, including the use of guidelines for sensitive biodiversity areas, controls over building heights and architectural styles along major roads, and the determination of appropriate land use zoning according to view sheds.** The character of the rural area should be protected via various guidelines such as setting buildings along provincial roads back by at least 100m. Tourism that reinforces the municipality's sense of place should be encouraged and attractions should be developed that remain appropriate to the region's well-established themes.

Following the principles introduced in Section 2, Section 3 considers the 14 nodes that have been identified as the loci of future development in Stellenbosch Municipality in more detail. This includes a summary of the challenges and opportunities faced by each node and maps of the status quo and proposed developments that indicate how this could be translated into more detailed spatial plans. Table 1 on page 12 summarizes the key infrastructure capacity issues that need to be addressed in each of the nodes, and can be used to prioritize infrastructure investments across the municipality in the short term.

Furthermore, *Section 7: Heritage* (pages 32-33) later notes more completely (**bold added**):

7. HERITAGE

Stellenbosch's sense of place is derived primarily from its historic architecture, endemic biodiversity and the views from its main arterial routes. Its main attractions include wine farms, natural areas, historic sites and museums, sports and recreational facilities, and tight-knit urban street character in many of the historic urban cores (e.g. Stellenbosch, Franschhoek). Approximately 169,000 tourists visited the municipality's tourism bureau in 2005, of which over 80% were foreign. Growth in domestic tourism is seen as an opportunity to expand the tourism

economy. The establishment of Stellenbosch 360 in 2012 clearly marks the start of a new era in tourism promotion and business involvement in development in general.

Stellenbosch is home to some of the rarest and most diverse vegetation on earth, but this is coming under pressure from the uncontrolled expansion of urban areas and industrialized agriculture into indigenous ecosystems. As pockets of untouched ecosystems get smaller and the spaces between them get wider, they lose their ability to function and reproduce, and species become extinct. Combined with climate change, uncontrolled conversion of rare ecosystems could result in the loss of beneficial ecosystem services and significantly diminish the appeal of the area unless decisive action is taken to protect and nurture endemic biodiversity.

There is increasing importance of telecommunications to the growth of the economy. This is especially the case in Stellenbosch that has a strong emphasis on business services and information communication technology. Rapid expansion of the telecommunications industry in recent years has resulted in an increasing demand for radio telecommunication services, and new technologies in the cellular phone industry. The location, siting and development of TMI continues to be an issue of particular interest to both local communities and local government alike, with debate focusing on adequate availability of connectivity, visual amenity and public health. With the nature of technology it must be accepted that the future need for TMI sites will increase in the short to medium term.

PRINCIPLES

- Sensitive biodiversity areas should be mapped, and clear and appropriate guidelines introduced to conserve them.
- **Crest lines should be kept free of buildings and intensive agriculture to protect biodiversity.**
- **Ridge lines should be used for properly managed walking trails to increase recreational potential, tourism and income.**
- **The boundaries of view sheds along major routes should be determined by a visual resource management exercise.**
- **Land within these view sheds and outside of existing or proposed settlement nodes should be classified as either "Buffer" or "Intensive Agriculture" Spatial Planning Categories (SPCs) depending on the underlying land's suitability and use.**
- Development for agricultural or agri-tourism activities within these view sheds and outside of existing or proposed settlement nodes should be limited to 1 du per 10 ha (or equivalent).
- Buildings along provincial roads should be set back at least 100m from these roads to preserve the character of rural areas.
- **Building heights and architectural styles should be controlled within 200m of any prominent road so as to preserve the heritage of the built environment.**

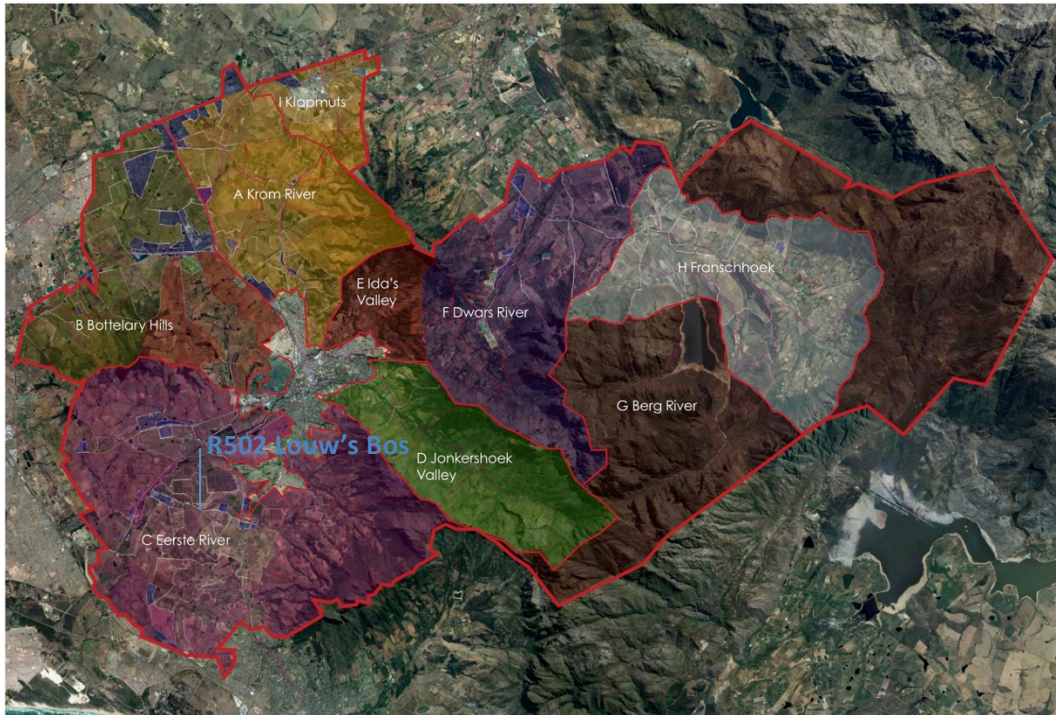
- Outside of formal conservation areas, land owners should be encouraged to conserve vegetation classified by SANBI as Endangered or Critically Endangered (particularly along ridge lines) and to link to existing conservancies (e.g. through the Cape Nature Stewardship Program). These land uses should be classified in the Core SPC.
- Adopt a telecommunication mast infrastructure policy that will facilitate the growth of new and existing telecommunications systems and facilitate the provision of TMI in an efficient, cost-effective, environmentally appropriate and sustainable way.
- Tourism that reinforces the municipality's sense of place (e.g. agri-tourism, wine tourism and eco-tourism) should be encouraged in the settlements and on rural land outside the urban edge.
- Variety in the region's tourism offerings should be preserved rather than focused on one unique resource (e.g. wine tourism), but attractions must remain appropriate to the region's tourism themes.
- Restaurants, wine tasting and holiday accommodation should be encouraged, but must be within the parameters of the rural housing guidelines and provincial resort guidelines.

3.5.5 Stellenbosch Heritage Survey and Management Plan (SHS&MP) (2018)

Further information about the area generally can now be gleaned from this excellent survey recently completed and published online. It is referred to by abbreviation SHS&MP in this report. This is powerful and invaluable resource provides at long last an authoritative and comprehensive survey of heritage resources in this heritage rich municipality, making it easier to determine the heritage context of developments.

Landscape Character Zones

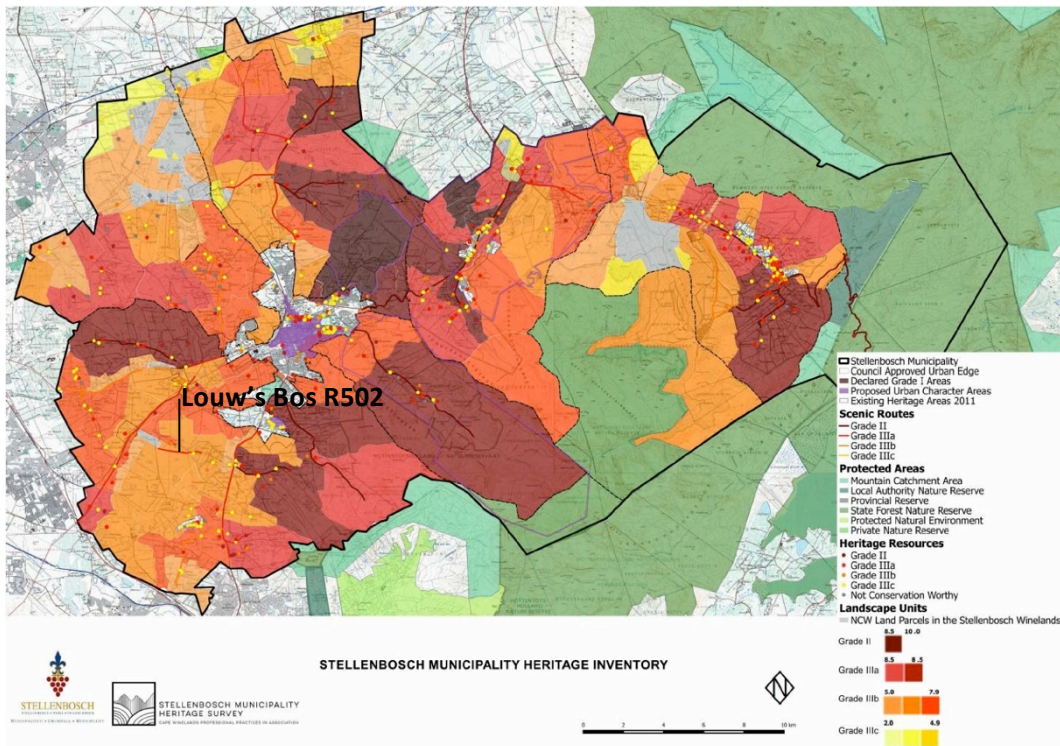
SHS&MP's *Appendix 5: Landscape Character Study* is invaluable to appreciating the heritage significance of landscape sites such as that at *R502 Louw's Bos*. The Stellenbosch Inventory divides the region up into various zones (see Figure 3-2). *R502 Louw's Bos* occurs in the SW Landscape Character zone **C Eerste River**. The site lies in the heart of this area as per the Stellenbosch Municipality Heritage Inventory Map shown in Figure 3-3 below. Landscapes in this area are generally graded **Grade IIIb**.



Source: Appendix 5 in SHS&MP (2018).

Figure 3-2: Landscape Character Zones of Stellenbosch Municipality.

R502 Louw's Bos occurs in the heart of C Eerste River zone.



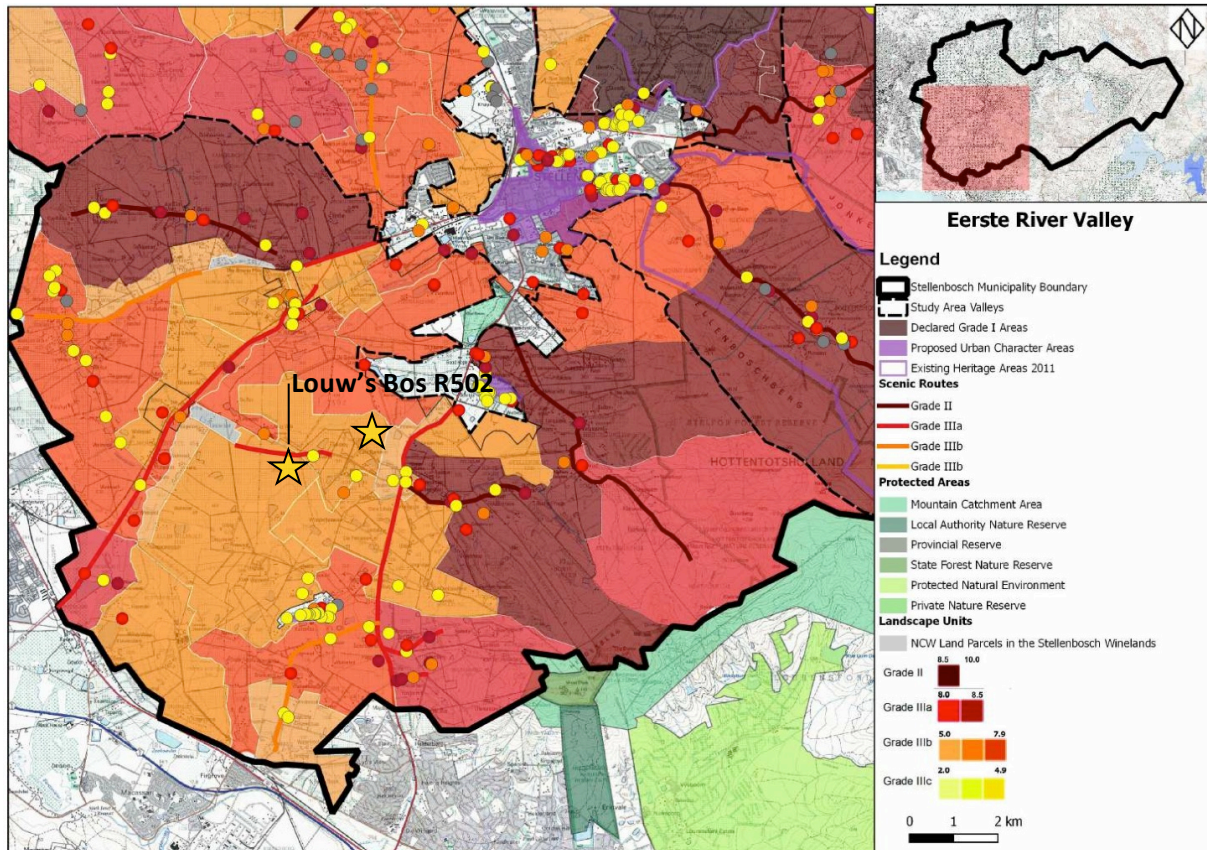
Source: Appendix 5 in SHS&MP (2018).

