NOTICE OF LAND DEVELOPMENT APPLICATION TO INTERESTED AND AFFECTED PARTIES FOR COMMENT

The following land use application in terms of the Stellenbosch Land Use Planning Bylaw, 2015, refers:

Application Property Address:Hazendal Wine Estate, 81 Bottelary Road

Application Property Number:Remainder of Farm 222, Stellenbosch

Applicant:	ICatPlan CC (t/a I.C.@Plan), Cornelia van Zyl – 082 978 7151
Owner:	Hazendal Wine Estates (Pty) Ltd, c/o S. Azar (021 903 5034)
Application Reference:	LU/12596
Application Type:	Consent Use

Detailed description of land use or development proposal, including its intent and purpose:

1. Application is made in terms of Section 15(2)(o) of the Stellenbosch Municipal Land Use Planning By-Law, promulgated by notice number 354/2015, dated 20 October 2015 for a Consent Use for a tourist accommodation establishment/hotel (consisting of 32 bedrooms) on Remainder Farm No. 222, Stellenbosch Division.
2. Application is made in terms of Section 15(2)(o) of the Stellenbosch Municipal Land Use Planning By-Law, promulgated by notice number 354/2015, dated 20 October 2015 for a Consent Use to allow for the following ancillary uses to the tourist accommodation establishment/hotel and which will be contained in the same building:
   i. Restaurant (accommodate ±60 people);
   ii. Venue/event space (accommodate ±200 people);
   iii. Sport facility consisting of a gym, changing rooms; and
   iv. Wellness centre (spa)
3. Application is made in terms of Section 15(2)(o) of the Stellenbosch Municipal Land Use Planning By-Law, promulgated by notice number 354/2015, dated 20 October 2015 for a Consent Use to allow for the following tourist facilities:
   i. The use of the outdoor areas/lawn in front of the deli for picnics (accommodate ±300 people);
   ii. The use of the harvest circle for outdoor seating for the coffee shop/deli (accommodate ±90 people);
   iii. The use of the pavilion and surrounding lawn for outdoor wedding and other events, e.g. jazz concert (accommodate ±100 people);
   iv. The use of the Kraal for a beer garden/restaurant (accommodate ±120 people);
   v. The use of the area between the kraal and the glass house for extension/overflow of the restaurant for a tea garden (accommodate ±60 people);
   vi. The use of the glass house as a venue (accommodate ±100 people);
   vii. A car pavilion which will occasionally be used for events;
   viii. A put-put course; &
   ix. The use of the existing basement/barrel store for a wine library (accommodate ±60 people).

Notice is hereby given in terms of the provisions of Section 46 of the said Bylaw that the above-mentioned application has been submitted to the Stellenbosch Municipality for consideration. The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address: https://www.stellenbosch.gov.za/planning/documents/planning-

notices/land-use-applications-advertisements. If the website or documents cannot be accessed, an electronic copy of the application can be requested from the Applicant.

You are hereby invited to submit comments and / or objections on the application in terms of Section 50 of the said bylaw with the following requirements and particulars:

- The comments must be made in writing;
- The comments must refer to the Application Reference Number and Address,
- The name of the person that submits the comments;
- The physical address and contact details of the person submitting the comments;
- The interest that the person has in the subject application;
- The reasons for the comments, which must be set out in sufficient detail in order to:
    - Indicate the facts and circumstances that explain the comments;
    - Where relevant demonstrate the undesirable effect that the application will have if approved;
    - Where relevant demonstrate any aspect of the application that is not considered consistent with applicable policy; and
    - Enable the applicant to respond to the comments.

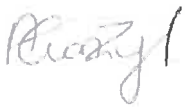
The comments must be addressed to the **applicant** by electronic mail as follows: Cornelia van Zyl, cornelia@icaplan.co.za.

The comments must be submitted within 30 days from the date of this notice to be received on or before the closing date of **7 July 2021.**

It should be noted that the Municipality, in terms of Section 50(5) of the said Bylaw, may refuse to accept any comments/ objection received after the closing date.

For any enquiries on the Application or the above requirements, or if you are unable to write and/or submit your comments as provided for, you may contact the Applicant for assistance at the e-mail address provided or telephonically at **082 978 7151** during normal office hours. (Monday to Friday 8:00-17:00)

Yours faithfully



A.C. van Zyl

KENNISGEWING VAN GROND ONTWIKKELINGS AANSOEK AAN GEïTRESEERDE EN GEAFFEKTEERDE PARTYE VIR KOMMENTAAR.

Die volgende grondgebruiksaansoek in terme van Stellenbosch se Verordeninge op Grondgebruikbeplanning, 2015, verwys:

Adres van aansoek eiendom: Hazendal Wynlandgoed, Bottelary Pad 81

Aansoek eiendom beskrywing: Restant van Plaas 222, Stellenbosch

Aansoeker:	ICatPlan BK (t/a I.C.@Plan) - Cornelia van Zyl (0829787151)
Eienaar:	Hazendal Wine Estates (Pty) Ltd, c/o S. Azar (021 903 5034)
Aansoek Verwysing:	LU/12596
Tipe Aansoek:	Vergunningsgebruik

Besonderhede van die grondgebruiksaansoek, insluitende die doel en uitkoms:

1. Aansoek word gedoen in terme van Artikel 15(2)(o) van die Stellenbosch Munisipaliteit: Verordening op Grondgebruikbeplanning, gepromulgeer deur kennisgewing no. 354/2015, gedateer 20 October 2015 vir Vergunningsgebruik vir 'n toerisme-akkomodasie-onderneming/hotel (bestaande uit 32 kamers) op die Restant van Plaas No. 222, Stellenbosch Afdeling.
2. Aansoek word gedoen in terme van Artikel 15(2)(o) van die Stellenbosch Munisipaliteit: Verordening op Grondgebruikbeplanning, gepromulgeer deur kennisgewing no. 354/2015, gedateer 20 October 2015 vir Vergunningsgebruik om die volgende aanvullende gebruike tot die toerisme-akkomodasie-onderneming/hotel binne dieselfde gebou toe te laat binne:
   v. Restaurant (akkommodeer ±60 mense);
   vi. Onthaal lokaal/area (akkommodeer ±200 mense);
   vii. Sport fasiliteit wat bestaan uit 'n gimnasium, aanpaskamers; en
   viii. Gesondheidsentrum (spa).
3. Aansoek word gedoen in terme van Artikel 15(2)(o) van die Stellenbosch Munisipaliteit: Verordening op Grondgebruikbeplanning, gepromulgeer deur kennisgewing no. 354/2015, gedateer 20 October 2015 vir Vergunningsgebruik om die volgende toerisme fasiliteite toe te laat:
   x. Die gebruik van die buite ruimtes/grasperk voor die deli vir Pieknieks (akkomoddeer ±300 mense);
   xi. The gebruik van die dorsvloer vir sitplek buite die koffie winkel/deli (akkomoddeer ±90 mense);
   xii. Die gebruik van die paviljoen en omliggende grasperk vir buite sitplek vir troues en ander byeenkomste, bv. jazz konsert (akkomoddeer ±100 mense);
   xiii. Die gebruik van die kraal vir 'n biertuin/restaurant (akkommodeer ±120 mense);
   xiv. Die gebruik van die area tussen die kraal en die glashuis vir die uitbreiding/oorloop van die restaurant (akkommodeer ±60 mense);
   xv. Die gebruik van die glashuis as 'n onthaallokaal (akkommodeer ±100 mense);
   xvi. 'n Motor uitstalruimte was per geleentheid gebruik sal word vir funksies;
   xvii. 'n Put-put baan; &
   xviii. Die gebruik van die bestaande kelder/wynvatstoorplek vir 'n wynbiblioteek (akkommodeer ±60 mense).

Kennis word hiermee gegee in terme van die voorskrifte van die Artikel 46 van die genoemde Verordeninge dat bovermelde aansoek by die Stellenbosch Munisipaliteit ingedien is vir oorweging. Die aansoek is beskikbaar vir insae op die Beplannings Portaal van die Stellenbosch Munisipaliteit se Webtuiste vir die tydsduur van die publieke deelname

proses by die volgende adres: https://www.stellenbosch.gov.za/planning/documents/planning-notices/land-use-applications-advertisements. Indien die webtuiste of tersaaklike dokumente nie toeganglik is nie, kan die Aansoeker versoek word om 'n elektroniese kopie van die aansoek beskikbaar te stel.

Kommentaar en/ of besware kan vervolgens gedien word op die aansoek in terms van Artikel 50 van die tersaaklike Verordening wat die volgende vereistes en besonderhede moet bevat:

- Die kommentaar moet skriftelik wees;
- Die kommentaar moet die aansoek se verwysings nommer en adres insluit;
- Die naam van die persoon wat die kommentaar lewer;
- Die fisiese adres en kontak besonderhede van die persoon wat die kommentaar lewer.
- Die belang wat die persoon wat die kommentaar lewer, in die aansoek het.
- Die redes vir die kommentaar wat gelewer word, welke redes genoegsame besonderhede moet bevat ten opsite van die volgende aspekte:
    - Die feite en omstandighede aantoon wat die die kommentaar toelig;
    - Indien toepaslik, aantoon wat die onwenslike resultaat sal wees indien die aansoek goedgekeur word;
    - Waar toepaslik moet aangetoon word indien enige aspek van die aansoek strydig geag word met enige relevante beleid;
    - Dat die insette voldoende inlgting sal gee wat die aansoeker in staat sal stel om kommentaar daarop te lewer.

Die kommentaar moet by wyse van elektroniese pos aan die Aansoeker gestuur word as volg: Cornelia van Zyl – cornelia@icaplan.co.za.

Die kommentaar moet binne 30 dae vanaf die datum van hierdie kennisgewing gestuur word en moet ontvang word voor of op die laaste dag van die sluitings datum van **7 July 2021.**

Daar moet kennis geneem word dat die Munisipaliteit, in terme van Artikel 50(5) van die vermelde Verordeninge, mag weier om enige kommentaar / beswaar te aanvaar wat na die sluitingsdatum ontvang word.

Indien daar enige navrae op die aansoek of bovermelde vereistes vir die lewer van kommentaar is, of indien dit nie moontlik is om geskrewe kommentaar te lewer of die kommentaar op die wyse te lewer soos voorsienning gemaak is nie, kan die Aansoeker geskakel word vir bystand by die vermelde elektroniese pos adres of telefonies by 082 978 7151 gedurende normale kantoor ure (Maandag-Vrydag, 8:00 – 17:00).

Die uwe

A.C. van Zyl

REMAINDER FARM 222, STELLENBOSCH

HAZENDAL

ANNO 1699

Prepared by IC @ Plan Town Planners

on behalf of Hazendal Wine Estates (Pty) Ltd

Contents

1. BACKGROUND

Remainder Farm Haasendal Nr. 222, Stellenbosch (hereafter referred to as 'the property') is situated along Bottelary Road, West of Koelenhof and on the boundary of the City of Cape Town Municipal Area (Brackenfell). The farm has a rich history which dates as far back as 1699. The portion of the farm to the South of Bottelary Road mainly contain the owner's main dwelling and the vineyards, whilst the portion to the North contains the historical buildings which surrounds the original "plaas werf".

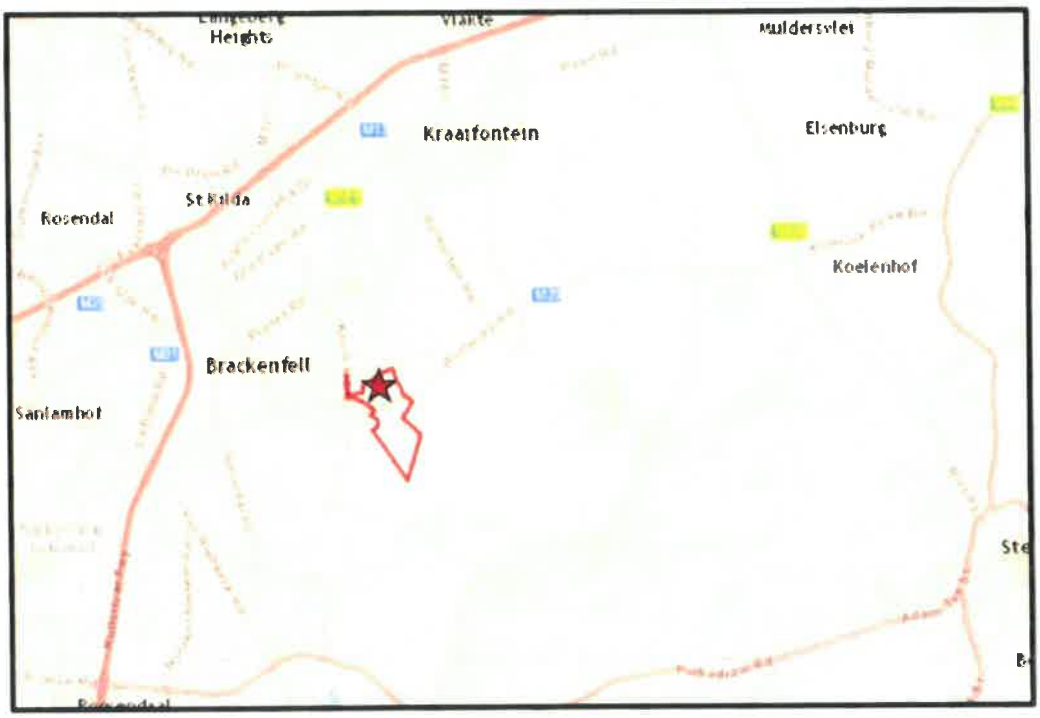


Figure 1: Location

After Council's permission was obtained in 2010, the old cellar was converted to a wine tasting centre, lounge and restaurant. As a result of the struggling agricultural industry and the growing, competitive tourist industry in the Winelands area, certain renovations, upgrades and additions were submitted and approved by Council which provide the farm with a new edge and create greater exposure for their wine brand and accordingly have a positive impact on the agricultural activities on the farm. The uses which can be found in the historical "plaas werf" currently include a conference facility, refurbished avant-garde restaurant (which also caters for a Russian high-tea), wine tasting area, an art gallery depicting the link between Russian

and South African heritage and the Babushka deli and coffee shop. An application for a golf course and driving range is also currently being processed to promote the growing golf tourism industry in the Winelands.

With the changes and upgrades to the farms' tourist activities, the owners recognized the need for overnight accommodation for their visitors. This will also promote the existing tourism uses on the farm, as guest who seeks accommodation for e.g. weddings, conferences, golf tours, etc. will be more likely to make use of Hazendal's facilities if they can provide overnight accommodation.

I.C.@Plan Town Planners were accordingly appointed by the owner of the property to apply for the necessary land use rights to allow for a hotel and ancillary uses.

The power of attorney and company resolution is herewith attached herewith.

2. THE APPLICATION

Application is hereby made for:

I. **Consent Use** in terms of Section 15 (2) (o) of the Stellenbosch Municipality Land Use Planning By-Law for a tourist accommodation establishment/hotel.

II. **Consent Use** in terms of Section 15 (2) (o) of the Stellenbosch Municipality Land Use Planning By-Law for the following ancillary uses to the tourist accommodation establishment/hotel which will be contained in the same building:

   i. Tourist accommodation establishment.
   ii. Restaurant, bar and cigar lounge.
   iii. Venue/event space.
   iv. Sport facility consisting of a gym, changing rooms and
   v. Wellness centre (Spa)

III. **Consent Use** in terms of Section 15 (2) (o) of the Stellenbosch Municipality Land Use Planning By-Law for the following tourist facilities:

   i. The use of the outdoor areas/lawns in front of the Deli for picknicks.
   ii. The use of the harvest circle for outdoor seating for the Coffee Shop/Deli.

iii. The use of the pavilion and surrounding lawn for outdoor weddings and other events, e.g. jazz concert.

iv. The use of the Kraal for a beer garden/restaurant.

v. The use of the area between Kraal and glass house for extension/overflow of the restaurant for a tea garden.

vi. The use of the glass house as a venue.

vii. The use of the existing basement/barrel store for a wine library.

viii. A car pavilion which will occasionally be used for events.

ix. A put-put course.

As indicated on the Site Development Plan attached.

The application form duly completed and signed is herewith attached for your perusal.

3. PROPERTY DETAILS

PROPERTY DESCRIPTION	Remainder of the Farm Haasendal Nr. 222, Stellenbosch
ADDRESS	Hazendal Wine Estate, Bottelary Road
EXTENT	145,9194ha
TITLE DEED NO	58640/1994
REGISTERED OWNER	Hazendal Wine Estates (Pty) Ltd
APPLICANT	I.C.@Plan Town Planners
ZONING	Agriculture Zone I & Agricultural Zone II
PROPOSED USE	Tourist accommodation establishment/hotel and related tourism uses

Table 1:Propert details

3.1 Locality and Accessibility

The property is situated on the border of the City of Cape Town and the Stellenbosch Municipality. A one-way internal road currently provide access to the property via Bottelary Road. This access will be closed once the public road to the northern side of the property is finished and will accommodate both incoming and outgoing traffic. The City of Cape Town approved the subdivision and rezoning of this public road on 23 September 2020.

Bottelary Road allow access from Brackenfell to the west and intersects with the R304 at Koelenhof to the east. The R304 subsequently provide easy access to the N1 as well as the R44/Stellenbosch (See locality plan attached). From a tourism perspective the property is therefore ideally located and easily accessible from Stellenbosch, Paarl, City of Cape Town and the surrounding areas.

The Bottelary Road naturally divides the farm into two portions which are situated to the north and south of the road. The portion of the farm to the north of Bottelary Road - which has bearing on the application at hand - is level with no mentionable geographical features.

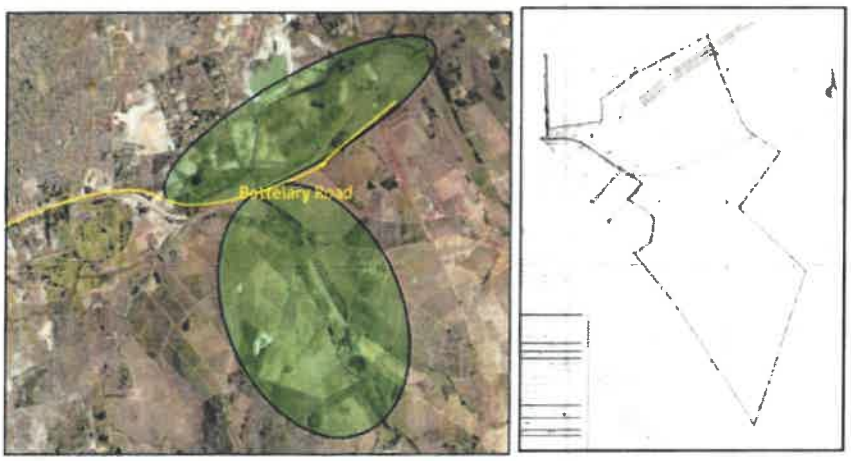


Figure 2: Division of the Farm

4. THE PROPOSAL & MOTIVATION

For purposes of this motivation, the tourist accommodation establishment/hotel and the uses related thereto are discussed as an entity, as it will be contained within the same structure and function as such. The motivation relating to the other proposed consent uses will follow.

4.1 Similar Examples in the Stellenbosch Winelands Area

Due to the Winelands' popularity as a tourist destination (for local and international guest alike), there are always a growing need for tourist accommodation. Tourist accommodation provide guests with first-hand experience of the beauty of the winelands. The accommodation on farms is usually (but not always) planned as a result of existing activities found on the farm in order to give guests a unique rural experience. Over the years it has been proven that tourist accommodation, in the form of hotels, can be done sensitively and responsibly, to the benefit of the greater area.