Figure 3-3: Stellenbosch Municipality Heritage Inventory Map (2018).

This map shows the overall context of heritage sites and landscapes and their grading. **R502 north and south and the general area are ranked Grade IIIb.**

Landscape Unit: Eerste River Valley

The grading of this area, on Landscape Units **C17 Annandale Road** (6.4 points) and **C19 Central Commonage** (6.25 points) is **Grade IIIb**. They occur in an area generally designated Grade IIIb but to the north they abut onto the slightly higher ranked but still **Grade IIIb C11 Spier and Welmoed** (7.55 points) and **C12 Commonage and Renosterveld with Archaeological Sites** (7.5 points).



Source: Appendix 5 in SHS&MP (2018).

Figure 3-4: Stellenbosch Municipality Heritage Inventory Map: C Eerste River Valley (2018).

This map shows the overall context of heritage sites and landscapes in the Krom River zone and their grading. **R502 Louw's Bos** is zoned as a **Grade IIIb Landscape**. Both areas north and south of R502 are ranked as 6 (medium orange), the mid Grade IIIb forming part of the grading of that area. The section of Annandale Road between the sites, particularly along the southern site is designated **Grade IIIa Scenic Route**.

Graded Heritage Sites

While there are numerous **Grade IIIc** ● and **Grade IIIb** ● sites in the general vicinity of R502, and several **Grade IIIa** sites ● further afield, the nearest to it on the scenic stretch of Annandale Road are Grade IIIc ● *Soverby* on the south side of the road, and Grade IIIb ● *Mon Villa (Eureka)* on the north side. The nearest **Grade II** site ● is at *Groot Zalze* just north of the Aero-drome. These are not named on the maps but have to be found on the interactive online map.⁵

⁵ <http://stellenboschheritage.co.za/smhs/map/#13/-33.8508/18.8097>. Rather confusingly, the online site proposes a Grade IIIa ● site to *Groot Zalze*.

Graded Scenic Routes

The section of Annandale Road that runs between the western sides of the R502 have been graded IIIa.

Landscape Character Areas

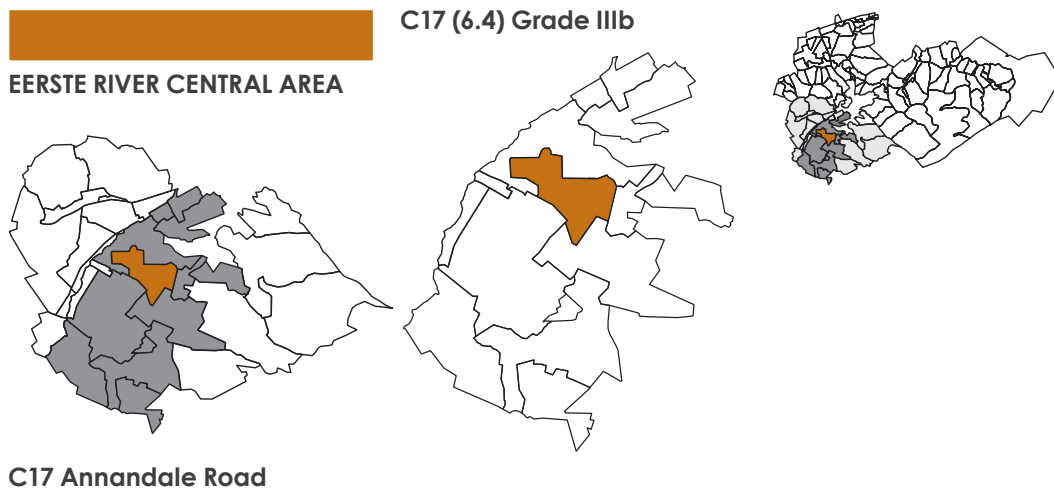
Eerste River Valley: Central Rolling Area

The Landscape Character Zones of the SHS&MP are further divided into **Landscape Character Areas**. *R502 Louw's Bos* falls into **Central Rolling Area C15-24**. They are described in the following extract from Appendix 5 (see Figure 3-5). The North site falls into **C17 Annandale Road** while the South site falls into **C19 Central Commonage**.

The central rolling hills of the Eerste River, associated with gradients of less than 1:10, are divided into smaller segments by three small streams that find their origin in the Helderberg and run into the Eerste River: the Blouklip, Bonte and Moddergats River. It is along these streams that we find the first freehold farms. **Large areas of historic commonage (C16 and C19) correlate with some of the critical biodiversity areas which adds to the significance and potential of this central area.** The historic mission town of Raithby (C23) is a special node within this landscape with a number of other historic features in this vicinity. The historic werf of *Happy Vale (Verdruk-My-Niet)* (C23) has special landmark significance. Annandale Road has intrusive infrastructure associated with the production of strawberries (C16 and C20). Another set of important land units are those defending the southern border of the Stellenbosch Municipality against further urban creep.

C17 Annandale Road (Louw's Bos North)

The following diagrams indicate the location of C17 at varying scales and contexts (see Figure 3-5).

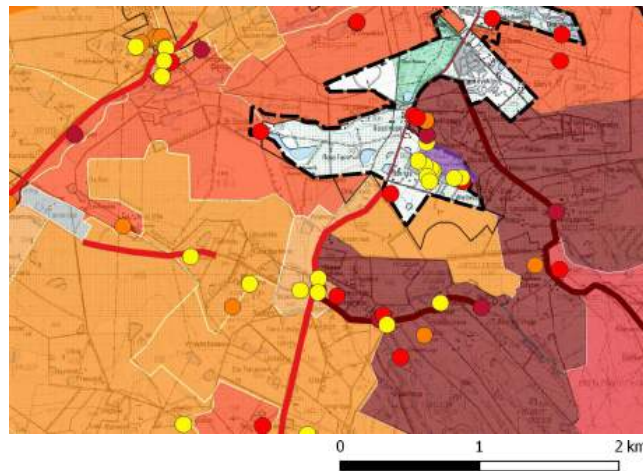


Source: Appendix 5 in SHS&MP (2018).

Figure 3-5: Stellenbosch Municipality Heritage Inventory Map: C17 Annandale Road Location (2018).

This area occurs to the north of Annandale Road and contains the north site. **C17 is ranked Grade IIIb scoring 6.4.**

The layout of the nearest graded heritage sites can be more easily seen in the following diagram. The specific detail for Louw's Bos North is noted in unit C17 as shown below (see Figure 3-6).



Source: Appendix 5 in SHS&MP (2018).

Figure 3-6: Stellenbosch Municipality Heritage Inventory Map: C17 Annandale Road Grading (2018).

Grade IIIc ● *Soverby* is on the south side of the road, and Grade IIIb ● *Mon Villa (Eureka)* on the north side. The nearest Grade II site ● is at *Groot Zalze*.

C17 Annandale Road scores 6.4 points = Grade IIIb. The description of the unit is as follows (**bold added, ibid**):

C17 Annandale Road

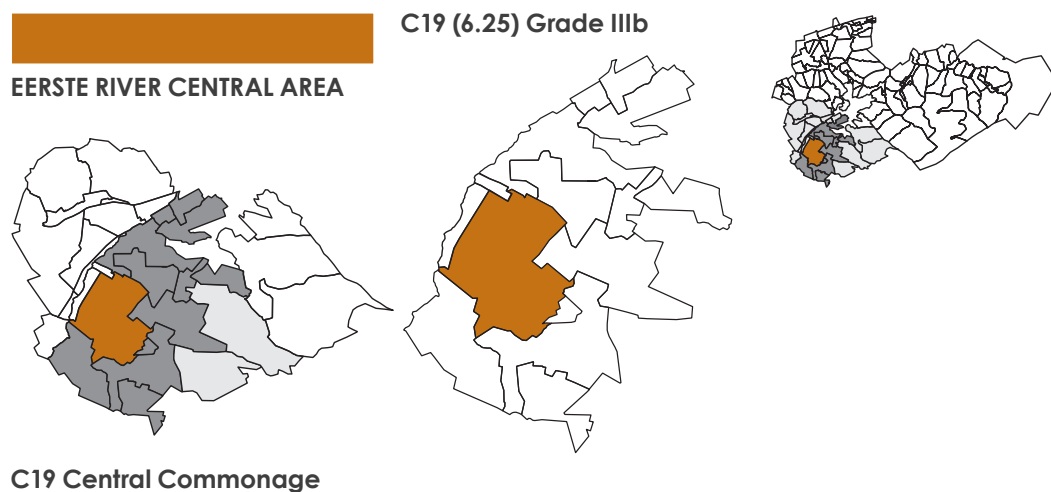
This landscape unit is defined by a rolling landscape with distant views towards the Stellenbosch mountains through a highly articulated agricultural environment. **Annandale Road cuts through this landscape unit, with the northern section sloping up and continuing down towards**

the Bonte River where the early freehold land grants were allocated. The southern section of the unit is bound by the Bontevlei Stream and features a number of dams. Farm werfs, workers' housing, dams and rows of trees punctuate this rolling landscape next to the Annandale Road, but devoid of regular pattern. The north-western section of the unit has a rectangular pattern of vineyards and field crops, on medium suitable soils. Workers' cottages in the cultural landscape add to its significance. **A large area of commonage is found in this land unit.**

This landscape shows a highly articulated agricultural environment, enclosed by rolling hills on all sides, and far views towards the Helderberg Mountains. It has scenic and contextual significance.

C19 Central Commonage (Louw's Bos South)

The following diagrams indicate the location of C19 at varying scales and contexts (see Figure 3-7).



Source: Appendix 5 in SHS&MP (2018).

Figure 3-7: Stellenbosch Municipality Heritage Inventory Map: C19 Central Commonage Location (2018).

This area occurs to the south of Annandale Road and contains the south site. **C19 is ranked Grade IIIb scoring 6.25.**

The layout of the nearest graded heritage sites can be more easily seen in the following diagram. The specific detail for Louw's Bos South is noted in unit C19 as mapped in Figure 3-8.



Source: Appendix 5 in SHS&MP (2018).

Figure 3-8: Stellenbosch Municipality Heritage Inventory Map: C19 Central Commonage Grading (2018).

Grade IIIc ● *Soverby* is on the south side of the road, and Grade IIIb ● *Mon Villa (Eureka)* on the north side. The nearest Grade II site ● is at *Groot Zalze*.

C19 Central Commonage scores 6.25 points = Grade IIIb. The rock cairn by the old outspan to the south is significant. The description of the unit is as follows (**bold added, ibid**):

C19 Central Commonage

This rather hidden landscape is rich in texture with expansive 360-degree views over the Helderberg, Bottelary Hills and False Bay. **The combination of wilderness and cultivated landscape that varies in use from vineyards to field crops and open fallow land are the building blocks of this rural landscape.** The central rolling foothills directs the structure of this land unit with streams flowing from the mostly convex bulging of the land. Ecological support areas are found around these drainage lines, and north of Raithby areas of critical biodiversity are found in the intact Renosterveld pockets. **The only access to this land unit is via a gravel road from Annandale.** The highest point of the central rolling hills has good quality soil, while the rest of the rolling landscape is of medium quality with the concave folds around drainage lines of low quality. A small area of early freehold land grants is seen in the southwestern corner close to Raithby. **A large area of commonage on the northern border next to Annandale Road, features small plots of different agricultural use, some with dilapidated greenhouse structures.** An outspan ('Lot no 1') is situated directly next to the commonage, and at that intersection, a cairn of rocks is a landmark feature in the fork of the road. The 'Compagnies drift' outspan starts as a small unit next to the Eerste River and stretches up the slope. **These outspan areas were placed in close proximity to an old wagon route that used to traverse this central area.**

This land unit has significance for its historic layering of commonage and outspan areas and the secluded character from the rest of the Stellenbosch Municipal area. Therefore it has a high degree of historic, scenic, aesthetic and associated cultural significance. The commonage has the potential to address some of the social needs of access to land for crop production, recreational areas and access to medicinal plants.

Mixed agricultural landscape and pattern, single access, large commonage and outspans near to the old wagon trail or trekpath are the key features of this extensive open area. **The most historic features in this open landscape is the old commonage along Annandale Road** – although the entire area was commonage in the nineteenth century – **the old trek-path/s and outspan points (see the cairn in Figure 3-8)**, if the old trekpath/s are even intact anymore, and the general pattern of farm fields and open spaces. Research into historic aerial photos from the mid twentieth century may help determine the land use patterns at that time and how they compare to today's use.

3.6 Strategic Issues

3.6.6 Strategic Assessment

One of the difficulties of assessing visual impact at present is the lack of strategic Provincial or Municipal EIA, VIA or HIA studies which provide guidance on how the individual project fits into the overall context of development in any region. While an individual project seems to have an acceptable level of mitigatable impact, when viewed collectively, their sum total can well exceed the sum of the parts. That is, the impact of a single scheme such as this development may seem to be minimal when considered in isolation; however, when seen collectively with other developments also proposed in the area or region but as unknown to the assessor, or as not considered over the long term, the overall impact can become unsustainable. These are cumulative impacts.

There are no strategic visual studies done of the area that we are aware of but the SHS&MP's *Appendix 5: Landscape Character Study* (2018) (see section 3.5.5 above) has gone some way to informing the value of the landscape from a scenic and heritage perspective. However, it is not possible to consider strategic issues in detail at the project level as the information is generally not available and it is outside the scope of project assessments to do so.

NWA

4 Visual Environment Description

4.1 Summary

The sites lie adjacent to Annandale Road, a stretch near the South site being a Grade IIIa scenic route. The route is of mixed scenic value being more rural in its central length, but hard to appreciate at this time due to the road works. The landscape is extensive combining rolling hills around the Bonte River Valley surrounded by pastures, a variety of new and old homesteads, dams, vineyards and some businesses. The North site is further away from Annandale Road and less prominent than the South site, which is split between old vineyards in the east and pastures in the west. The historic farm *Soverby* and neighbouring *Linquenda* are embedded between the two sites.

4.2 Introduction

Combined with Section 2, this chapter presents the relevant visual data required to develop a Visual Impact Assessment. This is a strongly visual chapter well illustrated with site and regional photographs. Visual impact is all about what can we see and how this affects us. This chapter shows us what we can see.

4.2.1 Background

The description of the environment is undertaken with a view to presenting basic data for the VIA. A full presentation is made of the visual information collected and analysed as required for a Level 4 VIA.

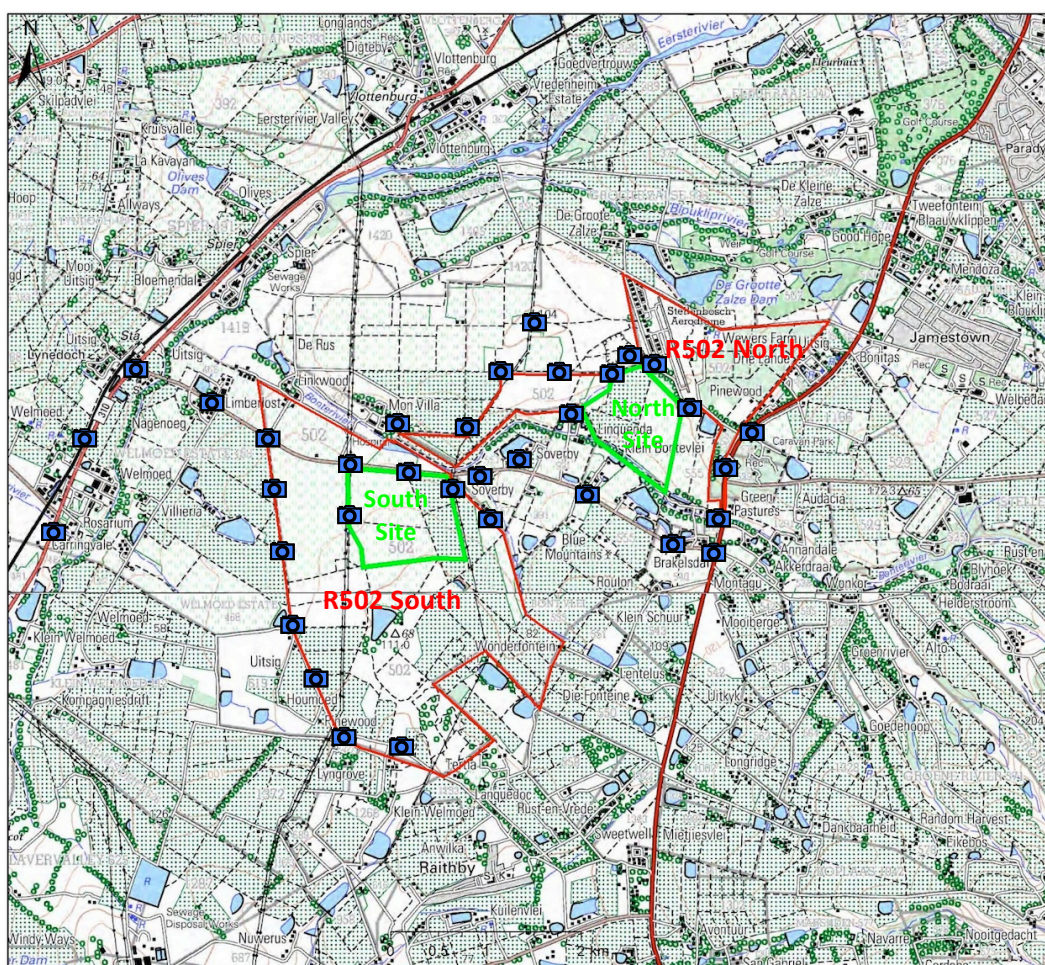
4.2.2 Key Issues

1. Annandale is a semi-scenic, partially graded IIIa route between Lynedoch and the R44/*Brakelsdal*.
2. There are 2 sites, North site set back/north of Annandale Road and less easy to see, and South site west of *Soverby* on a prominent hill.

3. The vegetation of both sites is highly transformed; the North site is pasture today but formerly vineyard and vegetable farms; the South site has old vineyards next to *Soverby* in the east, and pasture in the west.
4. The South site is highly prominent from Annandale Road while the North site is set back and obscured from Annandale Road from the east and scenic R44.
5. The sites are very large at around 30 hectares each having a large footprint in the remaining farmland/open space of R502.

4.3 Physical Environment

4.3.1 Location



Source: CK Rumboll & Vennote / WC Government Agriculture / New World Associates

Figure 4-1: Site and Photographic Locations 1:50,000.

Portion of a 1:50,000 map of South Africa showing the site locations and viewpoints [📍]. (3318 DD Stellenbosch, 5th Edition 2000). NTS. **R502 is marked in red while the two options under consideration are indicated in green labelled North Site and South Site.**

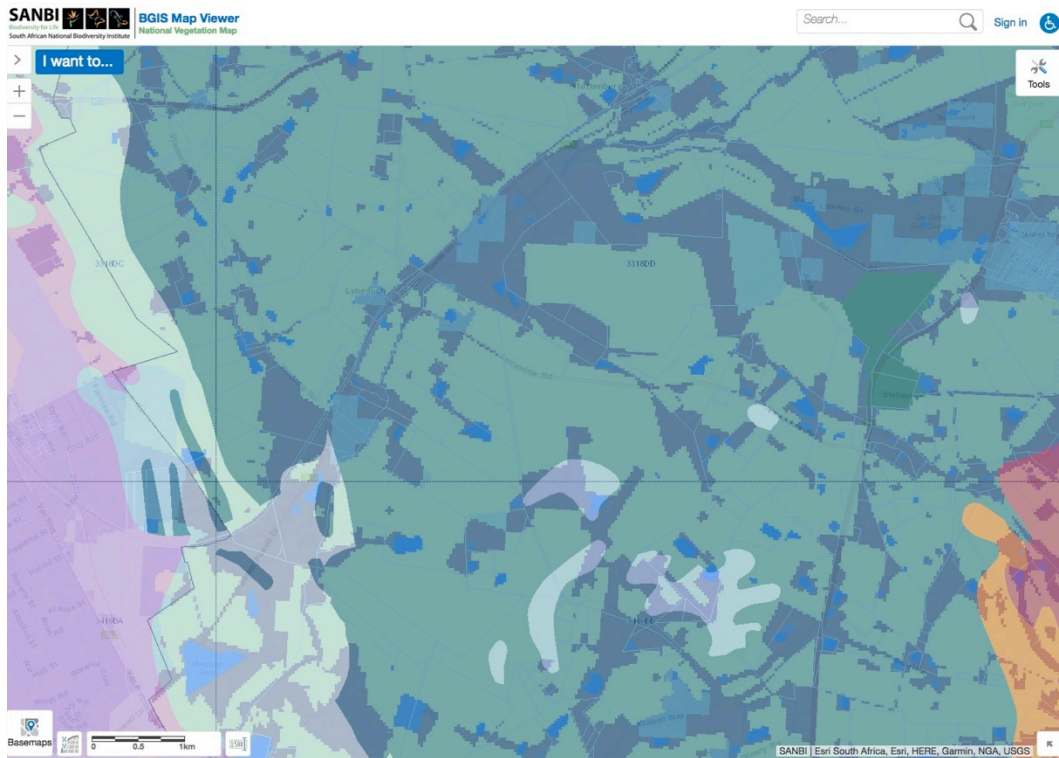
The site lies in an extensive area of open space and leased farmland in the SW region of the Stellenbosch Winelands. It is surrounded by numerous well-known and historic wine farms, *Spi-er* and *Welmoed* to the west, *Brakelsdal* and others to the east, *Groot Zalze* to the north.

4.3.2 Landform

The landform on the North site is rolling hillside stretching down from its high point next to the Aerodrome. The South site covers more of a convex bulge that it crosses from east to west and further south.

4.4 Biological Environment

4.4.1 Vegetation, Wildlife and Ecology



Source: VEGMAP 2012 (SANBI, 2006-).

Figure 2: Vegetation Map of the R502, Stellenbosch area (NTS).

The vegetation on site is classified as FRs 9 **Swartland Granite Renosterveld** with over 80% transformed or lost due to agriculture and urban sprawl.⁶ Some semi-natural patches remain in the south of R502. There is invasive *Acacia saligna* in places, particularly in R502 south.

4.4.2 Conservation and Management

Swartland Granite Renosterveld is ranked as Critically Endangered.⁷ Therefore any remaining areas need to be conserved.

⁶ **Conservation:** This is a critically endangered vegetation unit of which almost 80% has already been transformed due to prime quality of the land for agriculture (vineyards, olive orchards, pastures) and also by urban sprawl. Hence the conservation target of 26% remains unattainable. Only very small portions (0.5%) enjoy statutory protection in the Paarl Mountain Nature Reserve and Pella Research Site, and also (2%) in the Paardenberg, Tienie Versveld Flower Reserve near Darling and in the Duthie Nature Reserve in Stellenbosch. **Alien grasses are particularly pervasive, the most important being *Lolium multiflorum*, *Avena fatua* and *Bromus diandrus* (Musil et al. 2005). Alien woody species include *Acacia saligna*, *Pinus pinaster* as well as various species of *Eucalyptus*. Erosion very low, low and moderate.**

⁷ South African National Biodiversity Institute (2006-). *The Vegetation Map of South Africa, Lesotho and Swaziland*, Mucina, L., Rutherford, M.C. and Powrie, L.W. (Editors), Online, <http://bgis.sanbi.org/SpatialDataset/Detail/18>, Version 2012.

4.5 Social Environment

4.5.1 Heritage

The Cape Winelands are world renown and are a UNESCO World Heritage Site. The development of the Winelands into a cultural landscape occurred historically during the colonial period of South Africa from the seventeenth to nineteenth centuries. The twentieth century saw expansion and further development of the winelands and the development of the region's famous Wine Routes. There are numerous well-known Stellenbosch wine farms in the area including *Spier* and *Groot Zalze*. As such this rural landscape is highly transformed with historical farms mostly given over to extensive vineyards. R502 being old commonage is mostly pasturage with some areas of vegetable farming and some vineyards. There are also numerous farm dams.

4.5.2 Land Use

As noted in the WCPSDF previously, the site falls is zoned rural Agricultural.

4.5.3 Rural Context

The site occurs in the rural landscape of SW Stellenbosch Municipality, an area of intensive winelands.

4.6 Cultural Environment

4.6.1 Aesthetics

The area's aesthetic is mixed agricultural with a combination of vineyards, dams, pasture and vegetable farming. The surrounding landscape is primarily vineyards bordering onto the peri-urban area of Stellenbosch.