Some of the existing hotels in the Stellenbosch Municipal area which are situated on farms/agricultural zoned land outside the Stellenbosch urban edge include:

- **Asara Wine Estate** on Polkadraai Road has a hotel with 41 rooms which consist of three suites of 150m² each and 38 rooms ranging between 45-55m². Other amenities included in the farm's activities are restaurants, a bar, deli, treatment room (spa) and winery with tasting facility.
- **Spier Estate** is a well-known tourist destination which is situated on Baden Powell Drive. The hotel consists of 153 units contained in double storey buildings. The other activities on the farm include eagle encounters, three restaurants and a picnic facility, winery and tasting area, conference facility, self-guided walks, a craft market, etc.
- **Lanzerac Wine Estate** is situated in Lanzerac Road in Stellenbosch and has a hotel consisting of 56 rooms. The other uses on the farm include a deli, restaurants, tasting room, spa, conference facility and events venue.
- **Delaire Graff Estate** is situated on the Helshoogte Pass between Stellenbosch and Kylemore. Although the hotel only contains 17 units, it consist of a four bedroom unit of 660m² which can sleep eight people, two x two bedroom units of 130m² (which can sleep eight people in total), 6 units of 76m² and eight units of 70m². This is the equivalent to a 22 bedroom hotel. Ancillary uses include wine tasting facility, a spa, fitness centre/gym, shops (jewellery store, linen and homeware store, etc.), two restaurants and an event facility.
- **Boschendal** hosts a number of cottages with at least 30 rooms which are spread around the farm. The farm also contains a deli, restaurants, hosts event and other outdoor activities e.g. horse riding, mountain biking and hiking trails. They also accommodate weddings, functions and conferences.

- **Devon Valley Hotel** is situated along Devon Valley Road in the heart of the winelands and consist of at least four separate building which contains 50 rooms in total. The hotel also caters for functions and weddings and have a restaurant and bar area which is open to the public. The hotel and related uses cover more than 50% of the property and the main use of the property is therefore no longer agricultural.

From the above examples it is clear that holiday accommodation in the form of a hotel can be done responsibly if it takes into account environmental factors, heritage informant and the general character of the area.

4.2 Spatial Context

The properties to the east and south of Farm 222 is mainly zoned agricultural zone and is utilised in accordance with their zoning. Numerous tourist related activities are, however, found in the area and on surrounding farms e.g. guest houses, restaurants, wineries, etc.

The properties to the north and west which is located within the urban edge of the City of Cape Town has, however, been earmarked for medium to high density urban development and Cramix Bricks (to the north) accordingly obtained development rights for up to 5000 residential units in recent years (see Figure 5). There is therefore a strong contrast between the Stellenbosch municipal area with its rural character and the dense urban fabric of the City of Cape Town municipal area.

The City of Cape Town Municipal boundary wraps around Remainder Farm 222 and the adjoining small holdings. As a result, these properties are situated on an island between the City's urban area – earmarked for urban development – and the Bottelary Road. These unique circumstances create an unique opportunity to not only respect the visual integrity along Bottelary Road but to also create a transition zone from urban to rural whilst still respecting the agricultural and historical landscape.

Figure 3: Location of Hazendal's tourist area in relation to the City of Cape Town boundary

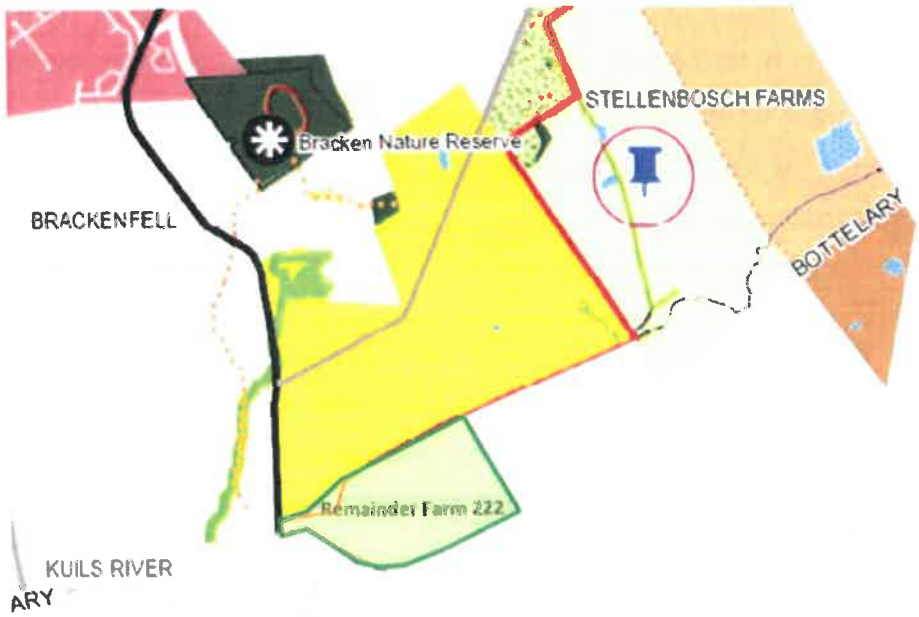


Figure 4: Location of the property in relation to the City of Cape town Urban Edge (extract from the Northern District Spatial Development Plan)

Figure 5: Surrounding Land uses

4.3 Tourist accommodation establishment/Hotel & Related uses

The owners have invested allot of time and capital in the upgrading of existing tourist facilities, the renovation of the historical buildings on the farm, as well as the landscaping and rehabilitation of wetlands and other landscaped areas. They also relaunched the Hazendal wine brand which is the core agricultural use on the farm. A golf course is proposed to contribute to the golf tourism industry and the application is currently being processed by Council.

Numerous guests who visit the farm and make use of the facilities for e.g., weddings and conference frequently asked the owners whether they can provide overnight accommodation. As there are no formal accommodation in the directly surrounding area, they decided to include a tourist accommodation establishment by means of a hotel which will be a supplementary use to the existing tourism related uses on the farm.

4.3.1 Design and Location

The location of the tourist accommodation establishment/hotel on the farm was carefully selected to respect the sensitive nature of the historical werf, surrounding environment and heritage informants.

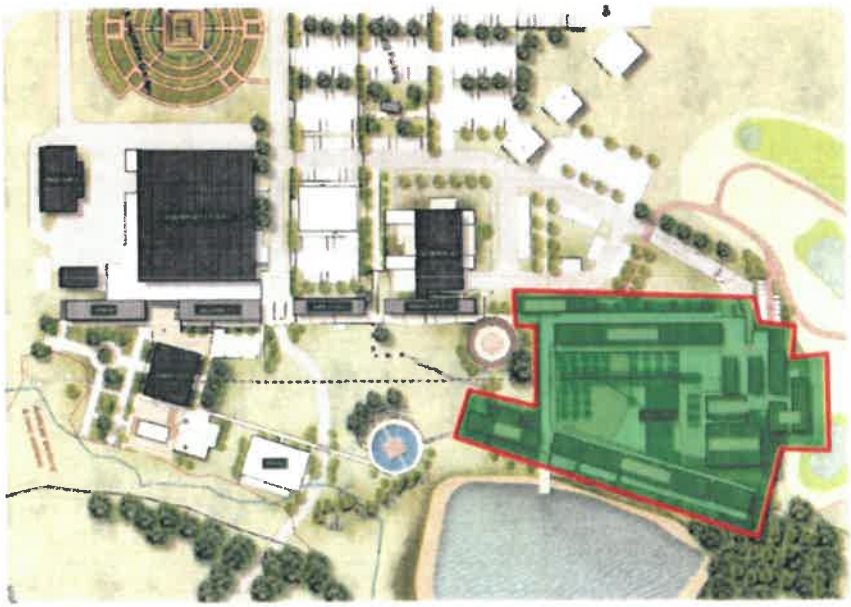


Figure 6: Location of the tourist accommodation facility/hotel in relation to the existing werf

The existing historical buildings created a precedent in terms of the height of buildings, massing, etc. and the hotel was accordingly designed to respect the heritage indicators determined by Heritage Western Cape.

It is proposed to clear an area next to the existing stormwater retention dam which is currently covered with poplar trees/alien vegetation.

Although this area falls within a wetland, a specialist river and wetland consultant conducted a study and found that the proposal are *"considered acceptable from the perspective of its impacts on aquatic ecosystems, provided that the full set of mitigation measures outlined in this report, including the measures to address Cumulative Development Impacts, are implemented as described."* The report from Liz Day Consulting is accordingly attached herewith.

Figure 7: Estimated location of the Hotel in relation to the rest of the tourist facilities

4.3.2 General Layout and Uses

The proposal entails a tourist accommodation establishment/hotel which will include 32 bedrooms – of which 20 rooms have the ability to be converted to family suites. So, in effect, the hotel consists of 12 single rooms and 10 family suites. The primary guest access to the hotel will be on the upper floor level where guest will access from the hotel's parking area into the reception.

The northern flank of the building will consist of two storeys and will contain 20 four Star rooms, whilst the southern flank will border the dam and consist of a single storey structure with 11 five Star suites and a presidential suite. The eastern wing will contain the ancillary uses which is discussed in more detail below.

The buildings will be positioned to create a courtyard to protect the privacy of visitors from the rest of the farm activities as well as from natural elements. The courtyard will include a pool, water features and other natural calming elements.

Asides from the accommodation, the upper floor will also accommodate a gym, training room, physio room and locker rooms which can be used by guests of the hotel. As the golf course does not have a separate club-house, visitors to the golf course will also be allowed to make use of these facilities and certain areas will be allocated for their use. A pro-shop will also be included in the building which will provide a service to the golf course guest. The lower ground floor will contain a family room for guests, a restaurant and kitchen (including a staff room, locker rooms and bathrooms for the staff) which will be used in relation with the tourist accommodation establishment/hotel (to provide meals to guests), a cigar lounge and bar area and an events space which can be used for e.g. weddings, birthday parties, etc. At full capacity, the restaurant will be able to accommodate 60 people, the events space 200 people and the bar 60 people.

The tourist accommodation establishment/hotel will employ 16 kitchen staff and 63 hotel staff and will therefore contribute greatly to work creation in the area.

It is proposed to renovate the existing historical building adjacent to the existing werf to accommodate a spa. Approval from Heritage Western Cape has been obtained for the proposed renovations. The spa will consist of four treatment rooms and a multifunctional studio which will cater for hotel guests. It will, however, also be open to the public on appointment. The spa should not have a mentionable impact, as it is of a very small scale and the amount of guest who can be accommodated at any given time are minimal. It is also likely that outside guest to the spa will combine their visit to the farm with some of the existing activities.

4.4 The use of the harvest circle for outdoor seating for the Deli

The historical harvest circle abuts the existing Babushka Deli and leans itself for outdoor seating next to the Deli. Due to the exposure to the natural elements, the area have been covered. Heritage Western Cape indicated that they do not support permanent roofing in close proximity to the existing historical buildings and a temporary tent structure was erected to provide this coverage. The area can accommodate a

maximum of 90 people. The extension should not have any mentionable impact on the existing activities or historical werf and is a natural extension of the existing Deli.

4.5 The use of the outdoor areas/lawns in front of the Deli for picknicks

It is proposed to allow picnics on the lawn area in front of the Babushka Deli. As with many other farms in the winelands area, guest will be provided with the opportunity to order picnic baskets at the Deli and then have the option to sit on the lawn area and enjoy the outdoor area and views over the winelands whilst sipping on the farms signature wines. The proposal is a natural extension of the Deli area and will not have any negative visual impact as no structures are proposed.

4.6 The use of the pavilion and surrounding lawn for outdoor weddings and other events, e.g. music concerts

The pavilion on the lawn is occasionally used for wedding ceremonies and small events, e.g. birthday parties. Jaz events were previously hosted in the restaurant, which can then accommodate ±60 people. It is, however, proposed to occasionally host outdoors music events like this at the pavilion where ±100 people could be accommodated on the surrounding lawns, with the option to enjoy a picnic basket. Seeing that the Western Cape is a winter rainfall area, this will only be possible during the summer. These events will be catered for by the existing restaurant and/or deli and will accordingly contribute to the income of the farm. Many other farms in the Winelands area has implemented these uses with a great success, as it attract allot of local people to their farms, doubling as a marketing tool. It is also occasional uses, minimizing the impact on the surrounding area. It can therefore be seen as a supplementary use to the existing tourist activities.

4.7 Kraal

Application was originally submitted (2016) to utilize the Kraal as a venue facility for e.g. weddings. After consultation between the architect, heritage consultant and Heritage Wester Cape, it was decided that the Kraal's visual integrity (at the entrance to the werf) as well as the structural integrity of the walls should be protected. In terms of HWC's conditions, the Kraal may accordingly not have a permanent roof and cannot be completely enclosed. Any activities within the Kraal are therefore weather dependent.

As a result, it was decided to introduce a more informal use/atmosphere and this application is accordingly for the use of the Kraal as a beer garden where approximately 120 people can be accommodated. The operating hours are Tuesday – Saturday (11:00 – 21:00) & Sunday (11:00 – 17:00).

4.8 Green House

Many of the existing tourist activities on the farm is conducted outside, e.g. wedding ceremonies, etc. The Cape's unpredictable weather (wind and rainy winters) can, however, make the execution of these activities challenging, creating a reduction in income. It is therefore proposed to occasionally use the existing greenhouse next to the manor house for functions such as wedding ceremonies (seating up to 100 people) or wedding functions (seating up to 60 guest around tables). This will not only allow protection from the elements, but also create a safe and private area for these intimate moments. The greenhouse is an existing structure and will accordingly not have any additional visual impact on the historical werf.

4.9 The use of the existing basement/barrel store for a wine library.

It is proposed to use the existing basement area - situated below the glass entrance floor to the restaurant and conference facilities – as a wine library where guests can experience unique food and wine pairing. The use will therefore promote the farm's range of wines and accordingly contribute to the sustainability of the agricultural use of the farm.

4.10 Car Pavilion

The car pavilion is situated behind the Jonkerhuis (gallery) and was originally constructed to protect and display the owner's antique car collection, which the public can also view. It is, however, also proposed to occasionally use the pavilion for exhibition purposes, e.g. when a car manufacturer wants to launch/exhibit a new vehicle(s). Limited catering will be allowed at these launches/events. The car pavilion will, however, not be used as an independent venue. The pavilion is an existing structure and no additions or alterations are proposed. The use can be seen as ancillary to the existing tourist activities on the farm.

4.11 Put-put course

As with most wine estates, it is important to accommodate activities for all age groups. Hazendal is a farm which focuses on family living and wish to create an area where all members of the family can come to enjoy the outdoor life. As a result, a put-put course is proposed between the golf course/driving range and the new entrance/exit. With the current safety and security issues in South Africa, the put-put course will allow families to get their children outside and enjoy a day at the farm in a safe environment. The put-put course is situated in an are which are not viable for agricultural use. It will therefore not have any impact on the agricultural use of the farm and will be ancillary to the existing tourist facilities.

5. ENGINEERING SERVICES

5.1 Engineering Services

The transport planners ITS was appointed to do a study ancillary to their original traffic impact assessment (for existing rights and uses), which addresses the additional traffic and the impact thereof. Similarly, Struxit Projects prepared an engineering report which addresses the provision of services to the hotel and the report is attached herewith. The outcome of the reports is summarized below.

5.1.1 Traffic Impact & Access

It is proposed to close the existing main entrance (until such time as a right turn lane is constructed) and to utilize the new access (currently under construction) at the northern side of the farm which will connect with the City of Cape Town's road network. The traffic impact assessment support the proposal and is attached herewith.

5.1.2 Water Provision

Water is currently being sourced from a bulk municipal connection. This water is provided by City of Cape Town. Bulk water is planned to be sourced from the existing boreholes on site. Once this connection has been finalised and the water use licence has been approved the municipal connection will be redundant. This water pumped from the boreholes will be treated and then used for potable water in the development.

5.1.3 Sewerage

No municipal sewer connection is available within the vicinity of the site. An existing wastewater treatment package plant is being used to accommodate the existing development. The new uses will be serviced by the existing treatment plant.

5.1.4 Stormwater

No existing municipal stormwater system is available in the area. A stormwater pond is located on the site. This pond will be used as a discharge point for the generated stormwater.

5.1.5 Electricity

The property falls within an area serviced by Eskom and the necessary consents will be obtained from them, if required.

6. LEGISLATION

6.1 National Heritage Resources Act, (Act No 25 of 1999)

Due to the historical nature of the building surrounding the farm werf, Stuart Hermansen conducted a Heritage Impact Assessment which was submitted to Heritage Western Cape (HWC) for their consideration. After numerous proposals were lodged and workshopped with HWC, a record of decision (ROD) was issued for the approval of the Hotel/tourist accommodation establishment. The ROD is attached herewith for your information.

6.2 Section 44 of the National Environmental Management Act, 1998 (Act no. 107 of 1998)

On 21 April 2006 the Minister of Environmental Affairs and Tourism promulgated regulations in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act no. 107 of 1998) (NEMA). These NEMA regulations repeal the environmental impact assessment regulations that were promulgated in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) in 1997 and introduces new provisions regarding Environmental Impact Assessments (EIA's).

Amended NEMA EIA regulations came into effect on December 2014. The NEMA Act lists different categories of development which must be approved by the Department of Environmental Affairs and Development Planning (DEADP) before the proposed development can commence.

KHULA Environmental Consultants (KHULA) was appointed to assist in investigating the applicability of the NEMA regulations and accordingly submitted an applicability checklist to the DEADP. Certain regulations were triggered which necessitated an environmental impact assessment (EIA). KHULA has accordingly proceeded with the EIA process and the application is currently with DEADP for a final decision – which will be submitted with the portfolio of evidence after advertising of this application.

7. PLANNING LEGISLATION & POLICIES

7.1 Spatial Planning Land Use Management Act (Act16 of 2013) (SPLUMA) and the Western Cape Land Use Planning Act(Act 3 of 2014) (LUPA)

Section 7 of SPLUMA and Section 59 of LUPA prescribes five development/planning principles that a new development should consider. The development proposed on Remainder Portion 25(a Portion of portion 3) of the Farm Haasendal Nr. 222, Stellenbosch adhere to these principles as follow:

- **Spatial Justice** focusses on redressing spatial imbalances by improving access to and use of land with particular focus on access to those who were previously excluded.

The proposed development does not impede this principle as the development of tourist facilities does not exclude anyone from equitable access to the resources and opportunities that the area has to offer.

- **Spatial Sustainability** refers to the protection of valuable agricultural and environmental sensitive land. Spatial sustainability also refers to the prevention of urban sprawl and the consideration of current and future costs of infrastructure.

No valuable agricultural land or sensitive environmental land are impacted upon with this development proposal. The uses are in line with the provisions of the zoning scheme, which accommodated tourist related uses. The proposal can therefore not be viewed as urban sprawl.

- **Spatial Efficiency** dictate the optimum use of existing resources and infrastructure. It also requires the minimalization of negative impacts in terms of financial, economic and environmental impacts.

The application proposes uses which are compatible with the existing tourism uses on the farm and region, forms a soft visual buffer between the hard urban edge with the City of Cape Town and proposes an economic opportunity which can financially contribute to job creation. It is therefore clear that the development upholds the principle of spatial efficiency as if reflects the optimum use of land.

- **Spatial resilience** refers to flexibility in spatial plans, land use management and policies to ensure sustainable livelihoods most likely to suffer the impact of environment or economic shocks.

The proposal can be seen as an example of how underutilized land is used efficiently to contribute to spatial resilience as it allows a bigger variation of uses in the area which contribute to the environment and local economy.

- **Good Administration** principle focus on an integrated development approach.

When the owners had to choose what the best use would be for this area of the farm, the characteristics of the site and the context thereof in terms of the surrounding area have been carefully considered to ensure that the principles of integrated development were successfully applied. The proposal for a hotel/tourist accommodation establishment and tourist facilities creates a transition zone between the urban area of the City of Cape Town and the Rural Stellenbosch Winelands, whilst contributing to the existing tourism uses on the farm.