4.6.2 Visual

The site has been the subject of a photographic survey that looks at the site itself, the local area and views from local roads. The bulk of the visual description is to be found in the photographs that are self explanatory and accompanied by descriptions. **According to the PGWC Guidelines "the term 'visual and aesthetic' is intended to cover the broad range of visual, scenic, cultural and spiritual aspects of the landscape; however, for the purpose of brevity, the term 'visual' is used in the text" (p 1).** Thus it is within the technical gambit of VIA to comment on all the varied aspects that make up the visual environment which is the aim of this study. The photographic survey is presented as if one were to visit the site for the first time, covering views from the approach road, scenic routes, local roads, views of and from the site then views from the neighbourhood.

The following reconnaissance photographs show the sites and general area (taken 30 October 2018).



Source: All photographs in this report by Bruce Eitzen © 2018

Photograph 2: Panorama on Annandale Road with North site (left) and South site (right).

The above panorama taken from Annandale Road looking east towards the Stellenbosch Mountains shows the North site to the left, further in the distance, and the South site to the right.



Photograph 3: View of R502 South site from Annandale Road showing old pasture and alien *Acacia* (right).

The above view shows the west side of the South site only with vineyards on the left horizon crossing over to the east part of the site at *Soverby*. The area is old lands and pastures invaded by alien *Acacia* at right. The power pylon at far right is the west boundary of the South site.



Photograph 4: View of R502 North site from Annandale Road showing *Linguenda* and vineyards behind (left) and *Klein Bontevelei*/cultivated lands (right).

The above view of the North site shows its relationship to *Linguenda* and vineyards, which occur on the west side of the north site, the remainder being old fields, now pasture.



Photograph 5: Panorama of R502 North across its central pasture north/behind *Soverby*.



Photograph 6: Panorama of R502 North looking north across *Soverby* and pasture behind.



Photograph 7: Panorama of R502 South showing the vineyard behind/west of *Soverby* (right); *Soverby* workers cottages (left).



Photograph 8: Panorama of R502 North behind *Soverby* (left) and North site behind *Linqenda* (right).



Photograph 9: Panorama of R502 South showing semi-natural pasture.



Photograph 10: Panorama of R502 South showing cultivated fields.



Photograph 11: Panorama of R502 South showing cultivated fields.



Photograph 12: Panorama of R502 South showing bush vines.



Photograph 13: Panorama of R502 South showing semi-natural renosterveld.



Photograph 14: Panorama of R502 South showing bush vines (left) and semi-natural renosterveld (right).



Photograph 15: Panorama of R502 South along power line on west boundary of South site showing old cultivated lands.



Photograph 16: Panorama of R502 South site (left) and cattle grazing (right).



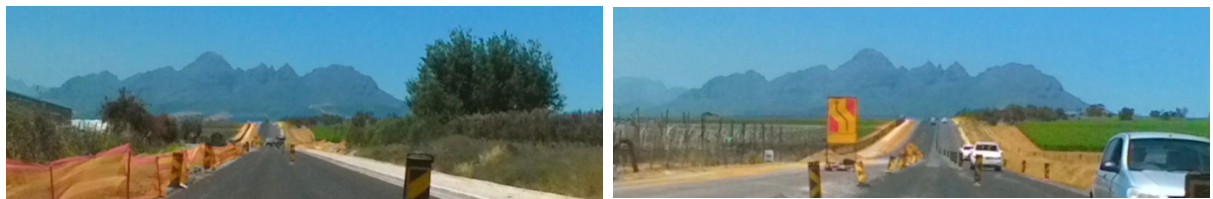
Photograph 17: View of R502 South site showing cultivated lands.

A more detailed study was undertaken on 23 November 2018 as follows.

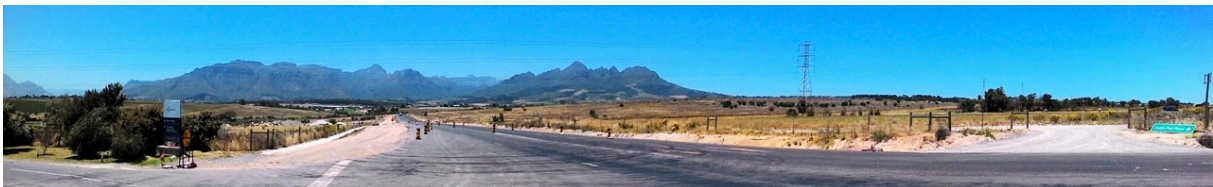
4.6.3 Views from Annandale Road – Part Scenic Route

The following view sequence is taken travelling west to east from *Lynedoch/Spier* to *Brakelsdal/R44*. Where possible a view left/north and right/south opposite is shown. The South site occurs in the west and is seen first and nearer from this direction.

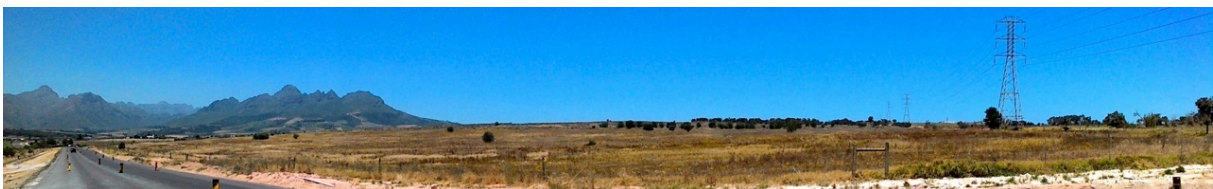
These views approach the South site from the west to its boundary on the power lines. There are various ridgelines that segment the view.



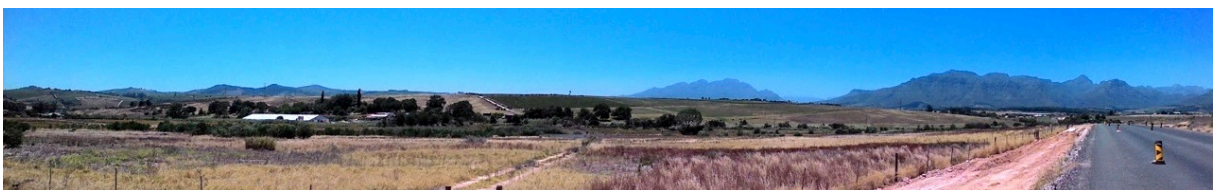
Photograph 4-18: Westbound on Annandale Road: passing *Nagenoeg's* orchards/vineyards on the right.



Photograph 4-19: Westbound on Annandale Road: Panorama to North site (far left) and South site (right).



Photograph 4-20: Westbound on Annandale Road: Panorama of South site from boundary power lines.



Photograph 4-21: Westbound on Annandale Road: Panorama to North site opposite above view.

The following views are across the mid section of R502 and the east end of the South site.



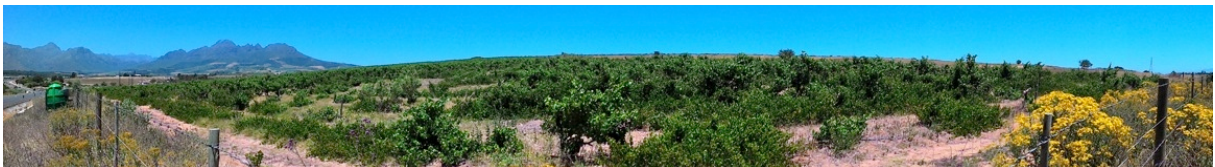
Photograph 4-22: Westbound on Annandale Road: Panorama across the South site's midline.



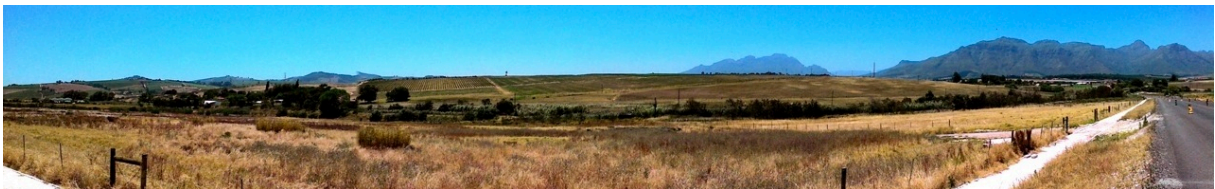
Photograph 4-23: Westbound on Annandale Road: Panorama across *Mon Villa* to North site.



Photograph 4-24: Westbound on Annandale Road: Panorama across South site near east vineyard.



Photograph 4-25: Westbound on Annandale Road: Panorama across South site over east vineyard.



Photograph 4-26: Westbound on Annandale Road: Panorama across North site (across the river) opposite above view.



Photograph 4-27: Westbound on Annandale Road: *Soverby Guest Lodge* and South site vineyards (right).



Photograph 4-28: Westbound on Annandale Road: Panorama opposite above view across *Soverby* to North site on the hill.

These views continue towards *Brakelsdal*, which straddles Annandale Road, and look towards the North site, not easily visible generally being obscured by vegetation and construction. The North site occurs on a high point just below the Aerodrome and can be identified as the field on the edge of the Aerodrome's boundary trees on the mid-horizon.



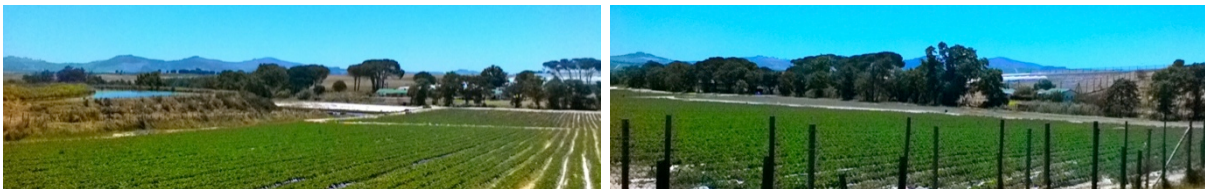
Photograph 4-29: Westbound on Annandale Road: eastbound towards/past *Brakelsdal*.



Photograph 4-30: Westbound on Annandale Road: views across *Brakelsdal* to the North site.



Photograph 4-31: Westbound on Annandale Road: Panorama across *Brakelsdal* east to North site.



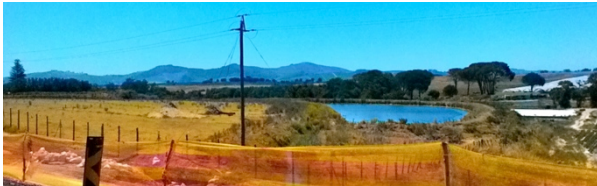
Photograph 4-32: Westbound on Annandale Road: Panorama across *Brakelsdal's* strawberry fields to North site.

Overall, the South site is most prominent from Annandale Road as it lies right next to it and views are completely open into it. The North site is further away from Annandale Road across the Bonte River and is often obscured by trees and structures on *Brakelsdal* making it less obvious and visible.

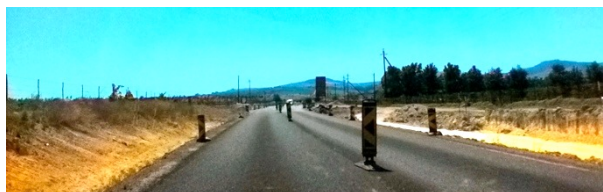
The following views are taken westbound on Annandale Road. The North site is not really in view being off to the right. The South site only comes in view as one approaches *Soverby*. Due to the road works it was hard to get a normal perception of this drive, as there were large cuttings and barriers all along. When construction is over views will be easier.



Photograph 4-33: Eastbound on Annandale Road: passing the visual clutter around *Brakelsdal* to *Soverby*.



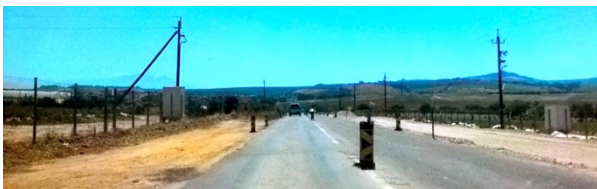
Photograph 4-34: Eastbound on Annandale Road: looking across *Brakelsdal* to the North site.



Photograph 4-35: Eastbound on Annandale Road: still passing *Brakelsdal* and a group of houses.



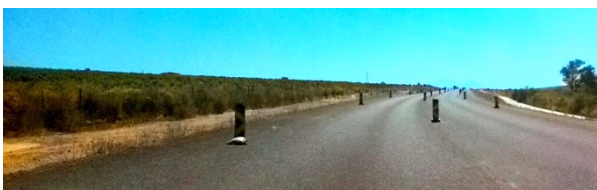
Photograph 4-36: Eastbound on Annandale Road: passing *Blue Mountains* to the left, no sites in view.



Photograph 4-37: Eastbound on Annandale Road: approaching *Soverby* and the first glimpse of the South site (right).