7.2 Land Use Planning Act

Section 65 (1) (c) of the Land Use Planning Act states that when the Municipality considers an application, it must have regard for the desirability of the proposed utilisation of land and any guidelines issued by the Provincial Minister regarding the desirability of proposed land uses.

The use of certain buildings and outdoor area on the farm for tourist facilities can be seen as desirable uses in the context of the Stellenbosch Winelands area which is a tourist destination for local and international visitors.

Section 59 (2) (b) of the Land Use Planning Act states that land use planning should be guided by certain principles of **spatial sustainability**. *"This includes the sustained protection of the environment by having regard to the following:*

a) *natural habitat, ecological corridors and areas with high biodiversity importance;*
b) *the provincial heritage and tourism resources;*
c) *areas unsuitable for development, including flood plains, steep slopes, wetlands and areas with a high water table and landscapes and natural features of cultural significance; and*
d) *the economic potential of the relevant area or region".*

The proposal has respected natural environmental on the farm and was guided by environmental and heritage inputs. The necessary processes were accordingly followed and inputs obtained from heritage and environmental consultants and wetland specialist. The proposed uses will contribute greatly to the tourism industry and economic potential of the area.

Section 59 (3) (a) and (b) of the Land Use Planning Act stipulates that that land use planning should be guided by the following principles of **efficiency**:

a) land development should optimise the use of existing resources, infrastructure, agriculture, land, minerals and facilities;

b) integrated cities and towns should be developed, whereby—

i. *the social, economic, institutional and physical aspects of land development is integrated;*

ii. *land development in rural and urban areas in support of each other is promoted;*

iii. *the availability of residential and employment opportunities in close proximity to, or integrated with, each other is promoted."*

From the above it is clear that the proposal aims at using the existing resources to its optimal. It will have a positive impact in terms of the economy of the area, job creation, etc.

7.3 Provincial Spatial Development Framework

The PSDF states that the *"Western Cape economy is founded on the Province's unique asset base. These include farming resources that make the Western Cape the country's leading exporter of agricultural commodities...; and its natural capital (i.e. biological diversity) and varied scenic and cultural resources which are the attraction that makes the Western Cape the country's premier tourism destination."*

The PSDF further states that the Province has a significant spatial asset base which stems from the fact that it:

- *"underpins the economy, particularly agriculture which provides food security, sustains rural livelihoods and draws income into the Province, and tourism.*
- *makes the Western Cape a world class tourism destination, given the attraction and authenticity of rural landscapes of scenic, cultural and natural splendour; and*
- *provides the location of diverse outdoor recreational and leisure activities for residents of and visitors to the Western Cape."*

"The integrity of the Province's natural and built environments is of critical importance to the further development of tourism, as the Western Cape's tourism economy is nature and heritage based, and built on a foundation of a high-quality and unique environment."

The PSDF furthermore encourages the use of heritage resources *"such as the adaptive use of historic buildings, to enhance the character of an area, stimulate urban regeneration, encourage investment and create tourism opportunities, while ensuring that interventions in these heritage contexts are consistent with local building and landscape typologies, scale, massing, form and architectural idiom"*.

The proposal clearly aims at respecting the heritage resources on the farm and the cultural landscape in which they are situated, whilst enhancing its access to the public trough contributing to the tourism economy in the area. Tourism is promoted, which accordingly contributes to work creation and the growth of the economical potential of the area. It furthermore creates the opportunity for the public to have access to provincial tourism and heritage resources which would not otherwise be open for public viewing.

7.4 Western Cape Land Use Planning Guidelines: Rural Areas (March 2019) (WCLUPG)

The WCLUPG states that *"The Cape Winelands District consists of Stellenbosch, Drakenstein, Witzenberg, Breede Valley, and Langeberg Municipalities. Situated between the rugged sandstone peaks of the Cape Fold Mountains, the District is an area of high scenic and heritage significance. The wine-growing areas of Stellenbosch, Paarl, Wellington, Franschhoek, Ceres, Worcester, Bonnievale and Robertson are popular attractions, where a Mediterranean climate favours the production of superb wines.The District's fertile valleys are home to some of the world's most renowned vineyards some of which have been earmarked for declaration as World Heritage Sites"*

The WCLUPG promotes the protection of the cultural and scenic assets through the protection of the heritage landscape.

The tourism accommodation objectives further suggests *"To provide a range of opportunities, including different typologies, for tourists and visitors to experience the Western Cape's unique rural landscapes; e.g. additional dwelling units on farms, B&Bs, guesthouses, backpacker lodges, lodges, resorts, hotels, and camping sites."*

The proposal was thoroughly discussed and developed through the heritage design informants and the input from HWC to ensure that the existing werf and cultural landscape are respected. It is furthermore in line with the tourism accommodation objectives to assist in providing a range of accommodation.

7.5 Stellenbosch Municipality Land Use Planning By-Law (SMBL)

Section 208. (2) stipulates that a tourist accommodation establishment or hotel are consent uses permitted on agricultural zoned properties.

Section 19 (4) of the SMPB stipulates that a *"consent use ... must not have the effect of preventing the property from being utilised in the future for the primary uses permitted in terms of the zoning of the land"*.

The proposed consent uses are complimentary to the existing agricultural use and will not in any way prevent the property from being utilised for agricultural purposes.

Section 213 of the SMPB refers to the criteria which Council should consider in evaluating a consent use in Agricultural Zone. These include the following:

- When considering new consent uses the Municipality shall have regard for the objectives of the zone namely the preservation of agricultural land and the continued use of farm land for agriculture.
  - This proposal does not impose on the agricultural land and have no impact on the use of the property for farming purposes.
- The scale of the individual buildings used for consent uses shall remain in keeping with the character of buildings on the land unit, the character of the area and non-agricultural land uses may not dominate the farm activities or buildings form.
  - Due to the heritage status of the farm and the existing buildings thereon, a thorough heritage process was followed to ensure that the design of the proposal adheres to the heritage indicators provided by Heritage Western Cape (HWC) and to protect the existing agricultural landscape with a minimal visual impact. HWC accordingly found the proposal desirable withing the existing context and granted their consent.
- A consent use application for an ... hotel... which exceed the threshold may only be approved if the Municipality is satisfied that the use is subservient to the primary use of bona fide agriculture or natural environment or combination of these two primary uses.
  - The zoning scheme does not stipulate a threshold for a hotel. It can, however, be said that the goal of the hotel is to be subservient to the farming activities and will have no impact on the use for agricultural purposes. It furthermore proposes the removal of alien vegetation and the re-introduction of natural vegetation.

- These consent uses may only be undertaken from a land unit where the primary use of the land unit is bona fide agriculture/and or natural environment and where the proposed activity is subservient to these two primary land use activities on the land unit.
  - These criteria have been met.
- It is preferable to use existing buildings for consent uses, however, the SMPB does make provision for the consideration of new buildings. It therefore states that *"New buildings may only be approved if the Municipality is satisfied that there are no other suitable unused buildings on the land unit which can be used for this purpose, or where the location or configuration of existing buildings are obviously unsuitable or undesirable for the proposed use, or where the proposed new buildings are significantly more desirable given the purpose of the Agriculture and Rural zone."*
  - There are currently no suitable unused buildings on the land which can be converted to a hotel/ tourist accommodation establishment. The position of the proposed hotel/ tourist accommodation establishment was carefully considered, taking into account the agricultural, heritage and environmental factors on the farm.

7.6 Stellenbosch Municipality Spatial Development Framework 2019 (SDF):

The SDF states that *"Nature, scenic value, and agriculture add significantly to the value of the area as one of South Africa's premier tourist destinations."* It furthermore promotes the protection and expansion of tourism assets. It also states that, *"In agricultural areas, associated building structures are permitted, as well as dwelling units to support rural tourism, and ancillary rural activities that serves to diversify farm income. However, these should not undermine the sustainability of agricultural production, and adhere to the guidelines contained in the SEMF and "Western Cape Land Use Planning: Rural Guidelines"*

The proposal is therefore clearly in line with the vision of the SDF in so far as it proposes tourist related activities which is complimentary to the existing agricultural activities on the farm, as well as in the surrounding area. The heritage resources found on the farm are opened up to the general public and community involvement in cultural and tourism activities are accordingly supported.

The Spatial Policy of the SDF promotes *"Support compatible and sustainable rural activities outside the urban edge (including tourism) if these activities are of a nature and form appropriate in a rural context, generate positive socio-economic returns, and do not compromise the environment, agricultural sustainability, or the ability of the municipality to deliver on its mandate."* It futher *"Support for various forms of leisure and*

tourism activities across the rural landscape, of appropriate location, scale, and form not to compromise the environment, agricultural sustainability, and the scenic, heritage and cultural landscape."

The proposed consent uses adheres to these principles as it will create socio-economic opportunities which does not intrude on the natural environment or agricultural land. It was further approved by HWC who found it to be a suitable proposal within the rural context.

The following are included in the SDF's guidelines for tourist accommodation in rural areas:

- *"Large scale tourist accommodation should preferably be provided in or adjacent to existing towns and rural settlements. Tourist accommodation in the rural landscape could be allowed if, of an appropriate scale and form, appropriate to the SPC."*

The proposed tourist accommodation is situated directly adjacent to the City of Cape Town's urban edge and was approved by HWC, deeming it to be of appropriate scale and form.

- *Tourist accommodation situated outside of the urban edge should be clustered in visually discreet nodes, preferably make use of existing buildings or new buildings on disturbed footprints, located within or peripheral to the farmstead, reinforce rural landscape qualities, and cater exclusively for the temporary accommodation for in transit visitors."* It also states that it *"is preferable that they be located within the farmstead."*

The proposed tourist accommodation caters exclusively for transit guests and is situated on the periphery of the farmstead.

The SDF furthermore makes numerous mention to the Western Cape Land Use Planning: Rural Guidelines which was addressed in 7.4 above.

8. CONCLUSION

From the above it is clear that the proposed uses meet statutory requirements, as it is in line with national, provincial, district and local policies applicable to the area. It will greatly contribute to the local and tourism economy and has taken every precaution to protect and respect the environment and heritage of the farm. It will result in the optimal utilization of the property without impacting on the primary agricultural use of the farm whilst taking into account the character of the area. With this in mind, it is envisaged that Council favorably consider the application.

STELLENBOSCH
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LAND USE PLANNING APPLICATION FORM 2017

(Section 15 of the Stellenbosch Municipal Land Use Planning By-Law (2015) and other relevant legislation)

KINDLY NOTE: Please complete this form using BLOCK letters and ticking the appropriate boxes.

PART A: APPLICANT DETAILS

First name(s)	Cornelia van Zyl.				
Surname	Van Zyl				
Company name *(if applicable)*	IC@Plan				
Postal Address	Postnet Suite 176, Private Bag X 15				
	Somerset West			Postal Code	7129.
Email	cornelia@icaplan.co.za				
Tel	—	Fax	—	Cell	0829787151

PART B: REGISTERED OWNER(S) DETAILS *(If different from applicant)*

Registered owner(s)	Hazendal Wine Estate (Pty) Ltd.				
Physical address	Hazendal Wine Estate, Botteberg Road				
				Postal code	
E-mail	Shlomi@hazendal.co.za				
Tel	021 903 5034	Fax	—	Cell	0791009035

PART C: PROPERTY DETAILS *(in accordance with title deed)*

Erf / Erven / Farm No.	222.	Portion(s) if Farm	Rem.	Allotment area	Stellenbosch.
Physical Address	Hazendal Wine Estate, Botteberg Road.				
Current Zoning	Agriculture.	Extent	145,9174 ~~m²~~/ ha	Are there existing buildings?	✓

Applicable Zoning Scheme	Stellenbosch Municipality: Zoning Scheme By-Law, 2019									
Current Land Use	Agricultural & Tourism related uses									
Title Deed number and date	T	58640 / 94								
Attached Conveyance's Certificate	✓		Any Restrictions ito the Attached Conveyance's Certificate? If yes, please list condition(s) as per certificate							
Are the restrictive conditions in favour of a third party(ies)?		X	If Yes, list the party(ies):							
Is the property encumbered by a bond?		X	If Yes, list the bondholder(s):							
Is the property owned by Council?		X	If Yes, kindly attach a power of attorney from the Manager Property Management							
Is the building located within the historical core?		X	Is the building older than 60 years?		X	Is the application triggered by the National Heritage Resources Act, 1999 (Act 25 of 1999)[1]	✓		If Yes, kindly indicate which section are triggered and attached the relevant permit if applicable. Attached.	
Any existing unauthorized buildings and/or land use on the subject property(ies)?		✓				If yes, is this application to legalize the building / land use[2]?		✓		
Are there any pending court case(s) / order(s) relating to the subject property(ies)?			X			Are there any land claim(s) registered on the subject property(ies)?			X	

PART D: PRE-APPLICATION CONSULTATION

Has there been any pre-application consultation?		X	If Yes, please attach the minutes of the pre-application consultation.

PART E: LAND USE PLANNING APPLICATIONS AND APPLICATION FEES PAYABLE

APPLICATIONS IN TERMS OF SECTION 15 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW (2015)

Tick	Type of application: *Cost are obtainable from the Council Approved tariffs*[3]
	15(2)(a) Rezoning of Land
	15(2)(b) a permanent departure from the development parameters of the zoning scheme
	15(2)(c) a departure granted on a temporary basis to utilise land for a purpose not permitted in terms of the primary rights of the zoning applicable to the land;
	15(2)(d) a subdivision of land that is not exempted in terms of section 24, including the registration of a servitude or lease agreement;
	15(2)(e) a consolidation of land that is not exempted in terms of section 24;

[1] All applications triggered by section 38(1)(a)-(e) in terms of the National Heritage Resources Act 1999 (Act 25 of 1999) may not be processed without a permit issued by the relevant department

[2] No application may be submitted to legalize unauthorised building work and or land use on the property if a notice have been served in terms of Section 87(2)(a) and until such time a Section 91 Compliance Certificate have been issued in terms of the Stellenbosch Land Use Planning By-law (2015)

	15(2)(f) a removal, suspension or amendment of restrictive conditions in respect of a land unit;
	15(2)(g) a permission required in terms of the zoning scheme;
	15(2)(h) an amendment, deletion or imposition of conditions in respect of an existing approval;
	15(2)(i) an extension of the validity period of an approval
	15(2)(j) an approval of an overlay zone as contemplated in the zoning scheme;
	15(2)(k) an amendment or cancellation of an approved subdivision plan or part thereof, including a general plan or diagram ;
	15(2)(l) a permission required in terms of a condition of approval;
	15(2)(m) a determination of a zoning;
	15(2)(n) a closure of a public place or part thereof;
✓	15(2)(o) a consent use contemplated in the zoning scheme;
	15(2)(p) an occasional use of land;
	15(2)(q) to disestablish a home owner's association
	15(2)(r) to rectify a failure by a home owner's association to meet its obligations in respect of the control over or maintenance of services;
	15(2)(s) a permission required for the reconstruction of an existing building that constitutes a non-conforming use that is destroyed or damaged to the extent that it is necessary to demolish a substantial part of the building.
	15(2)(6) When the Municipality on its own initiative intends to conduct land development or an activity
	15(2)(l) Amendment of Site Development Plan
	15(2)(l) Compilation / Establishment of a Home Owners Association Constitution / Design Guidelines

OTHER APPLICATIONS		
	Deviation from Council Policies/By-laws;	R
	Other (specify) : _____	R
	TOTAL A:	**R**

PRESCRIBED NOTICE AND FEES** *(for completion and use by official)*

Tick	Notification of application in media	Type of application	Cost
	SERVING OF NOTICES	Delivering by hand; registered post; data messages	R
	PUBLICATION OF NOTICES	Local Newspaper(s); *Provincial Gazette*; site notice; Municipality's website	R
	ADDITIONAL PUBLICATION OF NOTICES	Site notice, public meeting, local radio station, Municipality's website, letters of consent or objection	R
	NOTICE OF DECISION	*Provincial Gazette*	R
	INTEGRATED PROCEDURES	I.B.C	R
		TOTAL B:	**R**
		TOTAL APPLICATION FEES* (TOTAL A + B)	**R**

**** Application fees that are paid to the Municipality are non-refundable and proof of payment of the application fees must accompany an application.***

***** The applicant is liable for the cost of publishing and serving notice of an application. Additional fees may become applicable and the applicant will be informed accordingly.***

BANKING DETAILS

Name:	Stellenbosch Municipality
Bank:	NEDBANK
Branch no.:	198765
Account no.:	1152271679
SWIFT	NEDSZAJJ
Payment reference. (Erf/Farm number)	

DETAILS FOR INVOICE	
Name & Surname/Company name (details of party responsible for payment)	Hazendal Wine Estate. c/o. Mr. Shlomi Azar
Postal Address	PO Box 111 Sonneike, 7583
Vat Number (where applicable)	4850142953

PART F: DETAILS OF PROPOSAL

	Building line encroachment	Street		From	m	To	m
		Street		From	m	To	m
		Side		From	m	To	m
		Side		From	m	To	m
		Aggregate side		From	m	To	m
		Rear		From	m	To	m
	Exceeding permissible site coverage			From	%	To	%
	Exceeding maximum permitted bulk / floor factor / no of habitable rooms			From		To	
	Exceeding height restriction			From	m	To	m
	Exceeding maximum storey height			From	m	To	m
	Consent/Conditional Use/Special Development To permit.....numerous tourist related uses as listed in motivation..... in terms of Section...2.(o).....of the.....Stellenbosch.....Zoning Scheme Regulations						
	Other (please specify)						

Brief description of proposed development / intent of application:

Application for numerous tourism related uses in existing and proposed structures. The uses are either new and/or currently implimented without permission. This application therefore aim to regularise existing uses and obtaining rights for proposed uses.

More detail is provided in the motivation report.

PART G: ATTACHMENTS AND SUPPORTING INFORMATION AND DOCUMENTATION FOR LAND USE PLANNING APPLICATION

Complete the following checklist and attach all the information and documentation relevant to the proposal. Failure to submit all information and documentation required will result in the application being deemed incomplete.

✓		Power of attorney / Owner's consent if applicant is not owner			X	Bondholder's consent (if applicable)	
✓		Resolution or other proof that applicant is authorised to act on behalf of a juristic person		✓		Proof of any other relevant right held in the land concerned	
✓		Written motivation pertaining to the need and desirability of the proposal		✓		S.G. diagram / General plan extract (A4 or A3 only)	
✓		Locality plan (A4 or A3 only) to scale		✓		Site development plan or conceptual layout plan (A4 or A3 only) to scale	
	X	Proposed subdivision plan (A4 or A3 only) to scale			X	Proof of agreement or permission for required servitude	
	X	Proof of payment of application fees		✓		Proof of registered ownership **(Full copy of the title deed)**	
✓		Conveyancer's certificate			X	Minutes of pre-application consultation meeting (if applicable)	
		X Consolidation plan (A4 or A3 only) to scale				X Land use plan / Zoning plan (A4 or A3 only) to scale	
		Street name and numbering plan (A4 or A3 only) to scale					
		X Landscaping / Tree plan (A4 or A3 only) to scale				X 1 : 50 / 1:100 Flood line determination (plan / report) (A4 or A3 only) to scale	
		X Abutting owner's consent				X Home Owners' Association consent	
✓		Copy of Environmental Impact Assessment (EIA) / Heritage Impact Assessment (HIA) / Traffic Impact Assessment (TIA) / Traffic Impact Statement (TIS) / Major Hazard Impact Assessment (MHIA) / Environmental Authorisation (EA) / Record of Decision (ROD)		✓		Services Report or indication of all municipal services / registered servitudes	
✓		Copy of original approval and conditions of approval				X Proof of failure of Home owner's association	
		X Proof of lawful use right				X Any additional documents or information required as listed in the pre-application consultation form / minutes	
		X Required number of documentation copies				X Other (specify)	

PART H: AUTHORISATION(S) SUBJECT TO OR BEING CONSIDERED IN TERMS OF OTHER LEGISLATION

✓		If required, has application for EIA / HIA / TIA / TIS / MHIA approval been made? If yes, attach documents / plans / proof of submission etc.	Specific Environmental Management Act(s) (SEMA) (e.g. Environmental Conservation Act, 1989 (Act 73 of 1989)		
				X	National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004)
	X	Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970)		X	National Environmental Management: Waste Act, 2008 (Act 59 of 2008)
	X	Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)(SPLUMA)		X	National Water Act, 1998 (Act 36 of 1998)
	X	Occupational Health and Safety Act, 1993 (Act 85 of 1993): Major Hazard Installations Regulations			Other (specify)
✓	N/A	Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)			
		Do you want to follow an integrated application procedure in terms of section 44(1) of the Stellenbosch Municipality Land Use Planning By-Law? If yes, please attach motivation.			

SECTION I: DECLARATION

I hereby wish to confirm the following :

1. *That the information contained in this application form and accompanying documentation is complete and correct.*
2. *I'm aware that it is an offense in terms of section 86(1)(e) to supply particulars, information or answers knowing the particulars, information or answers to be false, incorrect or misleading or not believing them to be correct.*
3. *I am properly authorized to make this application on behalf of the owner and that a copy of the relevant power of attorney or consent is attached hereto.*
4. *Where an agent is appointed to submit this application on the owner's behalf, it is accepted that correspondence from and notifications by the Municipality in terms of the by-law will be sent only to the agent and that the owner will regularly consult with the agent in this regard.*
5. *I confirm that the relevant title deed(s) have been read and that there are no restrictive title deed restrictions, which impact on this application, or alternatively an application for removal/suspension or amendment forms part of this submission.*
6. *I confirm that I have made known all information relating to possible Land / Restitution Claims against the application property.*
7. *It is the owner's responsibility to ensure that approval is not sought for a building or land use which will be in conflict with any applicable law.*
8. *The Municipality assesses an application on the information submitted and declarations made by the owner or on his behalf on the basis that it accepts the information so submitted and declarations so made to be correct, true and accurate.*
9. *Approval granted by the Municipality on information or declarations that are incorrect, false or misleading may be liable to be declared invalid and set aside which may render any building or development pursuant thereto illegal.*
10. *The Municipality will not be liable to the owner for any economic loss suffered in consequence of approval granted on incorrect, false or misleading information or declarations being set aside.*
11. *Information and declarations include any information submitted or declarations made on behalf of the owner by a Competent Person/professional person including such information submitted or*

declarations made as to his or her qualification as a Competent person and/or registration as a professional.

12. *A person who provides any information or certificate required in terms of Regulation A19 of the National Building Regulations and Building Standards Act No 103 of 1977 which he or she knows to be incomplete or false shall be guilty of an offence and shall be prosecuted accordingly.*
13. *A person who supplies particulars, information or answers in a land use application in terms of the Stellenbosch Municipality Land Use Planning By law knowing it to be incorrect, false or misleading or not believing them to be correct shall be guilty of an offence and shall be prosecuted accordingly.*
14. *The Municipality will refer a complaint to the professional council or similar body with whom a Competent Person/professional person is registered in the event that it has reason to believe that information submitted or declaration/s made by such Competent Person/professional person is incorrect, false or misleading.*

Applicant's signature: _____ Date: 18/05/2021.

Full name: Anna Cornelia van Zyl.

Professional capacity: Town Planning Consultant.

FOR OFFICE USE ONLY

Date received: _____

Received By: _____

SPECIAL POWER OF ATTORNEY

I, Shlomi Azar, being the authorised representative for Hazendal Wine Estate (Pty) Ltd, registered owner of **Farm 222 Hazendal, Stellenbosch** do hereby nominate, constitute and appoint:

A.C. van Zyl / I.K. Germishuys from I.C. @ Plan Town Planners

With power of substitution, to be my lawful Attorney and Agent to take any action that may be necessary to:

Submit an application on Remainder Farm 222 to obtain consent for numerous tourist related uses.

and to sign all documents and to do all things that may be necessary in connection with the application and generally for effecting the purpose aforesaid to do or cause to be done whatsoever shall be requisite, as fully and effectually, for all intents and purposes, as the owner might or could if personally present and acting herein - hereby ratify, allow and confirm all and whatsoever the owner's Attorney and Agent shall lawfully do or cause to be done, by virtue of these presents.

SIGNED AT HAZENDAL WINE ESTATE THIS 16 DAY OF April 2019

.....

S Azar

1 .....

2 .....

AS WITNESSES

EXTRACT FROM THE MINUTES OF A MEETING HELD BY THE DIRECTORS OF HAZENDAL WINE ESTATE (PTY) LTD AT HAZENDAL WINE ESTATE ON 29

At the above meeting it was resolved that:

" 1. An application for Consent Use be submitted on Remainder Farm 222, Hazendal to allow for tourist activities and a Hotel/tourist accommodation establishment.

2. Mr. Shlomi Azar be authorised to sign all documents necessary to give effect to the above.

3. The firm I.C.@Plan Town Planners be appointed to undertake the professional work necessary to give effect to the above,

Mark Voloshin
Chairman

Ina Voloshin
Director

Simone Voloshin
Director

Shlomi Azar
Director

~~CLUVER MARKOTTER~~
117
JAN S. DE VILLIERS EN SEUN (GRP)
Posbus 1474
8000 KAAPSTAD

Opgestel deur my
TRANSPORTBESORGER
J W BASSON

PER PORTNER ENDORSEMENTS WE
VIR VERDERE ENDOSSEMENTE SIEN ..... 7 .....

Transportakte

1814 DS
DATA
19-8 L MURIE

CLUVER EN MARKOTTER
PROKUREURS
STELLENBOSCH

T 58640 94

HIERBY WORD BEKEND GEMAAK
DAT ~~JACOBUS ADRIAAN LOUW DE WAAL~~

Aktebesorger, voor my, Registrateur van Aktes in Kaapstad, verskyn het, behoorlik daartoe gemagtig deur 'n volmag geteken te STELLENBOSCH op die 17de dag van Junie 1994 en aan hom verleen deur

MICHAEL ROBERT EDWARD BOSMAN
Identiteitsnommer: 570915 5095 08 7
Getroud buite gemeenskap van goedere

G:\home\wp6\tray\marvol

DIE NAAM VAN DIE / THE NAME OF THE
Unerner
IS VERANDER NA / HAS BEEN CHANGED TO
Hazendal Wine Estate (Pty.) Ltd.

BC 4152 95
26-01-95
REGISTRATEUR/REGISTRAR

VERBIND MORTGAGED
VIR / FOR R 1 250 000,00
B 5141 95
26 01 95
REGISTRATEUR/REGISTRAR

BC 16471 98
GEKANSELLEER
CANCELLED
REGISTRATEUR/REGISTRAR
23 03 98

VERBIND MORTGAGED
VIR / FOR R 1500000,00
B 65335 95
28 09 95
REGISTRATEUR/REGISTRAR

BC 16472 98
GEKANSELLEER
CANCELLED
REGISTRATEUR/REGISTRAR
23 03 98

FOR FURTHER ENDORSEMENT SEE
VIR VERDERE ENDOSSEMENT SIEN

EN die Komparant het verklaar dat sy voorsegde prinsipaal werklik en wettiglik verkoop het op 29 April 1994 en dat hy in sy hoedanigheid as voorsegde prokureur deur hierdie akte gesedeer en getransporteer het in volle en vrye eiendomsreg aan en ten behoewe van

MARVOL WINE ESTATES (PROPRIETARY) LIMITED
Nr. 94/02220/07

Hul Administrateurs of Gemagtigdes

RESTANT van die Plaas HAASENDAL Nr. 222, Afdeling Stellenbosch

GROOT: 145,9194 (EEN HONDERD VYF EN VEERTIG KOMMA NEGE EEN NEGE VIER) Hektaar

AANVANKLIK OORGEDRA kragtens Grondbrief gedateer 16 Augustus 1915 (Stellenbosch Erfpagte Boekdeel 24 nr. 6) met Kaart daarby aangeheg en gehou kragtens Transportakte Nr. T33889/84.

A. ONDERHEWIG aan die voorwaardes waarna verwys word in Transportakte Nr. T5057/1941;

B. ONDERHEWIG VERDER aan die volgende endossement gedateer 26 Januarie 1976 aangebring op Transportakte Nr. T5057/1941 welke endossement as volg lees:-

ENDOSSEMENT KRAGTENS ARTIKEL 31(6) VAN WET NR. 47 van 1937 (SOOS GEWYSIG)

'n Gedeelte van die eiendom hierin vermeld groot ± 4,55 ha is onteien deur die Departement van Vervoer kragtens Art. 8(1) van Wet 54 van 1971 Vide onteieningskennisgewing Nr. N10/3/1/115/98 d.d. 12-12-75 geliasseer as onteieningscaveat 1727/75 planne in tweevoud geliasseer hiermee.

6

VERBIND MORTGAGED

VIR FOR R 2 250 000,00

B 63385196

16 09 96

REGISTRATEUR/REGISTRAR

BO 6473 '98

GEKANSELLEER
CANCELLED

REGISTRATEUR/REGISTRAR

23 03 '98

VERBIND MORTGAGED

VIR FOR R 5 000 000,00 WOP

B NOT PROCEED WITH.

REGISTRATEUR/REGISTRAR

W.O.P.

VERBIND MORTGAGED

VIR FOR R 15000000,00

B 17146-98

23 03 '98

REGISTRATEUR/REGISTRAR

VIR ENDOSSEMENTE KYK BLADSY
FOR ENDORSEMENTS SEE PAGE

C. ONDERHEWIG VERDER aan die volgende endossement gedateer 9 September 1976 aangebring op Transportakte Nr. T5057/1941 welke endossement as volg lees:-

ENDOSSEMENT KRAGTENS ARTIKEL 31(6) VAN WET NR. 47 van 1937 (SOOS GEWYSIG)

'n Gedeelte van die eiendom hierin vermeld groot ± 3,2793 ha is onteien deur die Afdelingsraad van Stellenbosch kragtens Art. 130 van Ord. 15 van 1952 Vide onteieningskennisgewing Nr. H/2/1 dd 17-8-76 geliasseer as onteieningscaveat EX 1322/76 planne in tweevoud geliasseer hiermee.

D. ONDERHEWIG VERDER aan die volgende endossement gedateer 28 Maart 1978 aangebring op Transportakte Nr. T5057/1941 welke endossement as volg lees:-

ENDOSSEMENT KRAGTENS ARTIKEL 31(6) VAN WET NR. 47 VAN 1937 (SOOS GEWYSIG)

'n Gedeelte van die eiendom hierin vermeld groot ± 4,08 ha is onteien deur Departement van Vervoer kragtens Artikel 8(1)d van Wet 33 van 1975 Vide onteieningskennisgewing Nr. N 10/3/1/115/98 dd 14-3-78 geliasseer as onteieningscaveat nr. Ex 232/78 planne in tweevoud geliasseer hiermee.

E. ONDERHEWIG VERDER aan die volgende endossement gedateer 2 Julie 1979 aangebring op Transportakte Nr. T5057/1941 welke endossement as volg lees:-

ENDOSSEMENT KRAGTENS ARTIKEL 31(6) VAN WET NR. 47 van 1937 (SOOS GEWYSIG)

'n Gedeelte van die eiendom hierin vermeld groot ± 0,3093 ha is onteien deur die Afdelingsraad van Stellenbosch kragtens Art. 27 van die Ordonnansie op paaie 1976 Vide onteieningskennisgewing nr. R12/1/6 dd 15-6-1979 geliasseer as onteieningscaveat nr. Ex 303/79 planne in tweevoud geliasseer hiermee.

F. ONDERHEWIG VERDER aan die volgende endossement gedateer 30 Oktober 1981 aangebring op Transportakte Nr. T5057/1941 welke endossement as volg lees:-

"By Notarial Deed No K901/1981 S the property The Remainder of the Consolidated farm Haasendal No 222 held hereunder is subject to a right favour of Electricity Supply commission to convey electricity thereover, together with ancillary rights and subject to conditions as will more fully appear from reference to the said Notarial Deed (and diagram) grosse whereof is annexed hereto."

G. ONDERHEWIG VERDER aan die volgende endossement gedateer 22 September 1944 aangebring op Transportakte Nr. T5057/1941 welke endossement as volg lees:-

RESTANT
REGISTRASIE VAN SERWITUUT

Kragtens Akte van Transport Nr. 13499 ged. 22-9-1944 is die transportontvanger daaronder en sy opvolgers in titel van gedeelte 19 van Haasendal daardeur getransporteer geregtig op die gebruik van 'n serwituut pad 20 vt wyd oor die restant gehou hieronder gemerk XX op die kaart van gesegde transportakte Nr. 13499/1944 soos meer breedvoerig sal blyk uit gesegde akte van Transport."

H. ONDERHEWIG VERDER aan die volgende endossement gedateer 13 September 1982 op Transportakte Nr. T5057/1941 welke endossement as volg lui:-

RESTANT
ENDOSSEMENT KRAGTENS ARTIKEL 31(6) VAN WET 47 VAN 1937 (SOOS GEWYSIG)

'n Gedeelte van die eiendom hierin vermeld groot ± 3074 vierkante meter is onteien deur die Afdelingsraad Stellenbosch kragtens Artikel 27 van die Ord. op Paaie Ord. 19 van 1976 Vide onteieningskennisgewing nr. 9/1/2/1/3/1/5 dd 26-8-1982 geliasseer as onteieningscaveat EX 569/82 planne in tweevoud geliasseer EX 569/82"

I. ONDERHEWIG VERDER aan die voorwaardes vervat in Notariële Serwituutakte Nr. K725/91 soos geëndosseer op Transportakte Nr. T33889/84 waarkragtens ESKOM geregtig is om elektrisiteit oor die hierinvermelde eiendom te verly, tesame met bykomende regte en onderhewig aan die voorwaardes soos meer volledig vervat in die gesegde Notariële Akte.

J. VERDER ONDERHEWIG aan die voorwaardes vervat in die endossement aangebring op Transportakte Nr. T33889/84 kragtens Artikel 13(3) van Wet 28 van 1969 (Wet op Nasionale Gedenkwaardighede), naamlik dat kragtens Artikel 10(1) van Wet 28 van 1969 is die historiese plaas bekend as Hazendal (Haasendal) insluitende al die geboue en strukture daarop geproklameer as 'n gedenkwaardigheid ingevolge Proklamasie Nr. 332 (Item 10) gedateer 22 Februarie 1991 soos aangekondig in die Staatskoerant Nr. 2213027 gedateer 22 Februarie 1991. Verdere besonderhede insake gemelde proklamasie is geliasseer onder I3356/1991.

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DERHALWE doen die Komparant q.q., afstand van al die regte en titel wat die bogenoemde

TRANSPORTGEWER

voorheen op genoemde eiendom gehad het en gevolglik ook erken dat die TRANSPORTGEWER geheel en al van die besit daarvan onthef is en nie meer daarop geregtig is nie, en dat, kragtens hierdie Akte bogenoemde

TRANSPORTNEMER

Hul Administrateurs of Gemagtigdes

tans en voortaan daarop geregtig is, ooreenkomstig plaaslike gebruik, behoudens die regte van die Staat; en ten slotte verklaar hy dat die volle koopsom ten bedrae van R2 400 000,00 (TWEE MILJOEN VIER HONDERD DUISEND RAND) behoorlik betaal of verseker is.

TEN BEWYSE waarvan ek, die genoemde Registrateur van Aktes, tesame met die Komparant, q.q. hierdie Akte onderteken en met die Ampseel bekragtig het.

ALDUS GEDOEN en geteken op die Kantoor van die Registrateur van Aktes in Kaapstad, Provinsie van die Kaap die Goeie Hoop,
op die 15
dag van die maand AUGUSTUS
in die jaar van onse Heer Eenduisend Negehonderd Vier en Negentig (1994)

q.q. .

In my teenwoordigheid,

Registrateur van Aktes

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STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK
MUNISIPALITEIT • UMASIPALA • MUNICIPALITY

Our Reference Number: Farm 222, Stellenbosch
Application Number: LU/4748
Your Reference Number:
Enquiries: S Zangqa / B Mdoda
Contact No. 021 808 8667 / 8690
Email: Siyanda.Zangqa@stellenbosch.gov.za / Bulelwa.Mdoda@stellenbosch.gov.za
Date: 16 January 2019

REGISTERED MAIL

IC@Plan (Cornelia Van Zyl)
Postnet Suite 176
Private Bag X15
Somerset West
7129

Madam

APPLICATION FOR TEMPORARY DEPARTURE, CONSENT USE AND AMENDMENT OF CONDITIONS OF APPROVAL: FARM NO. 222, STELLENBOSCH DIVISION

1. The application in the above regard, refers.

2. The Authorised Employee, on 14 January 2019, **approved in whole**, in terms of Section 60 of the Stellenbosch Municipal Land Use Planning By-law, promulgated by Notice no 354/2015 dated 20 October 2015, the application for the following:

   (i) **Consent use** for a tourist facility in order to accommodate a coffee shop, a deli, a gift shop/gallery, and a conference facility as indicated on drawings no: HAZAD-2001, HAZREST-200, HAZCA-300, HAZ 100B (See **Annexure B**);

   (ii) **Temporary departure** in order to accommodate a play area behind the proposed coffee shop and deli as indicated on drawings no: HAZAD-2001, HAZREST 200, HAZCA-300, HAZ 100B (See **Annexure B**);

   (iii) **Amendment of conditions of approval** to allow for extensions to the existing restaurant and accordingly allow for more seats as indicated on drawing no: HAZAD-2001, HAZREST-200, HAZCA-300, HAZ 100B (See **Annexure B**)

3 **That the above approvals are granted is subject to the following conditions in terms of Section 66 of the above-mentioned by-law;**

(i) The approval applies only to the consent uses, temporary departure and amendment of conditions of approval as indicated on HAZAD-2001, HAZREST-200, HAZCA 300, HAZ 100B (See **Annexure B**) and shall not be construed as authority to depart from any other legal prescriptions or requirements from Council;

(ii) The approval for the temporary departure is only valid for five (5) years from the date of final notification;

(iii) The conditions as set out by the Directorate: Engineering Services as contained in the letter dated 03/04/2018, attached here as **Annexure E**, be adhered to;

(iv) The conditions as set out by the Department of Transport and Public Works as contained in the letter dated 12/12/2017, attached here as **Annexure E**, be adhered to;

(v) The conditions as set out by the Manager: Spatial Planning, Heritage and Environment as contained in the letter dated 13/12/2016, attached here as **Annexure E**, be adhered to;

(vi) The conditions as set out by the Manager: Building Development as contained in the letter dated 21/11/2016, attached here as **Annexure E**, be adhered to;

(vii) The relevant business and liquor licence be obtain should it be required;

(viii) Building plans must be approved by this Municipality prior to any building work commencing on site;

(ix) The Municipality reserves the right to impose further conditions if deemed necessary.

4 **REASONS FOR THE DECISION**

(i) The zoning of the property will remain the same;

(ii) The proposal is in keeping with the current land uses on the subject property;

(iii) The proposal will not have any impact on municipal services;

(iv) The proposal will not negatively impact the traffic in the area;

(v) The proposal will not adversely impact on the surrounding environment, uses property values or the character of the area.

5. You are hereby informed of your right to appeal to the Appeal Authority in terms of section 79(2) of the said legislation.