Photograph 4-38: Eastbound on Annandale Road: passing *Soverby Guest House* (left), South site vineyards ahead (right).



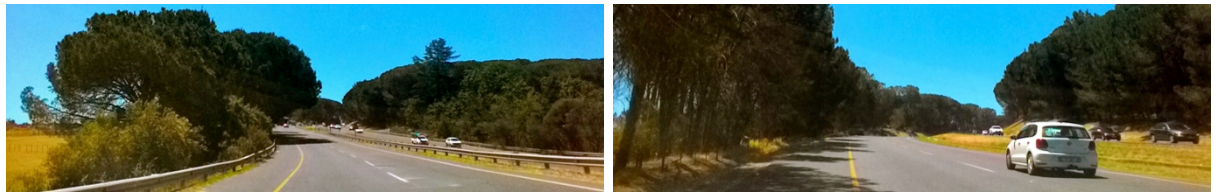
Photograph 4-39: Eastbound on Annandale Road: passing the South site's eastern vineyards.

4.6.4 Views from the R44 Scenic Route

The following mini-sequence is taken northbound on the R44, the only direction in which the North site might be seen. The Aerodrome is off to the left at the top of the R44 in the trees.



Photograph 4-40: Northbound on the R44: Panorama with the site obscured to the left by the trees.



Photograph 4-41: Northbound on the R44: The site is not visible once you enter the trees.

The next mini-sequence is taken southbound on the R44. The North site cannot be seen to the right due to obscuring landforms, structures and heavy vegetation.



Photograph 4-42: Southbound on the R44: approaching the corner near the Aerodrome exit to right.



Photograph 4-43: Southbound on the R44: descending into the Bonte River Valley, site obscured to right.



Photograph 4-44: Southbound on the R44: descending to Annandale Road intersection, site obscured to right.

Only the North site can be seen from the R44 but only for a brief glimpse near the Annandale intersection. Mostly the R44 is not oriented towards the site and is obscured in most places where you can see it.

4.6.5 Views from Heritage Sites on Annandale Road

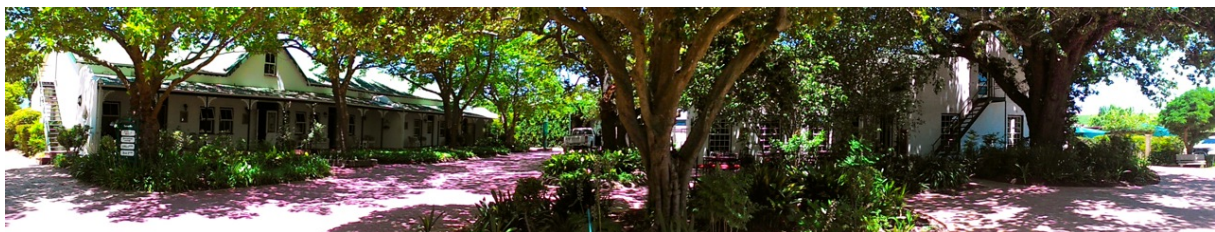
While Annandale Road drives through some extensive hill-valley terrain with a wide variety of agricultural practices including old pastures, vegetable fields, historic homesteads and vineyards wrapped around the Bonte River Valley, it is very much a landscape that one moves through with few places for pause.

Soverby

The notable exceptions to this rather closed farming landscape are in its mid-section at *Soverby*, particularly *Soverby Guest House*, a remarkable gem of early nineteenth century homestead and lush oasis garden surrounds.

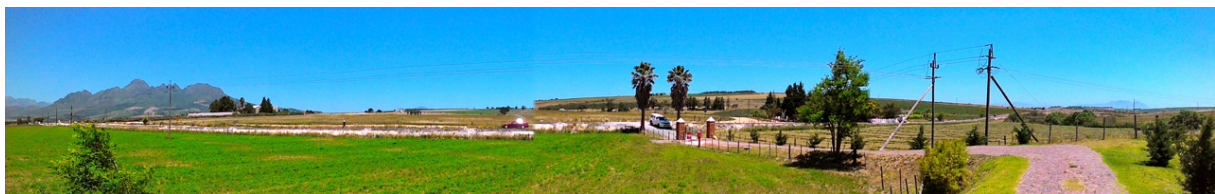


Photograph 4-45: *Soverby*: Soverby Guest House 1907 (left) and 1901 (right).



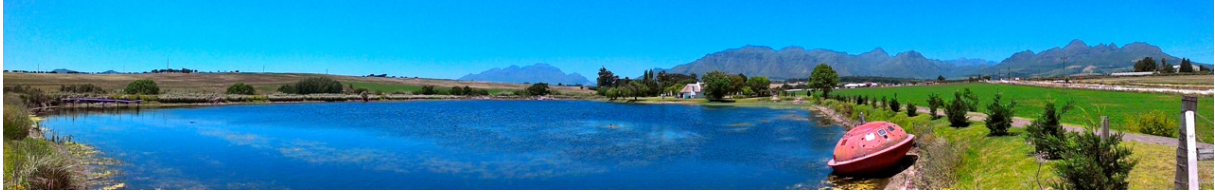
Photograph 4-46: *Soverby*: This shady oasis is a traveller's joy with a huge oak tree at right.

By contrast, *Soverby* homesteads to the north are equally striking but not open to the public on a drive-in basis. Set on a brilliant dam, these open landscaped gardens with vivid green lawns surrounding a lengthy dam are quite striking. The following panoramas are taken from their stunning lengthy driveway along the dam.



Photograph 4-47: *Soverby*: panorama from the driveway looking towards Soverby Guest House and South site right.⁸

⁸ This panorama is slightly distorted but it shows well the high terrain rising to the south of the Bonte River where the South site lies off to the right/west.



Photograph 4-48: *Soverby*: the stunning view across the dame to the North site on the hill.



Photograph 4-49: *Soverby*: nearer the homesteads set between lucerne fields and the dam on the Bonte River.⁹

Soverby Guest House being on the south side of Annandale Road is near the eastern side of the South site and connected to it by a vineyard, part of which is on the South site. It does not really look out onto it so much as its arrangement is inward looking around its shady werf.



Photograph 4-50: *Soverby*: The guesthouse looks onto Annandale Road through a screen of trees.

Soverby on the North's houses look out towards the North site but not directly as it lies over the Bonte River.

⁹ As the driveway gate was being repaired I walked in and along the 100m driveway to be greeted a long way in by a barking Alsatian and Rottweiler; fortunately, they were friendly as I only had an A4 piece of paper to defend myself!



Photograph 4-51: *Soverby*: driveway looking west to South site (left) and across pasture to North site (right).



Photograph 4-52: *Soverby*: 180° panorama across the dam from the South site (left) to the North site (right).

Linquenda

The next named site is *Linquenda*, which is inaccessible to the public being gated, is situated just across the Bonte River and looks out directly onto the North site. It is a bushy property and we did not gain access so how much of a view it has could not be ascertained but it is probably a full view of the North site. This is the most remote of the riverside properties visited.



Photograph 4-53: *Linquenda*: twin driveway, left to *Soverby*, right to *Linquenda*, North site on the hill.



Photograph 4-54: *Linquenda*: the densely bushy Bonte River crossing is surrounded by reeds, South site mostly obscured.



Photograph 4-55: *Linquenda*: dense reeds (left) and towering hedge of cannas (right) line the drive.



Photograph 4-56: *Linquenda*: paddocks and trees surround the homestead.

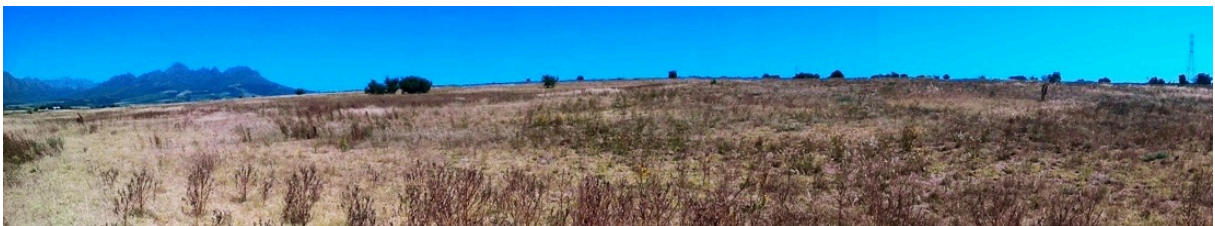
Soverby has varying degrees of exposure to both North and South sites as it has both north and south locations. **Soverby** south is nearest to South site but is less outward looking, while **Soverby** north is very open with wide panoramic views of both but much near the North site. **Linquenda**, their northern neighbour is most exposed to the North site.

4.6.6 Views of the Site

The following few views are taken adjacent to the site from near Annandale Road. Only views of the South site were accessed, as it is most exposed and accessible.



Photograph 4-57: Panorama of the northern edge of the South site showing its open, grassy rolling slopes.



Photograph 4-58: Panorama of the drier central portion of the South site showing its convex hilltop.



Photograph 4-59: Panorama of the eastern portion of the South site showing its old vineyards.

Louw's Bos South site is extensive along Annandale Road with old vineyards in the east and pasture in the west; vegetable fields occur deeper within the site. Louw's Bos North site is all pasture today. In the 1970s both sites that are grassy today had extensive gum plantations on them of which no traces remain.



Source: Chief Directorate: National Geo-spatial Information – Image 794-002-00119.

Figure 4-3: Aerial Photograph of R502, Stellenbosch (1977).

Remarkable to see the massive change in the landscape in 40 years. The area was even more extensively farmed but with heavy gum plantations in the heart of the R502 south and all over R502 north – the *bos* of Louw's Bos. The vineyards at Soverby were not even planted; today they are old. There were also far fewer vineyards than there are today.

This concludes the visual description of the study area. A visual assessment of the site follows in the next chapter.

NWA

5 Visual Impact Assessment

5.1 Summary

Annandale Road is scenic in the central zone where the South site is well exposed to it, while the North site is set further back. The proposed development will have a high impact on the landscape (both sites) causing noticeable (South site) to some (North site) change to the visual environment. The development has moderate (North site) to high (South site) visual exposure, moderate (both sites) visual absorption capacity, medium (both sites) compatibility, and is moderately (North site) to highly visible (South site) along Annandale Road. The development's visual impact has district extent, long term duration, medium intensity, definite probability, and medium significance on the landscape for both sites. **COMPARATIVE ASSESSMENT:** The South site has a moderate to high impact while the North site has a more-moderate to high impact, particularly a more-moderate-visibility due to being sited on Annandale Road. Recommendations are made to minimise visual and aesthetic impact.

5.2 Introduction

This chapter uses the information collected in the previous chapters in an analysis that identifies and then describes the preliminary visual and aesthetic impacts of the project on the environment presented in tabular form due to the extent of the project.

DEFINITION: “Visual impact is defined as a change in the appearance of the landscape as a result of development which can be positive (improvement) or negative (de-traction)” (IEA and the Landscape Institute, 1995).

5.2.1 Key Issues

1. *Louw's Bos* R502, Stellenbosch is an extensive property covering hundreds of hectares of former commonage, now leased out for mixed farming, mostly pasture and vegetables but some vineyards.

2. The Bonte River Valley is a scenic agricultural and viticultural landscape today although there was more gum plantation in the past.
3. The landform of both sites is hilly with sloping faces; the South site covers a convex hill and is visually split around its dome and ridgelines.
4. The South site occurs right on Annandale Road while the North site is over one kilometre distant from it in a more setback and obscured location.

5.3 Methodology

A table is being used to scope the issues relating to visual and aesthetic impact of the wind turbines on the landscape.

5.3.1 The Visual Assessment

The visual environment can be structured into the following components:

1. **Natural Environment:** comprising the *Geomorphology* (geology, soil, land form), *Climate* (atmosphere and water), and *Nature* (vegetation and wildlife).
2. **Cultural Environment:** comprising *Land Use* (urban, rural, agricultural, recreational, etc), the *Structures* (architecture, engineering, lighting, services), and *History* (ancient, colonial, modern, contemporary).
3. **Visual Environment:** comprising *Views* (aesthetics), *Routes* (scenic, transport), and *Landscapes* (town, country, cultural, natural, mountainous, coastal, etc).

5.3.2 Triggers for Visual Assessment

These have been extracted from the PGWC (November 2005) list of triggers (p 5) with potential aspects relevant to this project noted in **bold**:

The nature of the receiving environment:

1. Areas with protection status, such as national parks or nature reserves;
2. **Areas with proclaimed heritage sites or scenic routes;**
3. Areas with intact wilderness qualities, or pristine ecosystems;
4. **Areas with intact or outstanding rural or townscape qualities;**
5. **Areas with a recognized special character or sense of place;**
6. **Areas lying outside a defined urban edge line;**
7. **Areas with sites of cultural or religious significance;**
8. **Areas of important tourism or recreation value;**
9. **Areas with important vistas or scenic corridors;**

10.Areas with visually prominent ridgelines or skylines.

The nature of the project:

1. High intensity type projects including large-scale infrastructure;
2. **A change in land use from the prevailing use;**
3. A use that is in conflict with an adopted plan or vision for the area;
4. **A significant change to the fabric and character of the area;**
5. A significant change to the townscape or streetscape;
6. **Possible visual intrusion in the landscape;**
7. Obstruction of views of others in the area.

As can be seen, the various sites could be described as falling within at least 8 of the 10 listed receiving environments (80%), and 3 out of 7 project types (43%) that may cause visual impact giving a combined total of 62%; the receiving environment is highly sensitive while the project character is moderate impact. **Thus the factors triggering potential impact suggest that impact will be high while their scope suggests moderate.** Regarding “the nature of the receiving environment,” categories apply to both the site and the area generally.

5.3.3 Key Issues Requiring Specialist Input

The following table helps identify the likely level of impact:

TYPE OF ENVIRONMENT: High to Low Sensitivity	TYPE OF DEVELOPMENT: 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

Figure 4: Table of Visual Impacts ex DEA&DP Guidelines.

Furthermore, the PGWC “Categorisation of issues to be addressed by the visual assessment” (Table 1, p 6) identifies the project as **Category 3 development**: e.g. low density resort /

residential type development, golf or polo estates, **low to medium-scale infrastructure**.¹⁰ Terms are defined as follows (p 7): *Medium density development* – generally 1 to 3-storey structures, including cluster development, usually with more than 25% of the area retained as green open space.¹¹ In the list of “Type of environment” this would be defined as a mix of “**areas or routes of medium scenic, cultural, historical significance.**” This would result in a theoretical possible outcome: **moderate visual impact** expected. When considering the following descriptions, we find that the visual impact is perhaps best described as **moderate**:

“High visual impact expected:¹²

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

“Moderate visual impact expected:

1. Potentially some affect on protected landscapes or scenic resources;
2. Some change in the visual character of the area;
3. Introduces new development or adds to existing development in the area.

“Minimal visual impact expected:

1. Potentially low level of intrusion on landscapes or scenic resources;
2. Limited change in the visual character of the area;
3. Low-key development, similar in nature to existing development.”

“Little or no visual impact expected:

1. Potentially little influence on scenic resources or visual character of the area;

¹⁰ **Category 1 development:** e.g. nature reserves, nature-related recreation, camping, picnicking, trails and minimal visitor facilities.

Category 2 development: e.g. low-key recreation / resort / residential type development, small-scale agriculture / nurseries, narrow roads and small-scale infrastructure.

Category 3 development: e.g. low density resort / residential type development, golf or polo estates, low to medium-scale infrastructure.

Category 4 development: e.g. medium density residential development, sports facilities, small-scale commercial facilities / office parks, one-stop petrol stations, light industry, medium-scale infrastructure.

Category 5 development e.g. high density township / residential development, retail and office complexes, industrial facilities, refineries, treatment plants, power stations, wind energy farms, power lines, freeways, toll roads, large-scale infrastructure generally. Large-scale development of agricultural land and commercial tree plantations. Quarrying and mining activities with related processing plants.

¹¹ *Low-key development* – generally small-scale, single-storey domestic structures, usually with more than 75% of the area retained as natural (undisturbed) open space.

Low density development – generally single or double-storey domestic structures, usually with more than 50% of the area retained as natural (undisturbed) open space.

Medium density development – generally 1 to 3-storey structures, including cluster development, usually with more than 25% of the area retained as green open space.

High density development – generally multi-storey structures, or low-rise high density residential development.

¹² North and South sites.

2. Generally compatible with existing development in the area;
3. Possible scope for enhancement of the area."

The following terms are used in the above assessments (p 8):

1. *"Fundamental change* – dominates the view frame and experience of the receptor;
2. ***Noticeable change*** – clearly visible within the view frame and experience of the receptor;¹³
3. ***Some change*** – recognisable feature within the view frame and experience of the receptor;¹⁴
4. *Limited change* – not particularly noticeable within the view frame and experience of the receptor;
5. *Generally compatible* – Practically not visible, or blends in with the surroundings."

SUMMARY ASSESSMENT—VISUAL IMPACT: The proposed development will have a high impact on the landscape (both sites) causing noticeable (South site) to some (North site) change to the visual environment.

This assessment of the impact is confirmed by the following descriptions of the categories of issues:

5.3.4 Level of Assessment

PGWC (November 2005) defines the selection of the appropriate approach to VIA for a moderate visual impact expected as a **Level 3** Visual Assessment (p 13). This is defined as follows:

Approach Type A Assessment: which are relatively large in extent, and involve natural or rural landscapes.

Visual impact assessment report by visual specialist qualified in landscape architecture or environmental planning; preferably affiliated to SACLAP.

Method:

1. Identification of issues raised in scoping phase, and site visit;
2. Description of the receiving environment and the proposed project;
3. Establishment of view catchment area, view corridors, viewpoints and receptors;
4. Indication of potential visual impacts using established criteria;
5. Inclusion of potential lighting impacts at night;

¹³ South site.

¹⁴ North site.

6. Description of alternatives, mitigation measures and monitoring programmes;
7. Review by independent, experienced visual specialist (if required);

A Level 4 VIA for High Impact would require “Complete 3D modelling and simulations, with and without mitigation” in addition to the above.

5.4 Visual Analysis

5.4.1 Visual Mapping

This has been mapped in Figure 5 and shows the site's visibility as defined by its Viewshed, Zones of Visual Influence and Viewpoint Analysis. Visual Absorption Capacity (or Visual Sensitivity) is not mapped but discussed below. The mapping technique is a traditional, *reflective* mapping or viewshed mapping, which shows where, and to what extent, the site is visible from its surroundings. *Projective* mapping, that is, from viewpoints within the site (inside out) is not required but site views can be seen in the photographs.

5.4.2 Key to the Visual Analysis Map

The Visual Catchment is shown as thick brown lines and approximately follows the ridgelines of the mountains and hills. Areas *theoretically* visible to the site (Zone of Visual Influence or ZVI) are indicated in **yellow** overlain on a radiating circle centred on the site graded from **solid blue** on the site being most visible to no shading beyond 5km visibility. Combined with the yellow ZVI this produces a **blue-green** to **yellow** colour where the site is visible. Areas with no yellow colouring are those where the site is not visible (the view shadow). **It should be noted that the term *theoretically* is significant as it is neither possible nor necessary to physically check all these locations. However, strategic views have been checked according to site inspection and analysis.** Some views that would theoretically be possible are not possible due to ground level screening and the hilly terrain. Urban and suburban buildings and orientation are also important factors in visibility. Radiating circles of concentric rings encompass the site at 1km intervals but including a 250m and 500m circle.

As there are two sites being assessed, one has its ZVI in **peach** with radii of **lilac**.

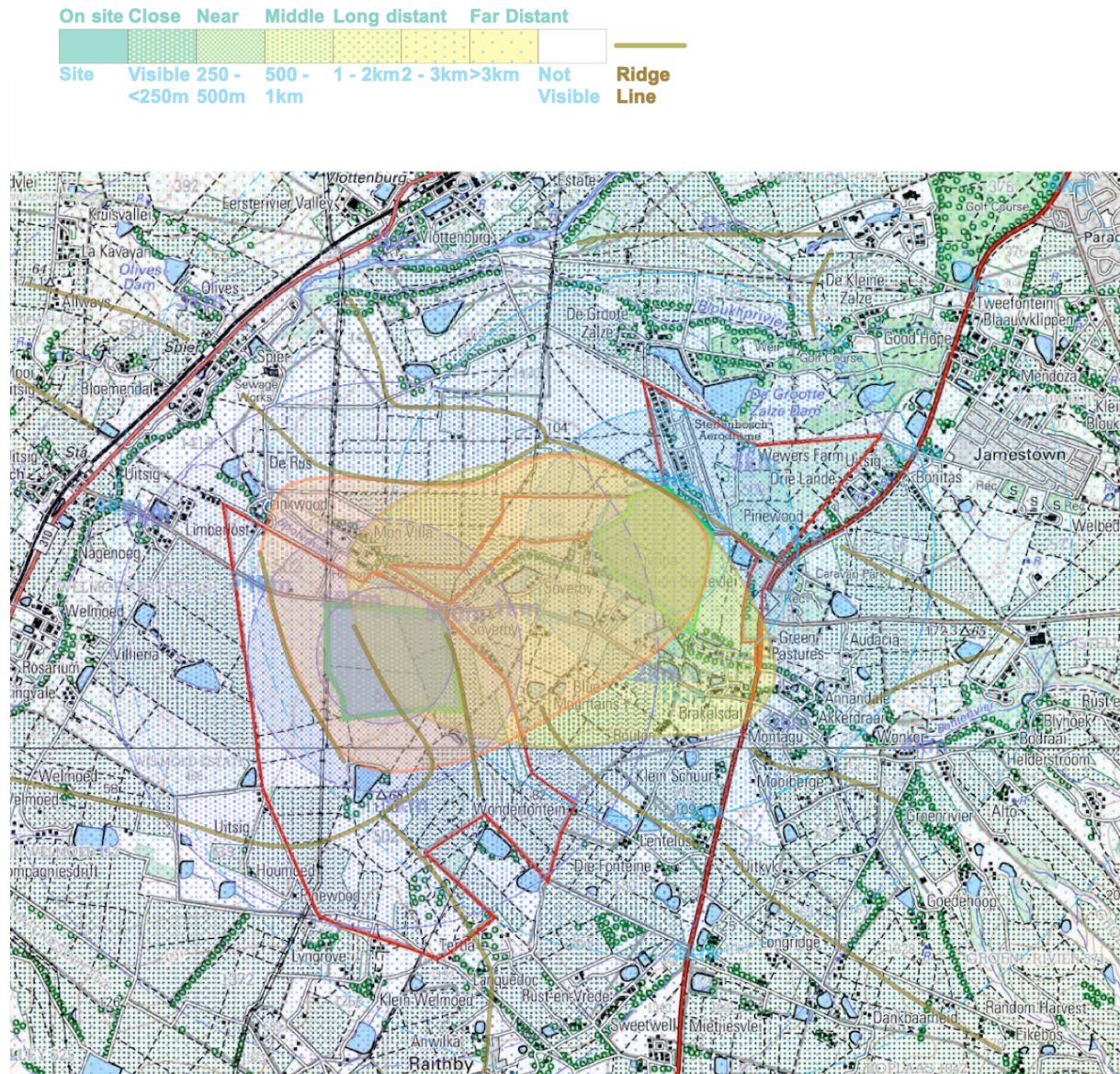
5.4.3 Viewshed

The **viewshed** is indicated by the edge of the yellow zones on the map and either is terminated by **ridgelines** shown in brown or diminishes with distance.¹⁵ The viewshed of both sites is similar being approximately contained in this central region of the Bonte River Valley. The river

¹⁵ It was difficult to clearly read the contours on this map due to the vineyards over them so positions shown are approximate only; this has particular reference to the South site, which has a ridge line through it.

valley is surrounded by quite high hills on both sides containing the view to a few kilometres along Annandale Road and surrounds. Within this broader viewshed there are minor ridgelines fanning into the valley that have more local effects on visibility.

Farm Louw's Bos R502, Stellenbosch: Zones of Visual Influence (1:50,000)



Source: New World Associates.

Figure 5: Zone of Visual Influence.

Portion of a 1:50,000 map of South Africa (3318 DD Stellenbosch, 5th Edition 2000) showing the approximate Zone of Visual Influence (ZVI). As there are two sites being assessed, the **North** site has **yellow** ZVI on **blue radii** while the **South** site has its ZVI in **peach** with **lilac radii**.

5.4.4 Zone of Visual Influence

The **Zone of Visual Influence (ZVI)** is shown in various shades of **blue-green** for the North site and **lilac-peach** for the South site, revealing a moderately large area of visibility for both sites. The North site's ZVI falls more in the east of the Bonte River Valley, while the South site's ZVI falls more in the west. However, significant boundary/river plantings of trees in the

east tend to block views to the North site while the South site is generally open to view. The corners of the site fall approximately within about 500m of the site's centre so views up to 1km from the boundary are on the 1.5km radius approximately.

5.4.5 Visual Absorption Capacity

The Visual Absorption Capacity (VAC) of the landscape is typically defined by landform, land use and vegetation. In this case, landform applies locally while local vegetation also is a factor.

VAC of the Land Form

Landform is highly significant in containing views in the Bonte River Valley creating a well-defined edge to the ZVI.

VAC of the Land Use

Land Use VAC is a factor in places due to building orientations e.g. *Soverby Guest House*, and dams at *Soverby* and *Linquenda*, particularly along Annandale Road, and structures at *Brakelsdal*.