6 If you intend to appeal the appeal form, which can be obtained from our Advice Centre, Land Use Management, Ground floor, Plein Street, Stellenbosch or the municipal website at www.stellenbosch.gov.za/planning portal must be completed and should be directed to the Appeal Authority and received by the Municipal Manager at P O Box 17,

Stellenbosch, 7599 or faxed to 021 886 6749, or hand delivered to the Office of the Municipal Manager, third floor, Plein Street, Stellenbosch within 21 days of registration of this decision letter together with proof of payment of the appeal fee *(only applicable to applicant appeals)*. See the approved tariff structure on the municipal website.

7 In the event of an applicant appeal, you as applicant are requested to simultaneously serve notice of the appeal on any person who commented on the application and any other persons as the Municipality may determine. Proof of serving the notification must be submitted to the Municipality within 14 days of serving the notification.

8 The notice must be served in accordance with section 35 of the said legislation and in accordance with the additional requirements as may be determined by the Municipality. The notice must invite persons to comment on the appeal within 21 days from date of notification of the appeal

9. Kindly note that no appeal right exists in terms of Section 62 of the Local Government Municipal Systems Act, No 32 of 2000.

10. Kindly note the above decision is suspended and may therefore not be acted on until such time as the period for lodging appeals has lapsed, any appeal has been finalised and you've been advised accordingly.

Yours faithfully

FOR ACTING DIRECTOR: PLANNING AND ECONOMIC DEVELOPMENT

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

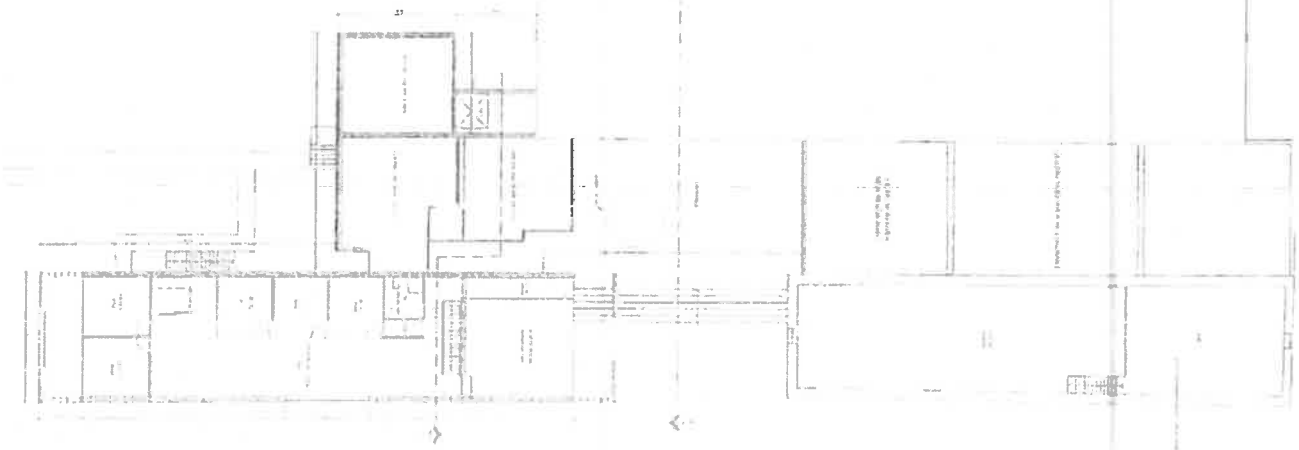
MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

Annexure B

Proposed Site Development Plan

hazendal - administration centre

FIRST FLOOR LAYOUT
scale 1:100

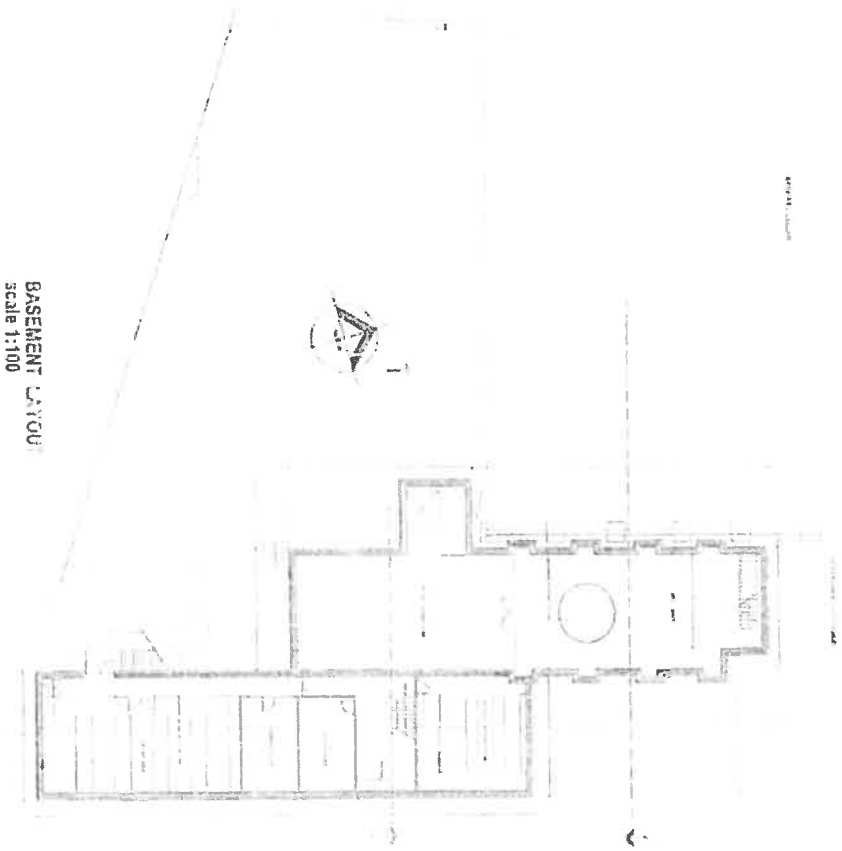


STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF
SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE
PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS
PER ATTACHED LETTER DATED 27/11/2015

AUTHORISED EMPLOYEE/AGENT

hazendal - administration centre



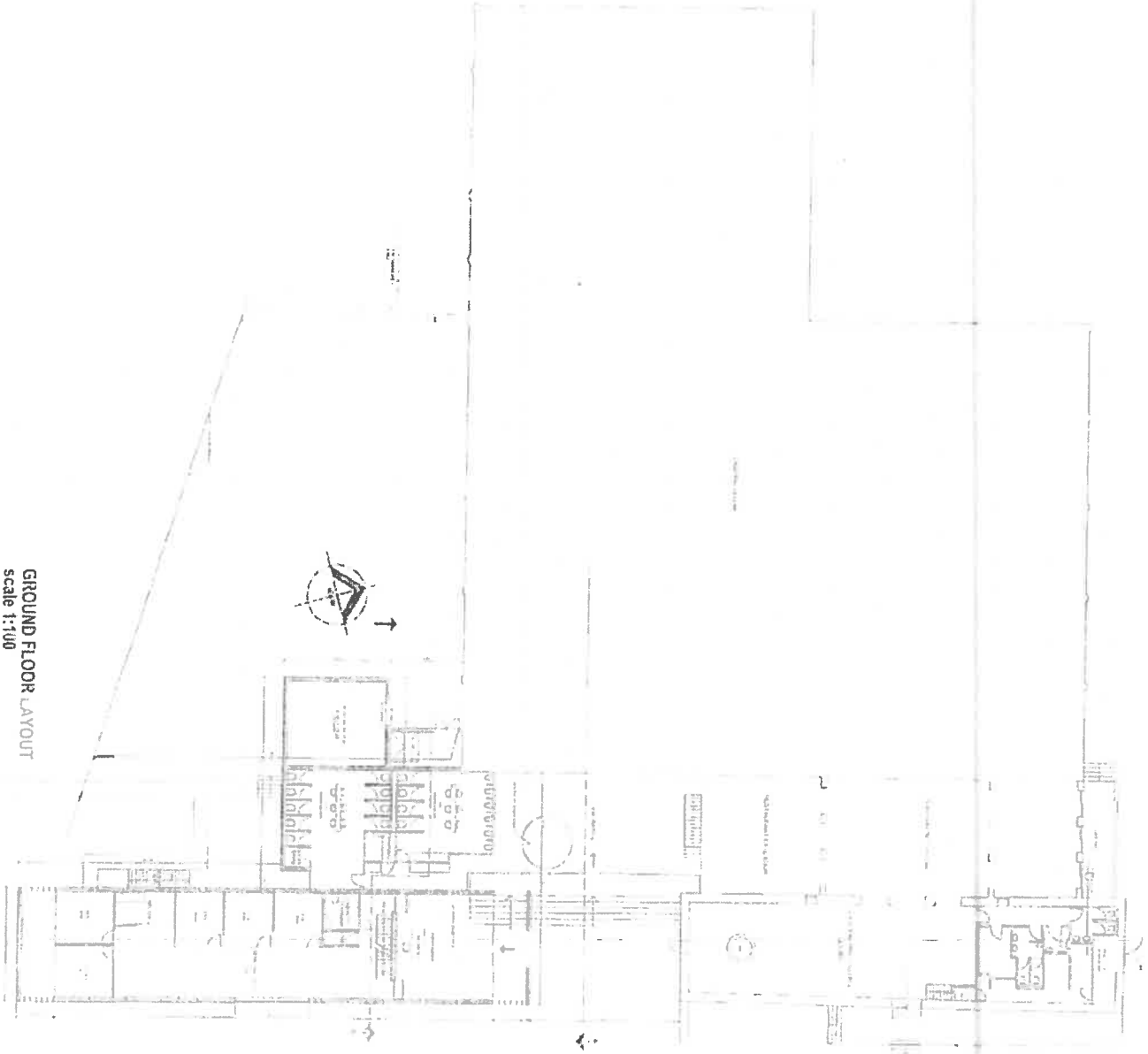
BASEMENT LAYOU
scale 1:100

STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF
SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE
PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS
PER ATTACHED LETTER DATED 19/12/2017

AUTHORISED EMPLOYEE

hazendal - administration centre



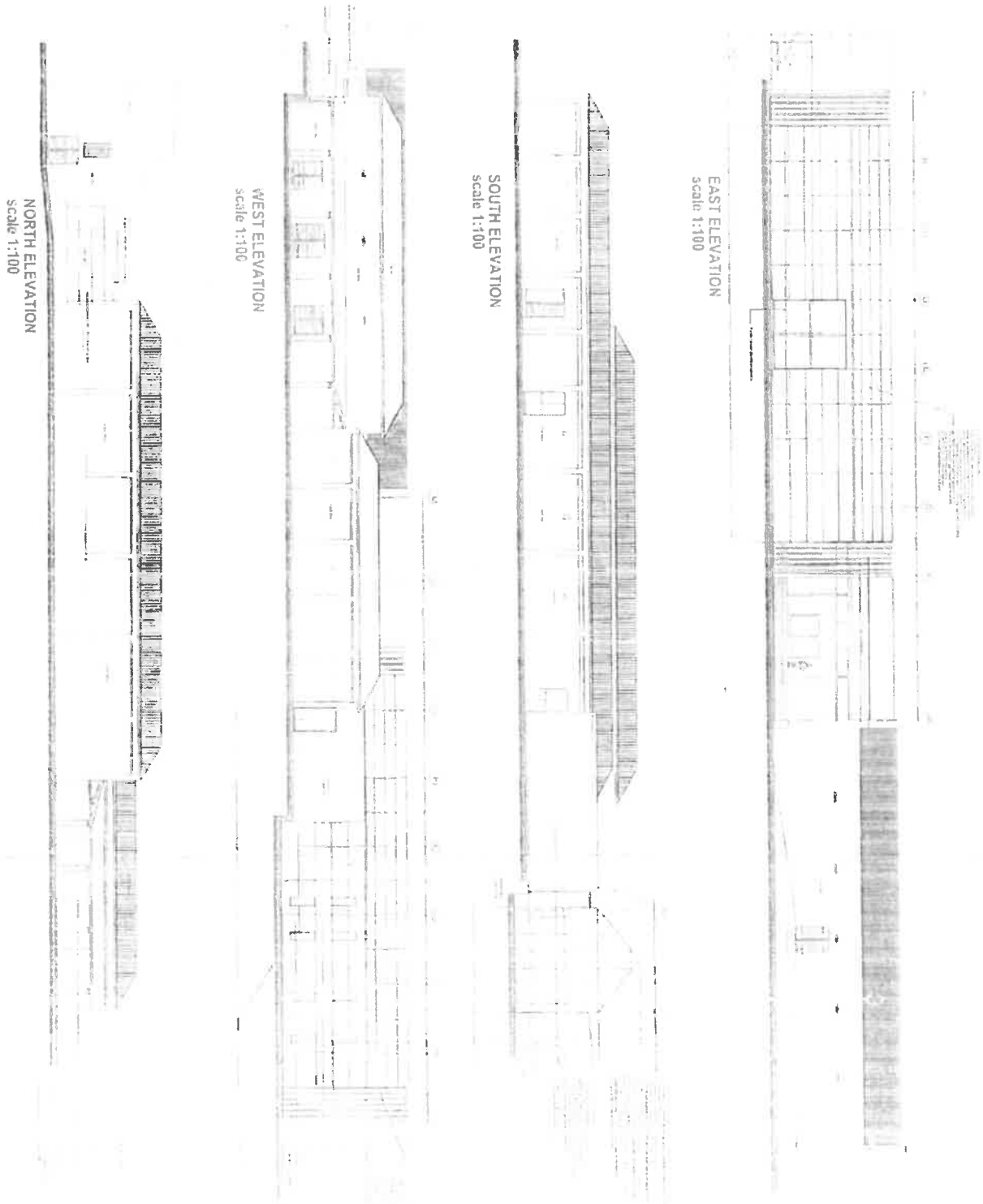
GROUND FLOOR LAYOUT
scale 1:100

STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS PER ATTACHED LETTER DATED 14/01/2019

AUTHORISED EMPLOYEE/AMT

hazendal - administration centre

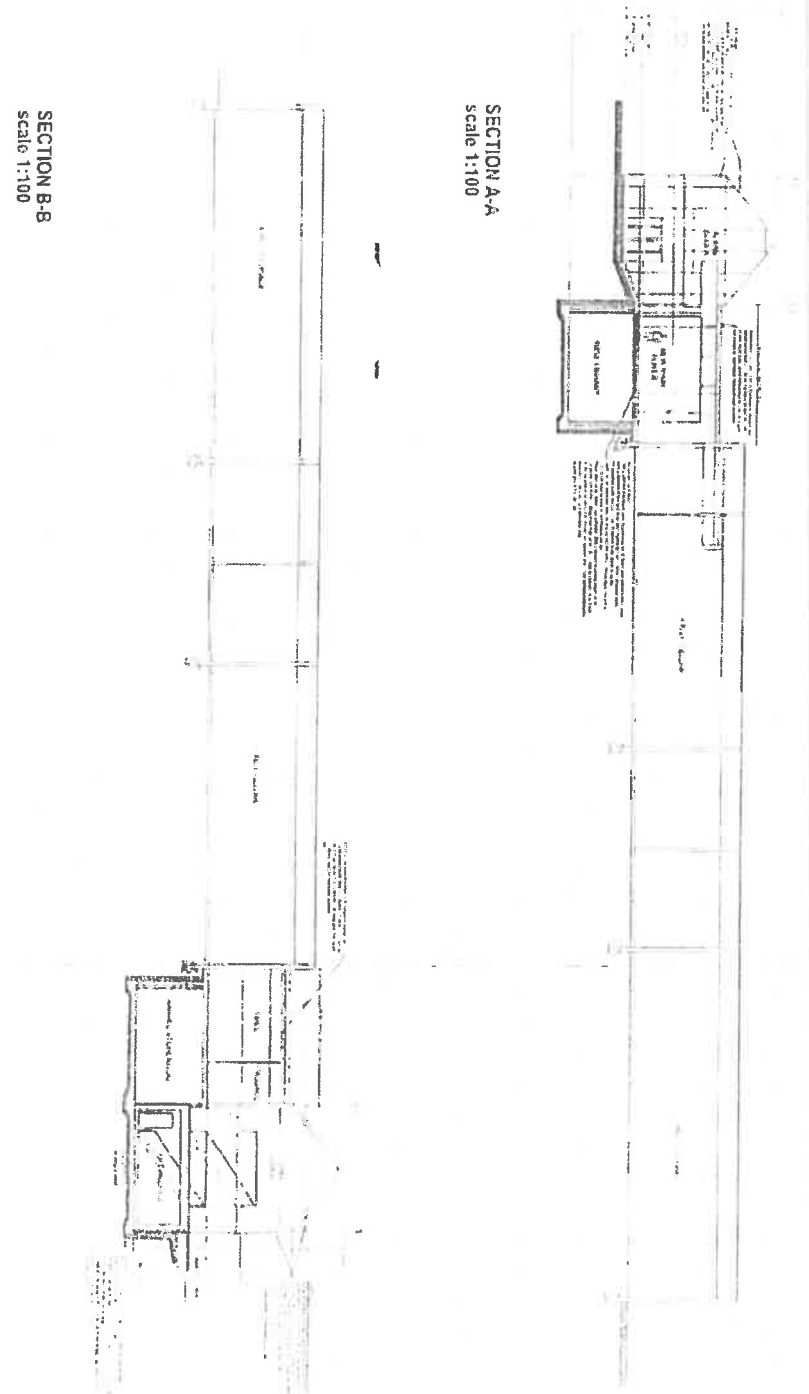


STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS CONTAINED IN LETTER OF APPROVAL DATED 14/12/2015

AUTHORISED EMPLOYEE

hazendal - administration centre



STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS PER ATTACHED LETTER DATED 14/6/2019

AUTHORISED EMPLOYEE/MPT

HAZENDAL FARM

hazendal - restaurant

STELLENBOSCH MUNICIPALITY

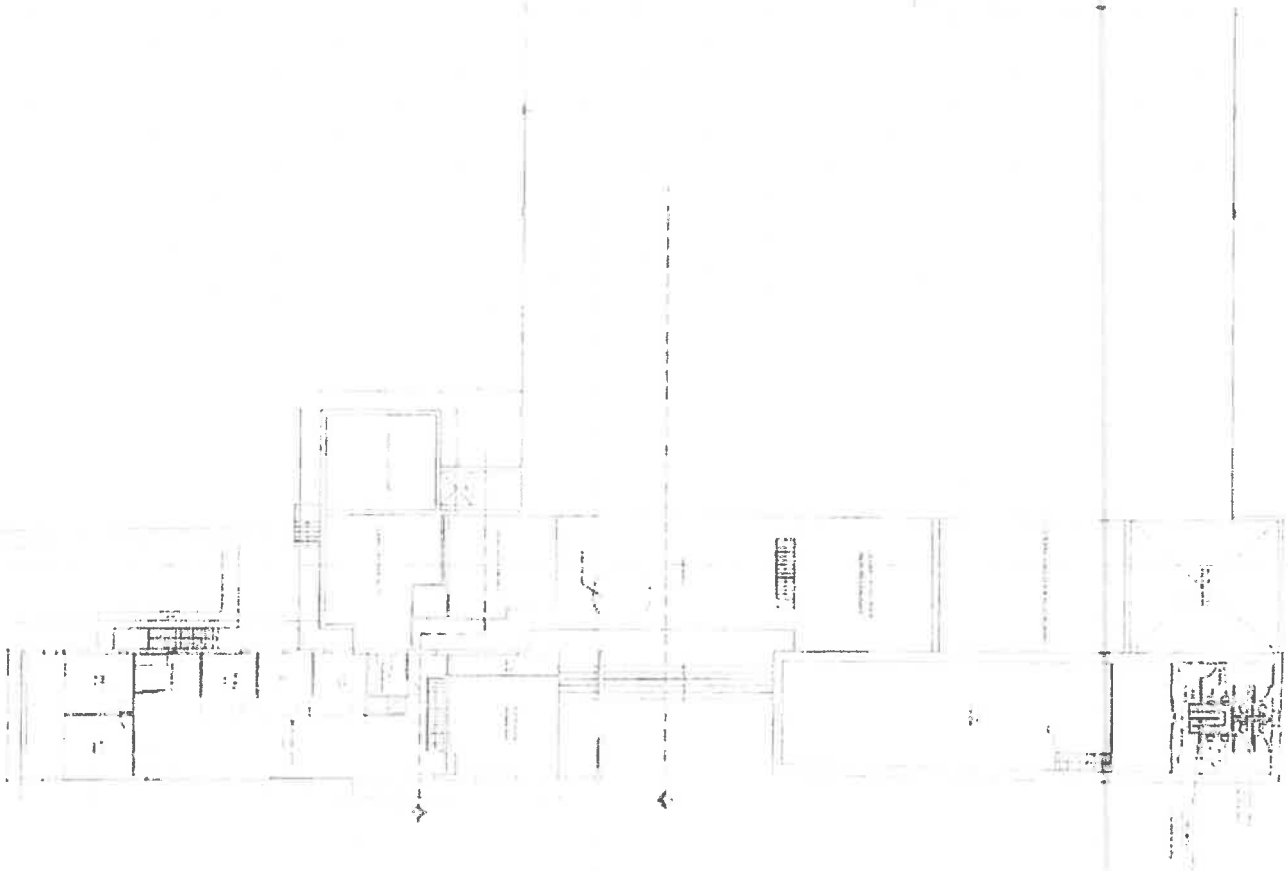
THIS APPLICATION HAS BEEN [illegible] IN TERMS OF SECTION 60 OF THE STELLENBOSCH [illegible] LAND USE PLANNING BY-LAW [illegible] AS