VAC of the Vegetation

The area has some significant vegetation VAC to heavy planting of boundary and riverine trees/reeds, as well as some heavy forestry in the east around the R44.

5.4.6 Visual Sensitivity

The area has mixed sensitivity as there are varying types of agricultural practice and intensity in and around the sites from grass pastures to vineyards, strawberry fields and tunnels, landscaped homesteads and industrial buildings. The central section around *Soverby-Linquenda* and *Mon Villa* is probably the most sensitive and scenic.

5.4.7 VIA Criteria and Assessment

The PGWC Guideline (June 2005, pp 18-19) defines Visual Impact Assessment Criteria as outlined following. We have included our assessment of the visual impact here along with the assessment criteria for ease of relating to the complex of terminology:

Specific Criteria for VIAs¹⁶—Visibility

The following analysis presents the specific criteria findings in bold for the project.

Visual exposure of the area: the geographic area from which the project will be visible, or view catchment area.

1. **High visual exposure – covers a large area (e.g. several square kilometres).**¹⁷

¹⁶ Note 1: These, as well as any additional criteria, need to be customised for different project assessments. Note 2: Various components of the project, such as the structures, lighting or power lines, may have to be rated separately, as one component may have fewer visual impacts than another. This could have implications when formulating alternatives and mitigations.

2. *Moderate visual exposure* – covers an intermediate area (e.g. several hectares).
3. *Low visual exposure* – covers a small area around the project site.

Visual absorption capacity (VAC): the potential of the landscape to conceal the proposed project, i.e.

1. *High VAC* – e.g. effective screening by topography and vegetation;
2. ***Moderate VAC* – e.g. partial screening by topography (and vegetation);¹⁸**
3. ***Low VAC* – e.g. little screening by topography (or vegetation).¹⁹**

Landscape integrity: the compatibility or congruence of the project with the qualities of the existing landscape or townscape, or the 'sense of place.'

1. *Low compatibility* – visually intrudes, or is discordant with the surroundings;
2. ***Medium compatibility* – partially fits into the surroundings, but clearly noticeable;²⁰**
3. *High compatibility* – blends in well with the surroundings.

Visibility of the project: based on distance from the project to selected viewpoints i.e.:

1. ***Highly visible* – dominant or clearly noticeable (e.g. 0 to 1km)²¹**
2. ***Moderately visible* – recognisable to the viewer (e.g. 1 to 2km);²²**
3. *Marginally visible* – not particularly noticeable to the viewer (e.g. 2km+);

SUMMARY ASSESSMENT—VISIBILITY: The development has moderate (North site) to high (South site) visual exposure, moderate (both sites) visual absorption capacity, medium (both sites) compatibility, and is moderately (North site) to highly visible (South site) along Annandale Road.

The PGWC Guideline further notes: "To aid decision-making, the assessment and reporting of possible impacts requires consistency in the interpretation of impact assessment criteria. Various criteria are defined in the EIA Regulations, such as 'nature', 'extent', 'duration', etc. The interpretation of these criteria for visual assessments is given in Box 11" repeated below:

Criteria Used for the Assessment of Visual Impacts—Visual Impact Assessment

Once again, the following analysis presents the specific criteria findings in bold for the project.

¹⁷ Both sites.

¹⁸ North site.

¹⁹ South site.

²⁰ Both sites.

²¹ South site.

²² North site.

Nature of the impact: an appraisal of the visual effect the activity would have on the receiving environment. This description should include visual and scenic resources that are affected, and the manner in which they are affected, (both positive and negative effects).

Extent: the spatial or geographic area of influence of the visual impact, i.e.:

1. *site-related*: extending only as far as the activity;
2. *local*: limited to the immediate surroundings;
3. ***district*: affecting a smaller urban/rural area;**²³²⁴
4. *regional*: affecting a larger metropolitan or regional area;
5. *national*: affecting large parts of the country;
6. *international*: affecting areas across international boundaries.

Duration: the predicted life-span of the visual impact:

1. *short term*, (e.g. duration of the construction phase);
2. *medium term*, (e.g. duration for screening vegetation to mature);
3. ***long term*, (e.g. lifespan of the project);**²⁵
4. *permanent*, where time will not mitigate the visual impact.

Intensity: the magnitude of the impact on views, scenic or cultural resources.

1. *low*, where visual and scenic resources are not affected;
2. ***medium*, where visual and scenic resources are affected to a limited extent;**²⁶
3. *high*, where scenic and cultural resources are significantly affected.

Probability: the degree of possibility of the visual impact occurring:

1. *improbable*, where the possibility of the impact occurring is very low;
2. *probable*, where there is a distinct possibility that the impact will occur;
3. *highly probable*, where it is most likely that the impact will occur; or
4. ***definite*, where the impact will occur regardless of any prevention measures.**²⁷

Significance: The significance of impacts can be determined through a synthesis of the aspects produced in terms of their nature, extent, duration, intensity and probability, and be described as:

²³ We have added the term "*district*" as it better describes the range of most visual impacts.

²⁴ Both sites.

²⁵ Both sites.

²⁶ Both sites.

²⁷ Both sites.

1. *low*, where it will not have an influence on the decision;
2. *medium*, where it should have an influence on the decision unless it is mitigated; or²⁸
3. *high*, where it would influence the decision regardless of any possible mitigation.

SUMMARY ASSESSMENT—NATURE OF IMPACT: The development's visual impact has district extent, long term duration, medium intensity, definite probability, and medium significance on the landscape for both sites.

	North Site	South Site
VISUAL IMPACT		
Impact	High	High
Change	Some	Noticeable
VISIBILITY		
Visual Exposure	Moderate	High
Visual Absorption Capacity	Moderate	Moderate
Compatibility	Medium	Medium
Visibility	Moderate	High
NATURE OF IMPACT		
Extent	District	District
Duration	Long Term	Long Term
Intensity	Medium	Medium
Probability	Definite	Definite
Significance	Medium	Medium

Figure 6: Comparative Assessment of the Sites.

COMPARATIVE ASSESSMENT: The South site has a moderate to high impact while the North site has a more-moderate to high impact, particularly a more-moderate-visibility due to being sited on Annandale Road.

²⁸ Both sites.

5.4.8 Plomp Methodology

Visual impact assessment using the Plomp (2004) methodology (see Appendix for key):

Activity	Impact	Phase	Probability		Duration		Scale		Magnitude / Severity		Significance ²⁹		
			Score	Magnitude	Score	Magnitude	Score	Magnitude	Score	Magnitude	Score	WOM	WM
Visual Significance Score Calculation = Probability x (Duration + Scale + Magnitude) = 5 x (4 + 1.5 + 6) = 5 x 11.5 = 57.5													
Construction activities, operational infrastructure and lighting, decommissioning of infrastructure	Visual impact of development on surrounding landscape	Construction, operations and closure	5	Definite	4	Long Term	1.5	Local	6	Medium	57.5	Moderate	Low

Figure 7: Plomp Methodology Assessment for both sites.

5.4.9 Distribution of Impacts

“Beneficiaries and losers”³⁰ (PGWC, p 21) of the project’s visual impacts are mainly local as the development will only have high visual impact to the local environment.

5.4.10 Photomontages

Photomontages were not prepared as they are not necessary in a Level 3 VIA.

5.5 Analysis of Alternatives

An analysis of alternatives was by others but not in the visual assessment. Only one site is under consideration here.

5.6 Planning Phase Impacts

This is potentially the most significant phase of a Project as it is here that crucial planning and design decisions are taken. **Critical Mitigation Recommendations are noted in bold.**

5.6.1 Planning and Design

While there is a conflict between the need to densify urban areas within the urban edge at the same time as maintaining rural character along the urban edge, there is a similar conflict in rural areas in the need to locate industrial type activities that are often unsightly. This has to be managed and mitigated.

As the WC Provincial Urban Edge Guideline has referred to the need **“to manage urban development in such a way that no development would detract from the visual quality of the environment and that all development conform to a characteristic style and urban**

²⁹ **Significance:** Score calculation = Probability x (Duration + Scale + Magnitude); WOM Without Mitigation; WM With Mitigation.

³⁰ Possible better designations are “winners and losers” or “beneficiaries and adversaries” as, so often objectors become opponents in environmental and visual impact.

form that suits the character of the area,” further stating that **“this implies that edge development should not only be limited to certain areas through inclusion or exclusion, but that edge development should also be subject to urban design guidelines, architectural consideration and general aesthetic treatment”** for both natural and built environment (see section 3.5.1).

Furthermore, the WC Provincial SDF noted *inter alia* the following (see section 3.5.2):

- It also proposes “to ensure effective management of all municipal functions and facets to ensure equitable and affordable services and amenities and a safe **and aesthetically pleasing urban environment....”**.
- **Cultural resources acknowledged and protected as the fundamental link with the historical past and a basis for planning and shaping of future urban and rural environments.**
- **A safe, healthy and aesthetically pleasing urban environment, with the architectural and spatial character depicting the historical and cultural background of the habitat community.**

Many of these components such as the mountains, farms and historical structures are irreplaceable national assets and accentuate the region’s unique character. For this reason, policy guidelines and actions must be formulated to emphasize, protect and promote these components. **The character, the detail of the towns and any planned changes should thus be carefully considered.”**

As in any development, it is the character and layout determined by the visual-aesthetic-landscape analysis that will achieve the balance as best as possible.

Mitigation Recommendation: Planning and Design

The plan presented to date is an initial concept only. Therefore it is well able to take on any mitigation recommendations.

1. **Site Development Plan:** As noted previously, the concept plan is very preliminary and covers a wider area than the final extent of the South site:
 - 1.1 Taller structures such as the central facilities should be set back from the road as they are currently indicated and should not be moved to the edges of the site or nearer Annandale Road.
 - 1.2 A landscape buffer along the edges is important and should be well planted to prevent views into the site except at strategic locations such as on-axis.

- 1.3 As this area has a history of mixed agricultural-viticultural practices, historically being planted to gum trees, more recently in part to vineyards, either are acceptable practices in and around the site/s.
- 1.4 As there are already old vineyards near *Soverby* it may be feasible to maintain them in part or integrate new vineyards to maintain the vineyard buffer to *Soverby Guest House*.
- 1.5 The choice of planting is more open to the wide range of historical agricultural, viticultural and silvicultural practices. These could, perhaps, be negotiated with local land owners and the municipality to create the best mix.
- 1.6 Sustainable site development and Green Building principles or standards should be employed to enhance the environmental aesthetic.
- 1.7 Lighting must be carefully managed to minimise excessive lighting wherever possible (see Operation Phase below).
2. **Colouration:** Careful colouration of fences in particular needs to be made, as well as any other landscape furniture such as lighting, benches and water features. These should preferably be in a natural colour palette that will not stand out from the agricultural landscape nor draw attention to itself with bright colouration. Likewise, building colours, walls and roofs, should be subtle.
3. **Landscape Plan:** The Landscape Plan should retain its existing features overall and not be changed to something completely different such as a freeform design. The traditional arrangement of cemeteries, the avenues and bounding walls will fit well into both the historical and cultural landscape.
 - 3.1 Wherever possible the greening/planting of the scheme needs to be maximised.
 - 3.2 Permeable paving and other sustainable practices should be incorporated into the landscape plan.
 - 3.3 Planting using indigenous and preferably endemic species from the area should be planned from the beginning; traditional exotic trees are acceptable.
 - 3.4 Large trees should be incorporated into the Landscape Plan to screen tall buildings or unsightly areas such as the nursery/maintenance yard.
 - 3.5 Gum trees, pines and oaks, while not indigenous, are typically the only major trees that can survive the rugged environment and achieve the necessary scale. They are also traditional cultural elements and not out of place as a result.

- 3.6 Indigenous/endemic trees can also be used but are not as tall or traditional as gums.
4. **Perimeter Treatment:** As described above this may incorporate screening trees or fences. The treatment of perimeter fencing and any signage needs to be carefully considered.
 - 4.1 Unsightly massive walls are not appropriate but the traditional low Cape farm werf wall may suffice well on the boundary and help locate the site on Annandale Road.
 - 4.2 Should fencing be required use clear-view fencing or similar is preferred, not palisade. It should be coloured a dull green to match the local environment and not black, silver, brown or other unnatural, standard commercial colours.
5. **Biodiversity:** As noted above, where possible, endemic planting schemes should be used with the exception of traditionally planted trees, which are permissible for practical and cultural landscape reasons.
6. **Maintenance:** Scheme maintenance both of buildings and landscape need to be undertaken with commercial maintenance projects with this intention from the outset for the duration of the project. Good site tidiness should be maintained at all times.
7. **Visual Assessor Review:** The proposed Landscape Plan should be referred to the visual impact assessor, namely, New World Associates, for review before it is approved, to ensure that it meets the recommendations of this report.

5.7 Construction Phase Impacts

Construction Phase visual impacts are no more than normal for an urban site although they will be extensive.