SEE ATTACHED LETTER [illegible] [illegible]

AUTHORISED EMPLOYEE

hazendal - restaurant

FIRST FLOOR LAYOUT
scale 1:100



HAZENDAL FARM

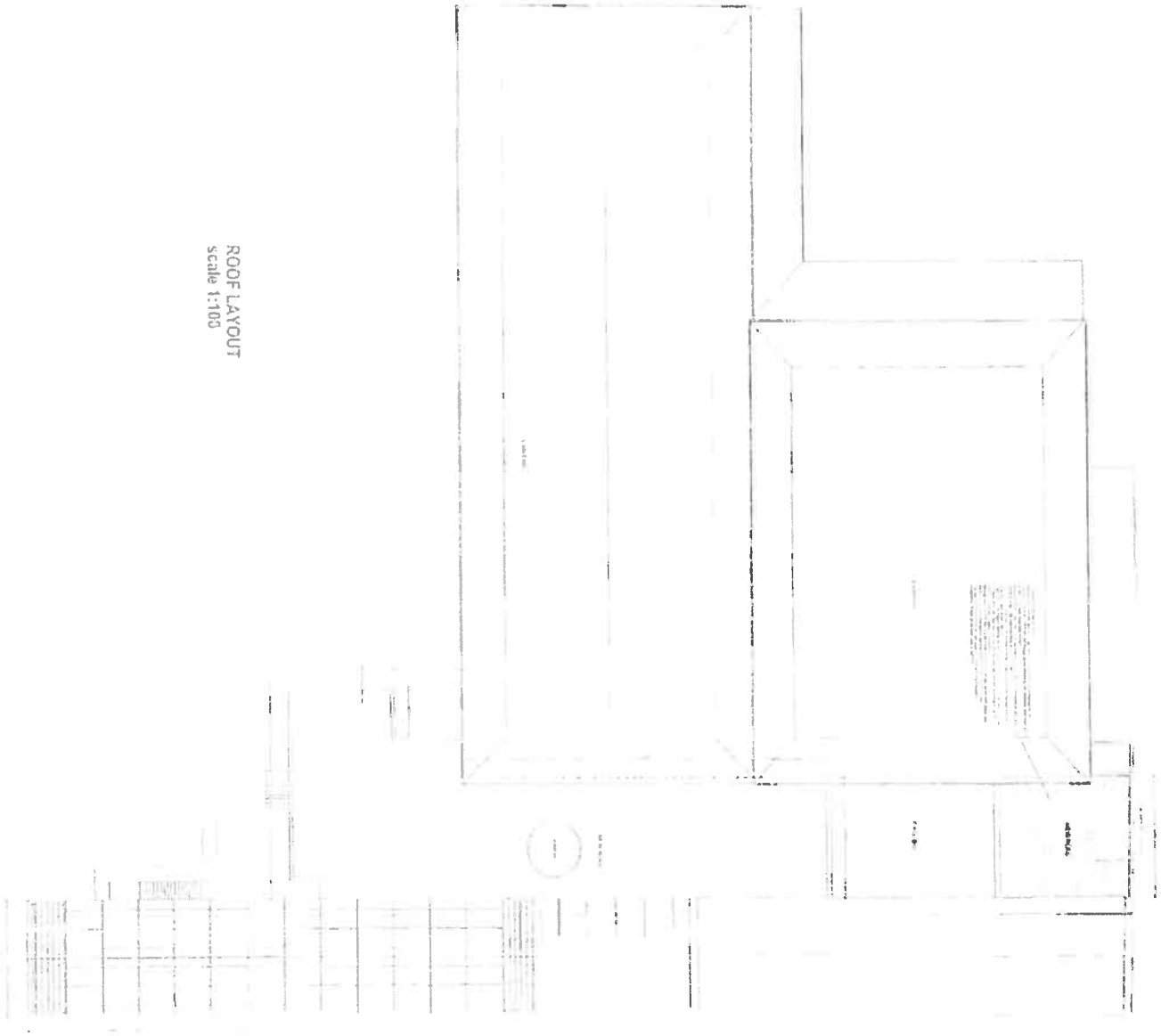
STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS

PER ATTACHED LETTER DATED 14/01/2019

AUTHORISED EMPLOYEE/AGENT

hazendal - restaurant



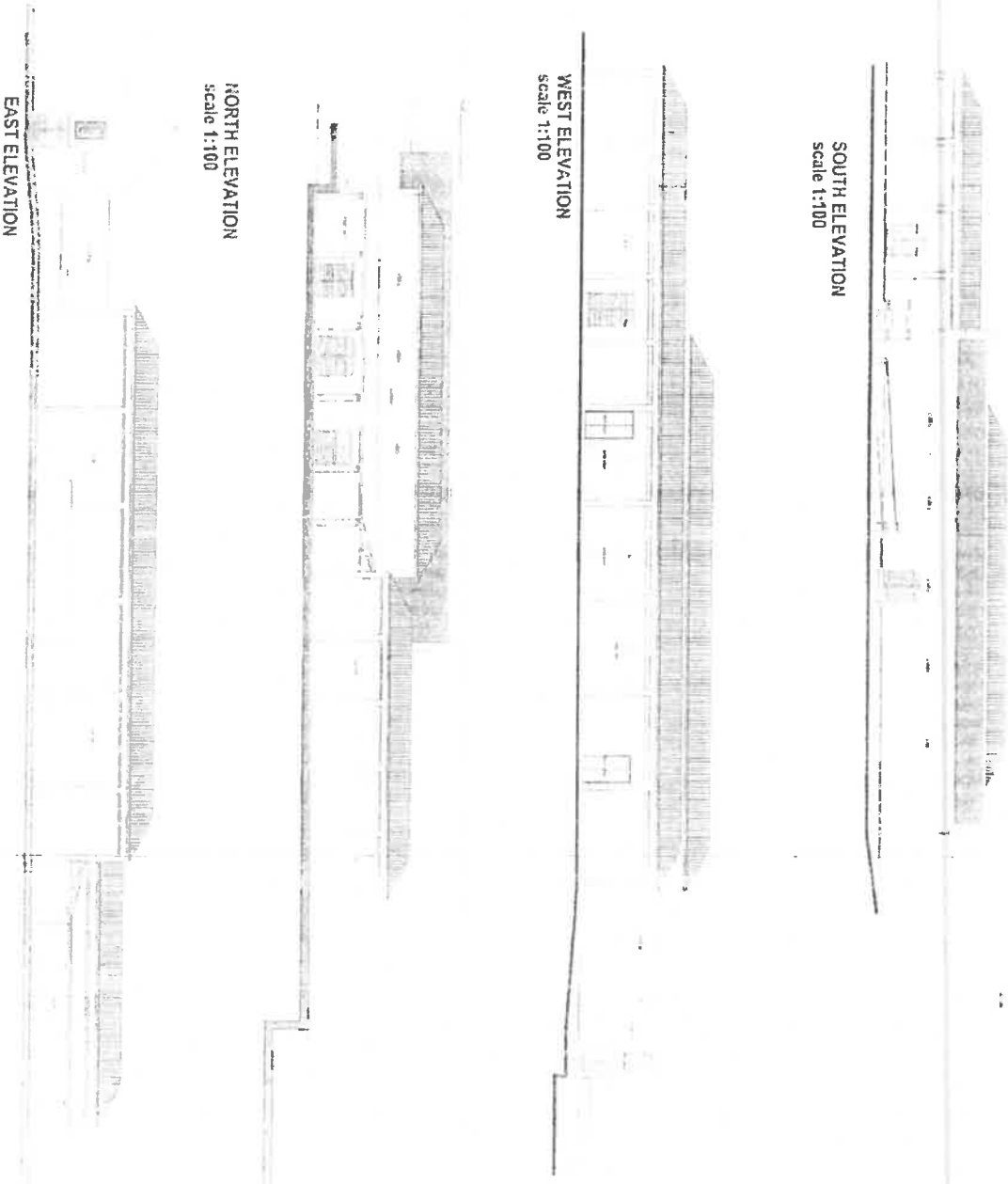
ROOF LAYOUT
scale 1:100

STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF
SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE
PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS
PER ATTACHED LETTER DATED 14/12/2019

AUTHORISED EMPLOYEE/AGENT

hazendal - conference/admin



HAZENDAL FARM

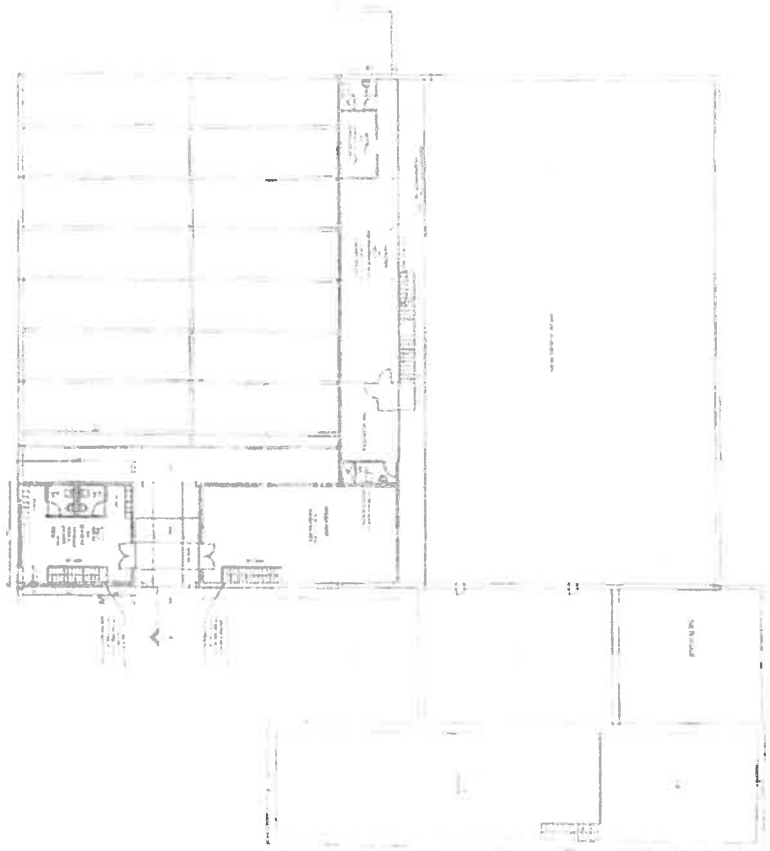
STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW SUBJECT TO THE CONDITIONS AS PER ATTACHED LETTER DATED 14/12/2023

AUTHORISED EMPLOYEE

hazendal -

FIRST FLOOR LAYOUT
scale 1:100

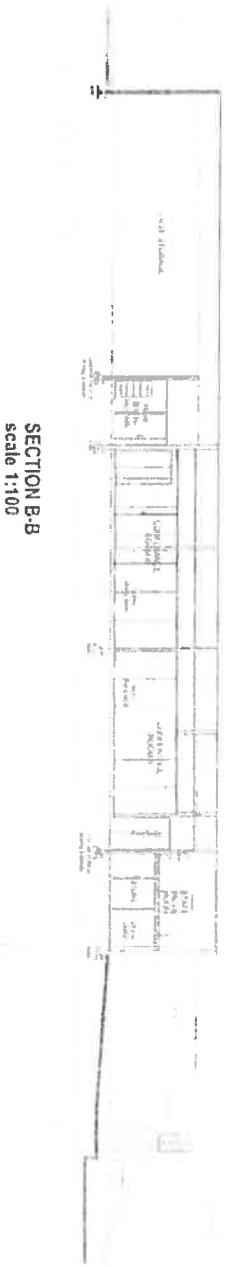


STELLENBOSCH MUNICIPALITY

THIS APPLICATION IS APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW, 2019 SUBJECT TO THE CONDITIONS AS PER ATTACHED LETTER DATED 14/12/2023

AUTHORISED EMPLOYEE

hazendal -



SECTION B-B
scale 1:100

SECTION A-A
scale 1:100

STELLENBOSCH MUNICIPALITY

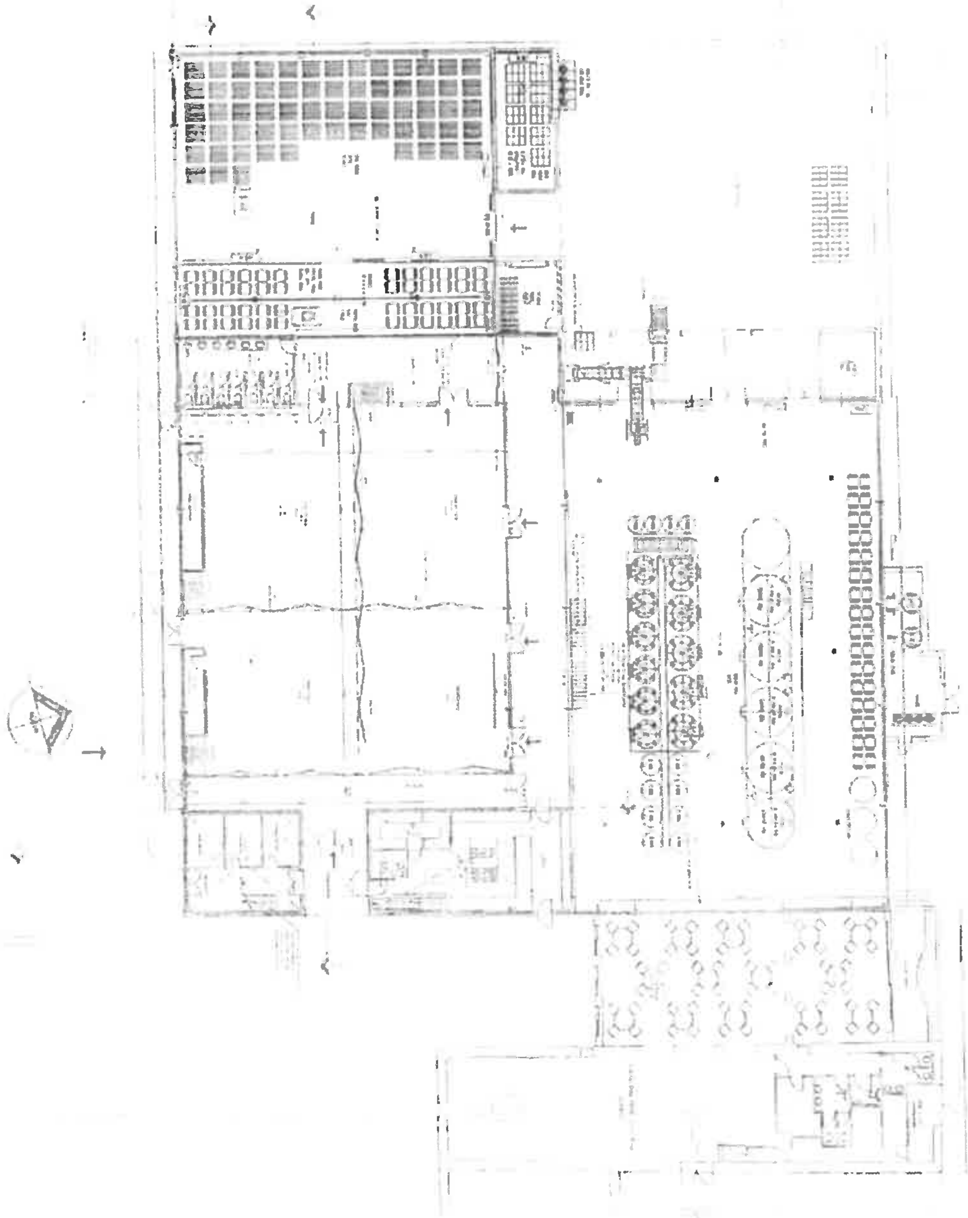
THIS APPLICATION HAS BEEN APPROVED IN TERMS OF
SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE
PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS
PER ATTACHED LETTER DATED 14/03/2019

AUTHORISED EMPLOYEE (DMS)

HAZENDAL FARM

hazendal -

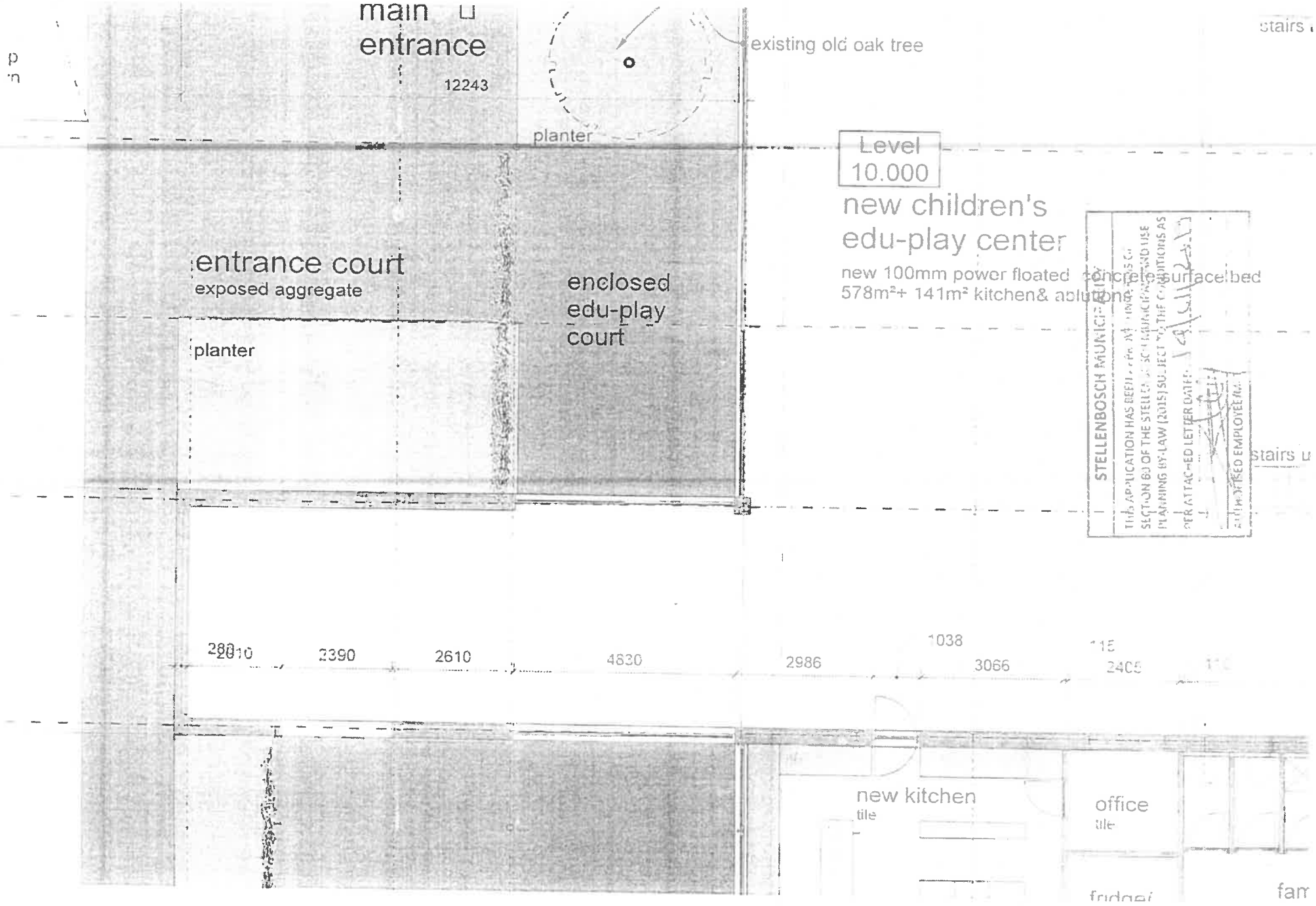
GROUND FLOOR LAYOUT
scale 1:100



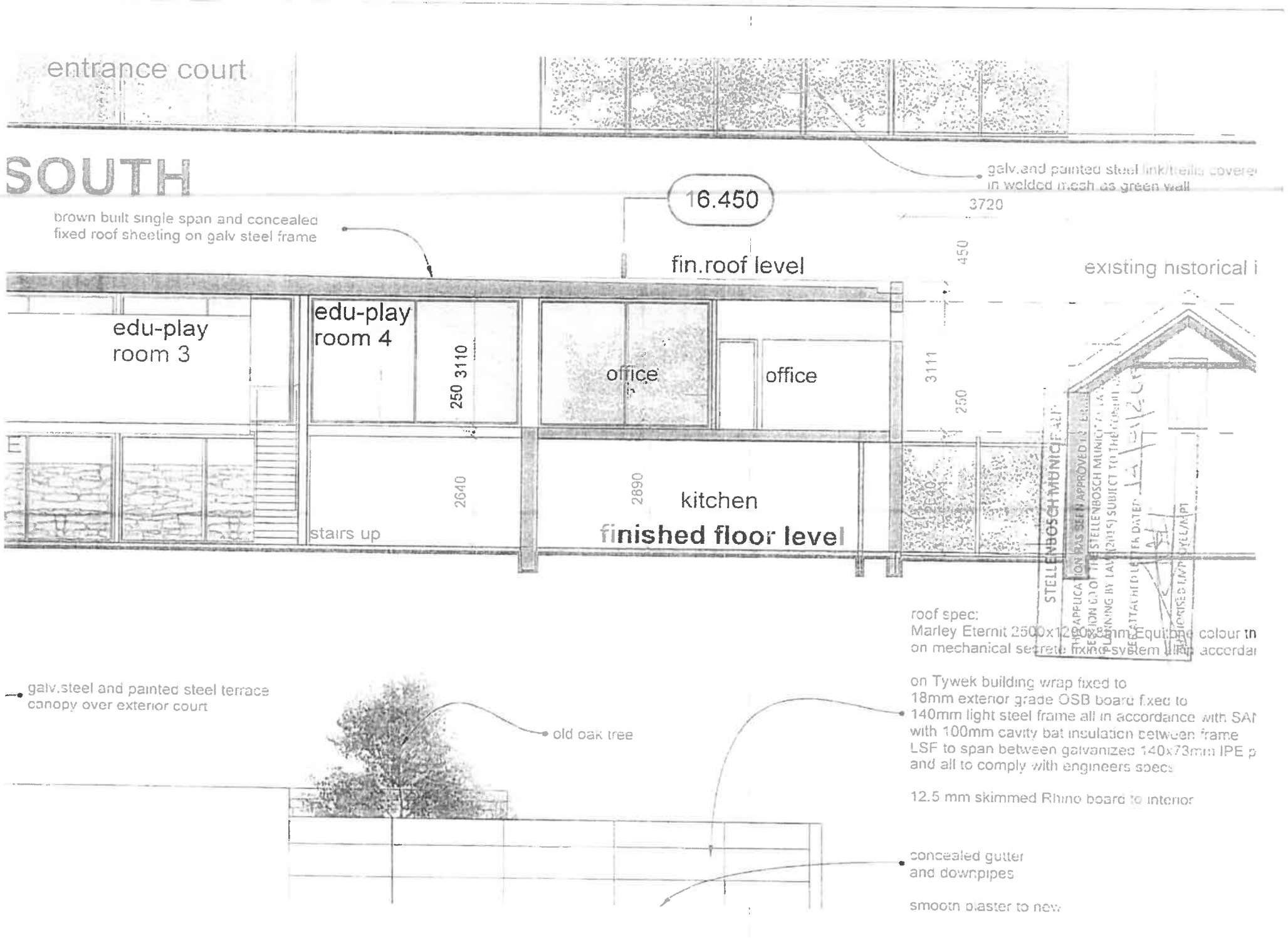
STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN ... IN TERMS OF SECTION ... OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW ... THE CONDITIONS AS PER ATTACHED LETTER ...

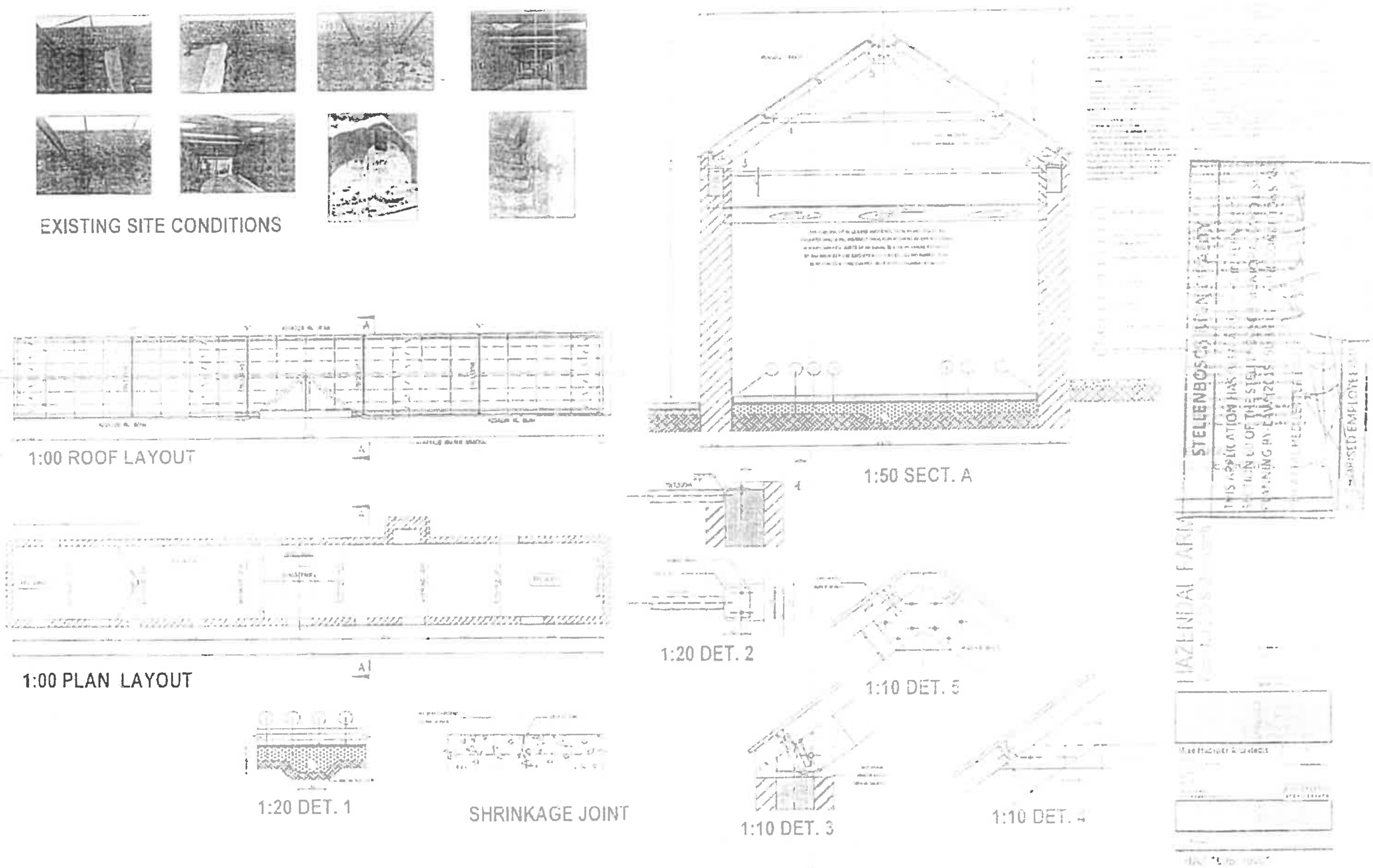
AUTHORISED EMPLOYEE


main
entrance
12243
existing old oak tree
planter
Level
10.000
new children's
edu-play center
new 100mm power floated concrete surface bed
578m² + 141m² kitchen & ablutions
entrance court
exposed aggregate
planter
enclosed
edu-play
court
stairs
stairs u
STELLENBOSCH MUNICIPALITY
2810
2390
2610
4830
2986
1038
3066
2405
new kitchen
tile
office
tile
fridge/
fam

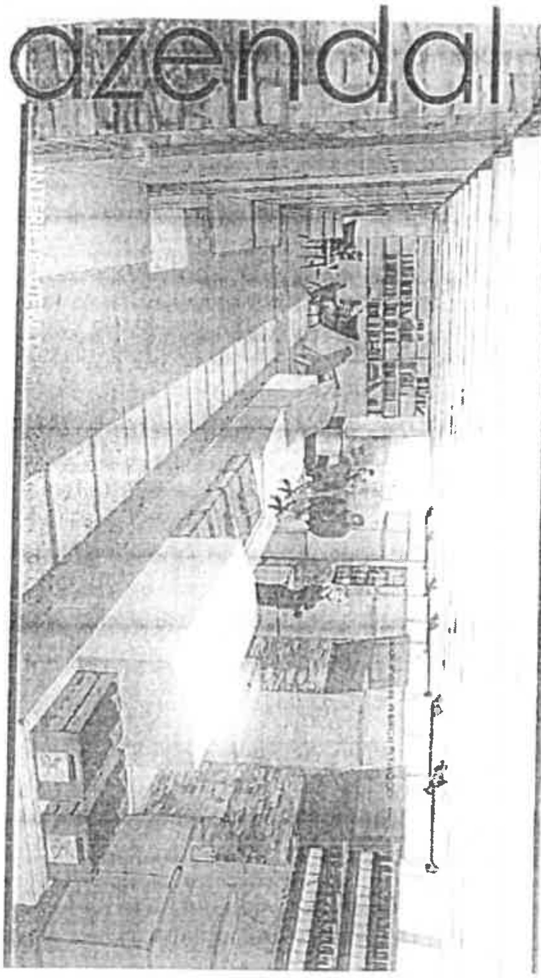
12243
existing old oak tree
DOUBLE VOLUME
new children's
edu-play center
new 100mm power floated
concrete surface bed
LUME
office
timber
3142
3942
STELLENBOSCH MU
SECTION 60 OF THE STELLENBOSCH
PER ATTACHED LETTER DATED
AUTHORISED EMPLOYEE/MPT
open plan office
timber
122m²

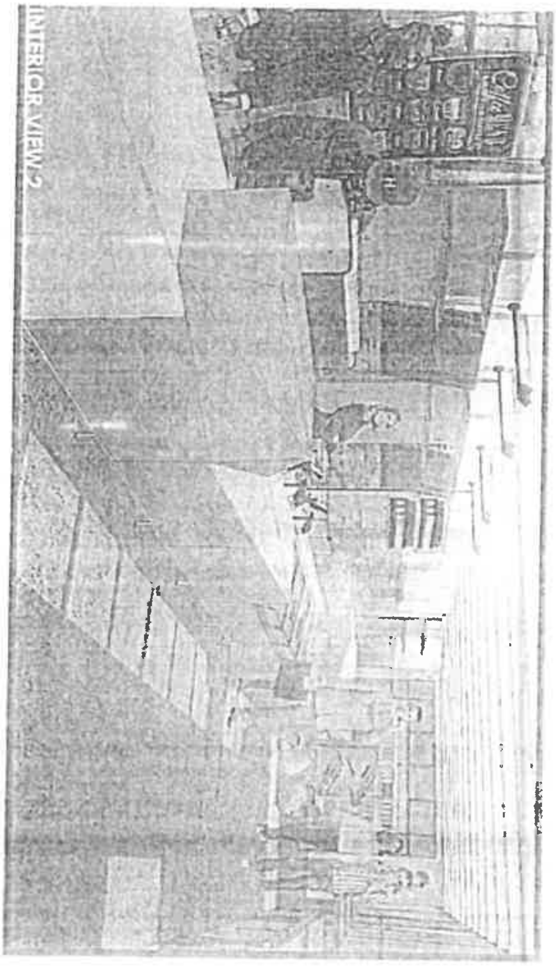

entrance court
SOUTH
galv.and painted steel link/trellis covered in welded mesh as green wall
16.450
3720
brown built single span and concealed fixed roof sheeting on galv steel frame
fin.roof level
450
existing historical i
edu-play room 3
edu-play room 4
250
3110
office
office
3111
250
2640
2890
kitchen
stairs up
finished floor level
roof spec:
Marley Eternit 2500x1200x8mm Equitone colour th
on mechanical setrete fixing system
galv.steel and painted steel terrace canopy over exterior court
old oak tree
on Tywek building wrap fixed to
18mm exterior grade OSB board fixed to
140mm light steel frame all in accordance with SAI
with 100mm cavity bat insulation between frame
LSF to span between galvanized 140x73mm IPE p
and all to comply with engineers specs
12.5 mm skimmed Rhino board to interior
concealed gutter
and downpipes
smooth plaster to new

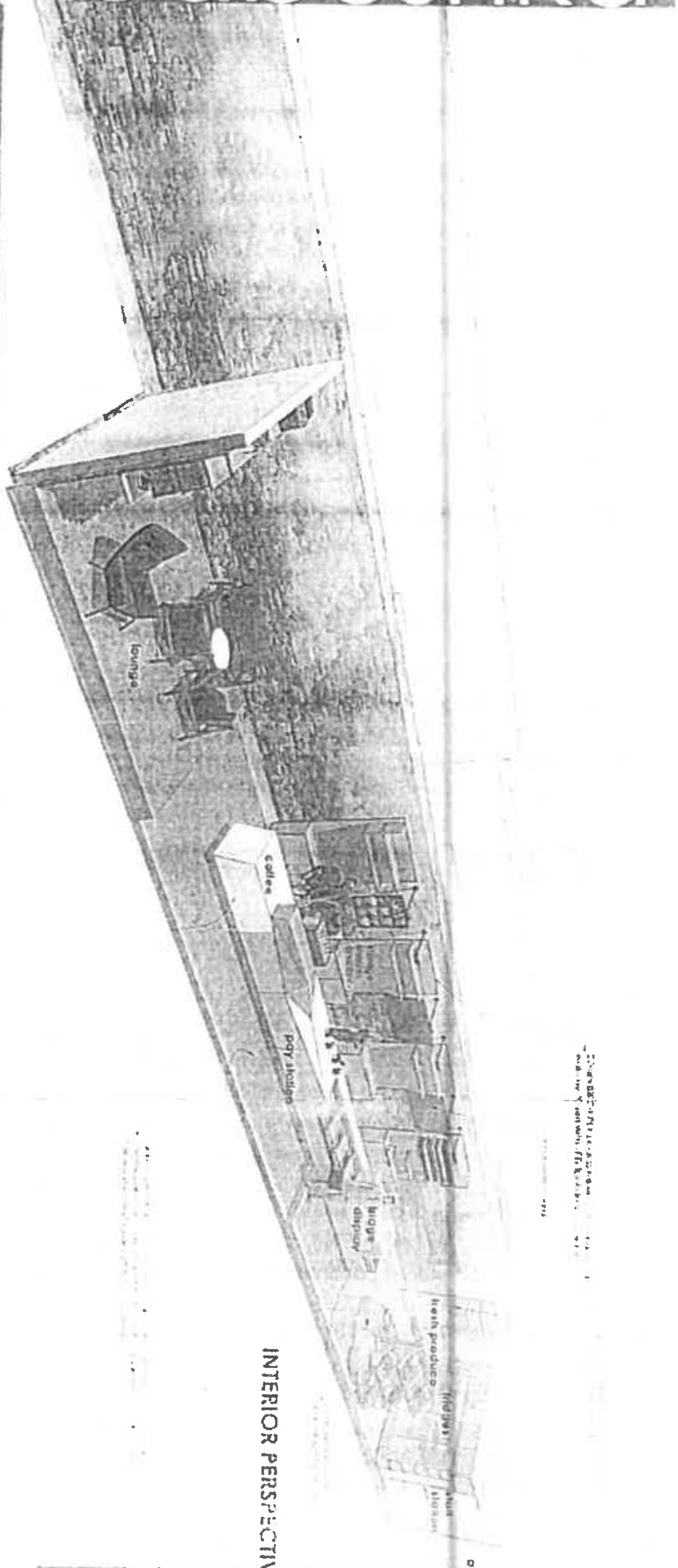
hazendal - babushka



hazendal - babushka







INTERIOR PERSPECTIVE SECTION

STELLENBOSCH MUNICIPALITY

THIS APPLICATION HAS BEEN APPROVED IN TERMS OF SECTION 60 OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BY-LAW (2015) SUBJECT TO THE CONDITIONS AS PER ATTACHED LETTER DATED 14/01/2[illegible]

AUTHORISED EMPLOYEE

hazendal - babushka

BABUSHKA FLOOR LAYOUT

LONGITUDINAL SECTION

INTERIOR PERSPECTIVE SECTION

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

Annexure E

Comments received from Internal and external Departments

STELLENBOSCH MUNICIPALITY
STELLENBOSCH PNIEL·FRANSCHHOEK

MEMORANDUM

DIREKTEUR: INGENIEURSDIENSTE
DIRECTORATE: ENGINEERING SERVICES

To Aan:	Director: Planning + Economic Development
Att Aandag	B Mdoda
From · Van:	Colin Taylor (Development Services and Project Management)
Date · Datum:	3/04/2018
Our Ref · Ons Verw:	Civil Lu 1573
Re · Insake:	Farm 222 Stellenbosch: Temporary departure and consent use

This memo supersedes the one dated 20/12/2016.