5.7.1 Construction

Construction inevitably gives rise to noise, disruption and dust, amongst others. These are well covered by Municipal Bylaws. Site destruction and damage is also coincident with quarrying especially to water, soil and vegetation. Changes to the water table by excavations can also have a heavy impact on the trees with deaths occurring a few years later.

Mitigation Recommendation: Construction

1. **Damage Control:** All parties must make every effort to control the destruction of soils and vegetation on site, especially any remnants of natural vegetation. These must not be damaged under any circumstances.
2. **Pollution:** Chemical damage by cement mixing directly on the ground and by diesel, etc spills must also be prevented at all costs, as should vandalism of the plants and accidental damage to limbs by workers and machinery. Fires must be prevented also at all costs in all areas. Penalties and incentives should be implemented as can fencing off areas.

3. **Monitoring:** Monitoring of the landscape, soils and vegetation during construction is very important and must be attended to regularly. Damage to some is all too inevitable and often irreversible. Adequate indigenous (preferably endemic) vegetation must be planted.

5.8 Operation Phase Impacts

Lighting, landscape maintenance and conservation management are discussed.

5.8.1 Lighting

The Architectural and Landscape Guidelines need to consider lighting in their specific guidelines. Security lighting, while necessary, can be handled with care.

Mitigation Recommendation: Lighting

1. **Lighting:** Lighting should be minimised and carefully controlled as part of the project's management plan. The use of green energy fittings and concepts should be encouraged and lighting developed with sensitivity to the rural landscape.

5.8.1 Conservation Management and Landscape Maintenance

Waterwise landscaping should be used wherever possible and green star building practices.

Mitigation Recommendation: Conservation Management and Landscape Maintenance

1. **Landscape Maintenance:** must be carried out at all times in line with these recommendations to help keep the scheme green and encouraging local biodiversity.

5.9 Decommissioning Phase Impacts

On-going landscape maintenance and conservation management remains necessary.

5.9.1 Refurbishment and Resale

This is a continuing aspect of the property ownership cycle.

Mitigation Recommendation: Refurbishment and Resale

1. **Refurbishment and Resale:** The previous recommendations regarding Planning, Construction and Operation all apply to this process. The entire site can be dismantled and rehabilitated if no longer needed and restored to an appropriate land use.

This concludes the analysis of impacts and detailed recommendations for their mitigation. The chapter, Visual Management and Monitoring Plan follows. It gives recommendations for the management and monitoring of the environment and the given VIA recommendations.

6 Visual Management and Monitoring Plan

Sound Visual Management is the ultimate aim of the VIA process. The Mitigation Recommendations developed in the report need to be implemented. This process of implementation will occur throughout the lifetime of the project, hence, the need for a Monitoring Plan. Institutions, individuals and organisations referred in the Monitoring Plan must develop a means of achieving the monitoring otherwise this report serves no purpose. Once the VIA Report has been approved, the Developers must seek the implementation of the recommendations as soon as possible.

6.1 Introduction

This chapter uses the information developed in the previous section. It sets out a basic plan for the implementation of both site management and the VIA recommendations.

6.1.1 Background

Site management in this case refers to that aspect of project management needed to control visual impact. The tools for visual management developed in the VIA Report are the *Mitigation Recommendations*. Their implementation also needs to be managed as part of the on-going site and impact management. A particular aspect of site management is monitoring. Monitoring is the routine inspection, recording and reporting of visual issues pertaining to visual impact aimed at mitigating impact by timely correction of problems as they arise.

6.1.2 Key Issues

1. Monitoring is typically routine inspection with physical analysis and recommendation, or routine reporting by various combinations of parties as outlined. The on-going monitoring of various aspects of the project are critical to its success. Long term management of visual issues is a more challenging issue that comes down to what individuals do over time as allowed to by their local authority.

2. With the identification of monitoring method, analysis and reporting, is the identification of the responsible party as indicated in Figure 8: Visual Monitoring Plan. This figure is crucial in the successful implementation of the Mitigation Recommendations and consequently, a visually-friendly (or visually responsible) project. The key parties referred to in the Monitoring Plan are largely the Developers/Owners, the Designers, and the Planning Authorities.
3. **Once the VIA Report has been approved, the Developer must seek the implementation of the recommendations as soon as possible. The Developer and Designers need to take this document and embody it in their day-to-day operations and long-term plans. Mitigation Recommendations are all written specifically around the subject of project and site management for impact mitigation; it is their incorporation into overall project management policy and practice that is required.**

6.2 Visual Management

6.2.1 Project and Site Management

The management of the project and site with particular reference to visual concerns is the subject of the Mitigation Recommendations and, indeed, the whole VIA study. As the Mitigation Recommendations are all written specifically around the subject of project and site management for impact mitigation; it is their incorporation into overall project management policy and practice that is required. The information contained in the VIA Report effectively provides the necessary information for the project management to implement their project in a visually responsible manner.

6.2.2 Implementing the VIA Recommendations

The Mitigation Recommendations have been written as broad guidelines to identify principles for minimising visual impact. The recommendations are by no means specifications. **There is a tendency in the construction industry to damage and repair later, which, while possible in construction, is not always possible in the environment. A need for care towards the environment should be developed by the Contractors.** The Development Team needs to take this document and embody it in their planning and design, day-to-day operations and long-term plans.

6.3 Environmental Monitoring

6.3.1 Monitoring Methodology

The framework for administering the implementation of mitigation guidelines is presented in the monitoring plan on the following page (see Figure 8: Visual Monitoring Plan). The table comprises the list of project activities numbered in the same sequence as those in the Mitigation

Plan. For each project activity, recommendations are made from the following standardised monitoring activities:

6.3.2 Monitoring

The following types and timing of monitoring are suggested:

1. **Inspection:** site inspection (random, at completion), routine inspection (possibly annually), clean-up inspection (after completion of clean up of the accident incident).
2. **Monitoring:** observation (and photography).
3. **Review:** review of reports, plans and design.

6.3.3 Monitoring Plan

The Monitoring Plan has been tabulated for easy reference in the figure below.

Item	Project Component and Activity	Monitoring	Investigation	Reporting	Responsible Party
5.6	PLANNING PHASE				
5.6.0	VIA Report	Review	Physical and Recommendation	Recommendation	Planning Authorities
5.6.1	Planning and Design	Review	Physical and Recommendation	Recommendation	Authorities, Developers and Designers
5.7	CONSTRUCTION PHASE				
5.7.1	Construction	Site and Routine Inspection	Physical and Recommendation	Recommendation	ALL
5.8	OPERATION PHASE				
5.8.1	Lighting	Routine Inspection	Physical and Recommendation	Routine, <i>Ad hoc</i> Meeting	Owners, Authorities
5.8.2	Conservation Management and Landscape Maintenance	Routine Inspection	Physical and Recommendation	Routine, <i>Ad hoc</i> Meeting	Owners, Authorities
5.9	DECOMMISSIONING				
5.9.1	Refurbishment	Site Inspection	Physical and Recommendation	Routine, <i>Ad hoc</i>	Owner, Authorities

Figure 8: Visual Monitoring Plan.

6.3.4 Analysis

The following types of analyses are recommended:

1. **Physical:** on site and by photography.
2. **Recommendation:** check against VIA recommendation.

6.3.5 Reporting

The following methods of recording and reporting are recommended:

1. **Recommendation:** report or design recommendation.
2. **Routine:** log (daily, monthly, activity), report (quarterly), certificate, minutes.
3. **Ad hoc:** report (incident, closing).
4. **Meetings:** routine meeting (weekly), follow-up (incident), pro-active meeting (*ad hoc*).

6.3.6 Responsible Party

The following principal responsible parties have been identified as key during the monitoring process:

1. The Planning Authorities
2. The Developers and Owners
3. The Designers: Architects and Landscape Architects
4. The Contractors.

The above monitoring plan identifies who is conducting the prescribed monitoring activities. In cases where certification for compliance or approval are indicated the responsible certifying or approving authority is noted. Many building activities are strictly controlled by local by-laws.

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Bibliography

- Cape Winelands Professional Practices in Association (2018). *Stellenbosch Heritage Survey & Management Plan*. Stellenbosch Municipality.
- CNdV Africa (November 2005). *Provincial Spatial Development Framework*. PGWC, CT.
- DEA&DP (December 2005). *Provincial Urban Edge Guideline*. PGWC, CT.
- Department of Environment Affairs (1992). *Integrated Environmental Management Guideline Series: 2 Guidelines for Scoping. Also 1 The Integrated Environmental Management Procedure; 3 Guidelines for Report Requirements; 4 Guidelines for Review; 5 Checklist of Environmental Characteristics; 6 Glossary of Terms used in Integrated Environmental Management*.
- Department of Environmental Affairs and Tourism & CSIR (February 2000). *Strategic Environmental Assessment in South Africa: Guideline Document*.
- Department of Environmental Affairs and Tourism (April 1998). *Environmental Impact Management: A National Strategy for Integrated Environmental Management in South Africa*.
- Erasmus, BPJ (2004). *On Route in South Africa*. Jonathan Ball Publishers, Jeppestown.
- Earth Summit Agreements (1992): *Agenda 21, The Rio Declaration on Environment and Development, and the Statement of Forest Principles; and The United Nations Framework Convention on Climate Change and The Convention on Biological Diversity*.
- IEA and the Landscape Institute (1995). *Guidelines for landscape and visual impact assessment*, E and FN Spon, London.
- Oberholzer, B (2005) by CSIR Environmentek. *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes: Edition 1*. CSIR Report No. ENV-S-C 2005 053 F. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.
- Republic of South Africa, Statutes of. *National Environmental Management Act No. 107 of 1998* (NEMA).
- Republic of South Africa, Statutes of. *National Environmental Management: Biodiversity Bill, 2003* (BB).
- Republic of South Africa, Statutes of—Land. *Environment Conservation Act No. 73 of 1989*.

Winter, S & Baumann, N (2005). *Guideline for Involving Heritage Specialists in EIA Processes: Edition 1*. CSIR Report No. ENV-S-C 2005 053 E. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.

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Appendices

Appendix A – Plomp Assessment Methodology (2004)

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Appendix A: Plomp Assessment Methodology

An impact can be defined as any change in the physical-chemical, biological, cultural and/or socio-economic environmental system that can be attributed to human activities related to alternatives under study for meeting a project need.

The significance of the aspects/impacts of the process was rated by using a matrix derived from Plomp (2004) and adapted to some extent to fit this process.³¹ These matrices use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

The significances of the impacts were determined through a synthesis of the criteria below:

Probability	This describes the likelihood of the impact actually occurring.
Improbable	The possibility of the impact occurring is very low, due to the circumstances, design or experience.
Probable	There is a probability that the impact will occur to the extent that provision must be made therefore.
Highly Probable	It is most likely that the impact will occur at some stage of the development.
Definite	The impact will take place regardless of any prevention plans, and there can only be relied on mitigatory actions or contingency plans to contain the effect.
Duration	The lifetime of the impact.
Short term	The impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
Medium term	The impact will last up to the end of the phases, where after it will be negated.
Long term	The impact will last for the entire operational phase of the project but will be mitigated by direct human action or by natural processes thereafter.
Permanent	Impact that will be non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.
Scale	The physical and spatial size of the impact.
Local	The impacted area extends only as far as the activity, e.g. footprint.
Site	The impact could affect the whole, or a measurable portion of the above-mentioned properties.
Regional	The impact could affect the area including the neighbouring residential areas.
Magnitude/ Severity	Does the impact destroy the environment, or alter its function.
Low	The impact alters the affected environment in such a way that natural processes are not affected.
Medium	The affected environment is altered, but functions and processes continue in a modified way.
High	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.
Significance	This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.
Negligible	The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.
Low	The impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.
Moderate	The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.
High	The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

³¹ Plomp, H. (2004). *A Process for Assessing and Evaluating Environmental Management Risk and Significance in a Gold Mining Company*. Conference Papers – Annual National Conference of the International Association for Impact Assessment: South African Affiliate.

Figure A-9: Impact Significance Criteria.

The following weights were assigned to each attribute:

Aspect	Description	Weight
Probability	Improbable	1
	Probable	2
	Highly Probable	4
	Definite	5
Duration	Short term	1
	Medium term	3
	Long term	4
	Permanent	5
Scale	Local	1
	Site	2
	Regional	3
Magnitude/Severity	Low	2
	Medium	6
	High	8
Significance	Sum (Duration, Scale, Magnitude) x Probability	
	Negligible	<20
	Low	<40
	Moderate	<60
	High	>60

Figure A-10: Attribute Weighting.

The significance of each activity is rated without mitigation measures and with mitigation measures for both construction and operational phases of the development.

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Appendix D: Local Heritage Body Comment

At the time of preparing this first draft, feedback from the local heritage body had not yet been obtained but is being sought. It will hopefully be included in the next draft.

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