Details specifications and information reflected in the following documentation refer

- Application i t o Stellenbosch Municipality Land Use Planning By law dated 5 September 2017, and
- Engineering services report by Meiny Gibert and Associates Consulting Structural and Civil Engineers, dated November 2017

The application is for the following items:

i proposed temporary departure to allow the use of the non historical shed (with additions) for an informal market spaces; and

ii proposed consent use for a tourism facility, to permit the conversion of the old slave quarters into a coffee shop and deli with outside play area

Comments from the Directorate Engineering Services i e Roads + Stormwater, Water Services, Traffic Engineering and Development Services will be reflected in this memo

The application is recommended for approval, subject to the following conditions:

1. Water

1.1 It has been indicated that the water source is borehole water

1.2 It is the owner's responsibility to ensure that potable water must be stored and distributed in such a manner that it complies with the SANS 241 Drinking Water Quality Standards

1.3 This condition on the "Developer" to ensure a sustainable water source to the said development and that the Municipality be exempted from any claims whatsoever should the borehole water source not be sufficient

1.4 City of Cape Town Metropolitan Municipality must approve the municipal water supply and [illegible]

2. Waste Water and Sewage

2.1 Wastewater and sewage may not pollute any groundwater, stormwater or surface water.

2.2 No new septic tanks and soak-aways are permitted to be built.

2.3 Use of existing septic tanks to collect and treat sewage generated by the proposed development is not allowed.

3. Solid Waste

3.1 Please note Solid waste must be removed from the site to lawful solid waste disposal site in accordance with the requirements of section 26 of the National Environmental Management Waste Act 2008 (Act 59 of 2008).

4. Roads

4.1 The application has to be referred to the District Roads Engineer for comments and conditions.

4.2 All the conditions set by the District Roads Engineer will be applicable.

4.3 Sufficient parking must be provided and indicated on the SDP at building plan submission stage

5. Development Charges (DCs)

5.1 Based on the information provided in application the Development Charges payable by the developer is R 105 190.36 (Vat incl.) as per attached Development Charges calculation (Annexure A)

5.2 The DC's were calculated for the 2017/2018 financial year. If the account is paid after 30 June 2018 it has to be recalculated using the then applicable tariffs.

5.3 DCs are payable prior to building plan approval

5.4 DC's will not be charged, as this application is for a temporary departure, which lapses after a maximum of 5 years. Should a new application be submitted, DC's will be charged as this would constitute a prolonged impact on the bulk services.

Colin Taylor
PRINCIPAL TECHNICIAN: PROJECT MANAGEMENT (ENGINEERING SERVICES)

Stellenbosch Municipality - Development Charge Calculation

APPLICATION INFORMATION

[illegible]	
Date	[illegible]uesday, 03/Apr/2018
Financial Year	2017-2018
[illegible] Location	Stellenbosch Town
[illegible]	farm 222
[illegible]	
[illegible]	
Applicant	
[illegible]	[illegible]

SUMMARY OF DC CALCULATION

	Water	Sewer	Storm-water	Solid-Waste	Roads	Community Facilities	Totals
	kl/day	kl/day	ha/C	t/week	trips/day	person	
[illegible]	[illegible]	0.529	0.012	0.060	13.59	13.6	
[illegible] Development Charges before Reductions				R 2 816.04	R 86 678.09	R 1 975.75	R 91 [illegible]
[illegible]							
[illegible]				R 2 816.04	R 86 678.09	R 1 975.75	R 91 [illegible]
[illegible]				R 422.41	R 13 001.71	R [illegible] 36	R 13 [illegible]
[illegible]				R 3 238.44	R 99 679.80	R 2 [illegible] 12	R 105 [illegible]

APPLICANT INFORMATION

[illegible]	C. Taylor
[illegible]	[signature]
[illegible]	3 Apr 2018
[illegible]	
[illegible]	
[illegible]	

Stellenbosch Town

Land Use Category	Unit Type	Existing Usage			Proposed New Usage			Increased Usage	Development Charge levied (excl VAT)						
Infrastructure Type applicable? yes/no?									Water	Sewer	Storm-water	Solid-Waste	Roads	Community Facilities	Total
									no	no	no	yes	yes	yes	
	du / m2 GLA / m2	area (m2)	du / m² GLA / m²	du/ha / % GLA	area (m2)	du / m2 GLA	du/ha / % GLA	du / m2 GLA / m2							
[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	du			0			0	0	R	R	R	R	R	R	R
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[illegible]	du			0			0	0	R	R	R	R	R	R	R
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[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	du			0			0	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%		151	0%	151	R	R	R	R 2 816.04	R 86 678.09	R 1 975.75	R [illegible]
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2						0%	0	R	R	R	R	R	R	R
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[illegible]	m2						0%	0	R	R	R	R	R	R	R
[illegible]	m2 GLA			0%			0%	0	R	R	R	R	R	R	R
[illegible]	m2						0%	0	R	R	R	R	R	R	R
[illegible]	m2						0%	0	R	R	R	R	R	R	R
[illegible]							0%	0	R	R	R	R	R	R	R
[illegible]							0%	0	R	R	R	R	R	R	R
Total		0			0										

*** displays red if not equal to existing area

	Water	Sewer	Storm-water	Solid-Waste	Roads	Community Facilities	Total
[illegible]	R0.00	R0.00	R0.00	R2 816.04	R86 678.09	1 975.75	R[illegible]
[illegible]	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
[illegible]	R 0.00	R 0.00	R 0.00	R 0.00	R 0.00	R 0.00	
[illegible]	R 0.00	R 0.00	R 0.00	R 0.00	R 0.00	R 0.00	R 0.00
[illegible]	R0.00	R0.00	R0.00	R2 816.04	R86 678.09	1 975.75	R[illegible]
VAT	R0.00	R0.00	R0.00	R422.41	R13 001.71	296.36	R[illegible]
Total	R0.00	R0.00	R0.00	R3 238.44	R99 679.80	2 272.12	R105 190.36

(19)

Western Cape Government
Transport and Public Works

ROAD NETWORK MANAGEMENT
[illegible]
Tel: +27 21 483 4165
Fax: 3rd Floor, 9 Dorp Street, Cape Town, 8001
P O Box [illegible]

27 DEC 2017

REFERENCE: 16/9/6/1-25/192 (Job 24480)
ENQUIRIES: Ms GD Swanepoel
DATE: 12 December 2017

Director: Planning and Economic Development
Stellenbosch Municipality
PO Box 17
STELLENBOSCH
7599

MUNICIPALITY MUNISIPALITEIT
27 DEC 2017
STELLENBOSCH

Attention: Ms C Charles/Mr B Mdoda

Dear Mdam/Sir

MAIN ROAD 187: REMAINDER FARM 222, STELLENBOSCH: APPLICATION FOR CONSENT USE AND TEMPORARY DEPARTURE

1 The following refer:

1.1 Your letter Farm 222, Stellenbosch, Application No. LU/4749 dated 1 November 2016 and attached application;

1.2 Traffic Impact Assessment (TIA) by ITS dated June 2017;

1.3 Letter report from ITS to Cornelia van Zyl of IC Plan providing supplementary information to the June 2017 TIA following discussions between Pieter Arangie of ITS and Harry Thompson of this Branch.

2 The subject property is located on the north side of Main Road 187, Bottelary Road, which is a wide single carriageway with shoulders and has a speed limit of 100km/h, with an average daily traffic flow of more than 14 000 vehicles. There is good visibility at the access in both directions.

3 The Applicant proposes to expand the existing restaurant from 80 to 140 seats, provide new conference facilities for 250 attendees and develop a deli ±200m² and tasting station (also ±200m²).

The TIA and follow-up letter report indicated peak period traffic at the access with two scenarios for directional distribution of traffic: 60/40 and 70/30 east/west.

5. The traffic analyses indicated good levels of service for the right turns into the development, with minimal queuing, but level of service F (long delays) for right turns leaving the property in the afternoon peak.

6. Notwithstanding the analyses provided this Branch is concerned that queues may develop in the westbound direction from time to time. Morning peak right turns will be between 47 and 63 vehicles per hour, while opposing flows are 963 vehicles per hour. Furthermore, with 737 vehicles per hour westbound passing the entrance, if these pass to the left at speed, there will be the risk of collisions involving cyclists, pedestrians or stationary vehicles in the shoulder, or with other vehicles swerving into the shoulder at a late stage. In terms of the Road Access Guidelines, a right turn lane is warranted and from a safety perspective, if not a capacity perspective, is needed.

7. As right turning vehicles out of the property are off Main Road 187, the calculated delay of 75s per vehicle is considered acceptable; however, delays could be reduced by provision of separate left and right turn lanes on the approach to Main Road 187.

8. This Branch offers no objection to the proposed consent uses and departures, subject to:

8.1 The installation of a right turn lane on Main Road 187 Bottelary Road westbound, with the road widened on the south side to retain a constant width shoulder.

8.2 The widening of the access road as it approaches Main Road 187 to operate as separate left turn and right turn lanes.

8.3 The Applicant shall accept in writing to be responsible for all costs associated with the design and implementation of the required road upgrades.

8.4 The design of the road widening, right turn lane and access road widening shall be carried out by an appropriately registered person in accordance with this Department's design guidelines and requirements. Detailed drawings of the road geometry, pavement/materials, drainage and road markings shall be submitted to the Design Directorate (Ms MK Hofmeyr 021 483 5713) of this Branch for approval prior to the commencement of construction

8.5 Detailed construction drawings and proposals for traffic accommodation during construction shall be submitted for approval to the District Roads Engineer prior to construction

8.6 The Applicant's consultant or contractor shall accept the handing over of the site in writing from the Road Authority prior to construction.

8.7 After completion of the construction phases to the satisfaction of the District Roads Engineer, the Road Authority shall accept in writing the handing over of the site from the Applicant's consultant or contractor.

STELLENBOSCH

STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

Spatial Planning, Heritage and Environment

To	:	**Head: Customer Interface & Administration**
From	:	**Manager: Spatial Planning, Heritage & Environment**
Date	:	**13 December 2016**
Re	:	**Application for temporary departure and consent use: Farm 222, Stellenbosch (Haazendal)**

I refer to your request for comment on the above application.

1) **Opinion / reasoning:**

The subject property is located outside the urban edge

In terms of the approved Stellenbosch SDF, the following principles apply to properties that fall outside the urban edge:

- Land outside of existing and proposed urban settlements should be used for agricultural production, biodiversity conservation, scenic quality and agri-tourism.
- Intensification of agriculture, biodiversity conservation and agri-tourism should be promoted in farming areas outside of urban settlements.

2) **Supported / not supported:**

The subject property is located outside the urban edge and in principle this department supports agri-tourism uses if it related to the farm. The proposed application is therefore *supported*

3) **Conditions / additional information required:**

- At the Planning Advisory Committee meeting on 12 December 2016 the application was supported in principle, subject to final drawings to be re-submitted to the Committee.
- A permit from Heritage Western Cape must be obtained

E de la Bat

MANAGER: SPATIAL PLANNING, HERITAGE AND ENVIRONMENT

INTERDEPARTMENTAL CIRCULATION FORM

LÊER VERW/ FILE REF	Farm 222, Stellenbosch	DATE	25 October 2016
AANSOEKNOMMER/APPLICATION NUMBER	LU/4748		

MEMO AAN/ TO :

	Director : Traffic Engineer / Engineering Services
	Manager : Electrical Department
X	Manager : Building Development Management
	Manager : Fire Services
	Manager: Spatial Planning / Heritage / Environment / Signage
	Manager: Health Department (Winelands Health)
	Chief Financial Officer
	Manager: Property Management (P Smit)
	Manager: Local Economic Development (LED)
	Manager : Law Enforcement : MR N LANGENHOVEN

Application	Proposed temporary departure to allow the use of the non-historical shed (with additions) for an informal market space on Farm 222, Stellenbosch. Proposed consent use for a tourist facility, i.e the conversion of the old slave quarters into a coffee shop and deli with outside play area on Farm 222, Stellenbosch.
Adres / Address	Bottelary Road, Stellenbosch
Aansoek Datum Application Date	30 June 2016
Aansoeker Applicant	IC @ Plan

Aangeheg vind u tersaaklike dokumentasie in verband met bogenoemde aansoek. Ten einde my in staat te stel om die aansoek aan die besluitnemingsowerheid vir oorweging voor te lê, word u versoek om my skriftelik van u kommentaar, indien enige, te voorsien. Onderskei asseblief tussen algemene kommentaar op die meriete van die aansoek en enige voorwaardes wat u departement wil oplê indien die aansoek goedgekeur word

Attached please find the relevant documentation regarding the abovementioned application. Kindly furnish me with your written comment, if any, in order to enable me to submit the application to the decision making authority for consideration Please differentiate between general comment on the merits of the application and any conditions that your department wishes to impose should the application be approved.

Geliewe die memorandum per hand aan my terug te besorg voor of op:
Please hand deliver the memorandum to me on or before . **25 November 2016**

B Mdoda
For DIRECTOR: PLANNING AND ECONOMIC DEVELOPMENT

ALGEMENE KOMMENTAAR / GENERAL COMMENT:

In order

VOORWAARDES/CONDITIONS :

To comply with heritage & town planning scheme requirements.

[illegible]
HANDTEKENING / SIGNATURE

9.11.2016
DATUM / DATE

iLifa leMveli [illegible]
Erfenis [illegible]
Heritage [illegible]

Our Ref: HM/ CAPE WINELANDS/ STELLENBOSCH/ HAZENDAL FARM 222
Case No.: 19102928AS1107M
Enquiries: Stephanie-Anne Barnardt
E-mail: stephanie.barnardt@westerncape.gov.za
Tel: 021 483 5959
Cell: 076 481 8392 (during the lock-down period)
Date: 14 July 2020

Stuart Hermansen
Farm 222 Bottelary Road
Stellenbosch
7599
stuart@hermansen.co.za

FINAL COMMENT
In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape Provincial Gazette 6061, Notice 298 of 2003

HERITAGE IMPACT ASSESSMENT: PROPOSED HOTEL & GOLF COURSE, HAZENDAL FARM 222, BOTTELARY ROAD, STELLENBOSCH SUBMITTED IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

CASE NUMBER: 19102928AS1107M

The matter above has reference.
This matter was discussed at the Impact Assessment Committee (IACom) meeting held on 8 July 2020

It was noted that the matter was tabled at Archaeology, Palaeontology and Meteorites Committee (APM) meeting held on the 6 May 2020 whereby the Committee recommended that the revised HIA include:
The APM Committee endorses the report with the following additional recommendations:

Monitoring of all earthworks must be undertaken by an appropriately qualified historical archaeologist particularly in the areas to the west of the cottage (towards the trapvloer) and to the north of the cottage into the area of the poplar grove. A Workplan must be submitted to HWC which indicates the repository for any chance finds.

FINAL COMMENT:
The Committee resolved to endorse the application as having met the further requirements as well as the additional items now included, namely the gate house, golf academy driving range and golf maintenance building.

HWC reserves the right to request additional information as required.
Should you have any further queries, please contact the official above and quote the case number.

Yours faithfully

p.p.

Dr. Mxolisi Dlamuka
Chief Executive Officer, Heritage Western Cape

STRUXIT PROJECTS

HAZENDAL WINE ESTATE HOTEL

CIVIL SERVICES REPORT

15/06/2020

DOCUMENT CONTROL SHEET

TITLE:	
CIVIL SERVICES REPORT	HAZENDAL WINE ESTATE HOTEL

STRUXIT PROJECT NO:	DATE:	REPORT STATUS:
2019_0142	15/06/2020	Draft

CARRIED OUT BY:	COMMISSIONED BY:
STRUXIT PROJECTS (Pty) Ltd 324 Brooks Street Menlo park **PRETORIA** 0081 Tel: +27 71 603 1515 E-mail: dirk@struxit.com	**Hazendal Wine Estate** Bottelary Road Stellenbosch Farms Stellenbosch 7599 Tel: +27 (0)87 231 7272 Cell: +27 (0)84 551 4896 E-mail: Evert@intsolutions.co.za
AUTHOR:	**CLIENT CONTACT PERSON:**
D van der Merwe	E. Lategan

SYNOPSIS:

This report serves as a summary of the services required by the proposed development and the impact of these services requirements on the municipal services.

KEY WORDS:

Services report, Water, Firewater, Sewer, Stormwater, Roads.

Verification	Capacity	Name	Signature	Date
By Author	Engineer	D VD MERWE		15/06/2020
Checked by	Engineer	D IMMELMAN		15/06/2020
Authorized by	Engineer	D VD MERWE		15/06/2020

No. of Copies Made:	Print Date:	No of Reprints:	Date:
1	15/06/2020	Nil	

Copies sent to:	Deliver Method:
E. Lategan	E-mail

HAZENDAL WINE ESTATE HOTEL
CIVIL SERVICES REPORT

INDEX

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

1.1 BACKGROUND

STRUXIT Projects has been appointed to complete the design of the civil engineering infrastructure required for the new proposed development summarised in Table 1-1:

Table 1-1 Project Specific Information

Development Name	Hazendal Hotel
Development Type	Private
Client	Hazendal Wine Estate & Mantis Hotel Group
Client Representative	Evert Lategan
Project Location	S: 33°54'0.40" E: 18°43'9.37"

1.2 PURPOSE OF REPORT

This report presents a summary of the civil services required and the impact of the additional hotel on the existing bulk services. These services are required in order for the development to be deemed fully functional with regards to the following:

- Potable water and fire water demand;
- Sewer reticulation; and
- Storm water management.

The design methodology of the various services is provided, indicating compliance with the relevant design standards and legislation.

Taking the aforementioned into account, the primary purpose of the report is to provide the municipality with the required information to make a sound decision on the approval of the future development by considering the impact of the development within the large town planning scheme of Stellenbosch. It will also provide the municipality with the required information to determine the development of bulk services required by the surrounding developments or approve the private bulk services infrastructure required.

1.3 STRUCTURE OF REPORT

The report comprises the following sections:

- Section 2: Project description;
- Section 3: Standards and documentation;
- Section 4: Bulk services; and
- Section 5: Conclusion.

2 PROJECT DESCRIPTION

2.1 LOCATION

The development proposed is located 2km east of the M23 and M100 Road intersection at the following coordinates:

- S: 33°54'0.40"
- E: 18°43'9.37"

The site is currently partially developed and the new development will impact the developed area on the site as follows:

Table 2-1 Development land usage

Land use	FAR (m^2)
Existing Development Area	6286
New Proposed Development Area	3635
Total Development Area	9921
Development type	Private

The site has a moderate slope (5%) in a south eastern direction. Figure 2-1 presents the location of the development in relation to Kuilsrivier Golf club

Figure 2-1 Hazendal Wine Estate location

3 STANDARDS AND DOCUMENTATION

The following section gives a brief description of the documentation and standards utilised to arrive at the calculated demands.

3.1 WATER STANDARDS

In terms of water demands, the following results were required:

- Average daily demand
- Peak flow demand

The results were obtained by utilising the standards and principles prescribed in the following documents:

- SANS10252 - 1 – Water supply and drainage for buildings
- Guidelines for Human Settlement Planning and Design (Red Book)
- Stellenbosch Municipality – Design guidelines and minimum standards for civil engineering services

3.2 SEWAGE STANDARDS

In terms of sewage reticulation, the following results were required:

- Peak sewage outflow

The results were obtained by utilising the standards and principles prescribed in the following documents:

- SANS10252 - 2 – Water supply and drainage for buildings
- Guidelines for Human Settlement Planning and Design (Red Book)
- Stellenbosch Municipality – Design guidelines and minimum standards for civil engineering services

3.3 STORMWATER STANDARDS

In terms of generated storm water run-off, the following results were required:

- Peak storm water run-off during a 5 year return period and during a 25 year return period;

The results were obtained by utilising the standards and principles prescribed in the following documents:

- Stellenbosch Municipality – Design guidelines and minimum standards for civil engineering services
- "Guidelines for Human Settlement Planning and Design", Chapter 6.
- SANRAL Drainage Manual
- Stormwater Management Planning and Design Guidelines for New Developments.

4 BULK SERVICES

This section of the report provides a summary of the service demands generated by the new development. The following bulk services are being addressed in this engineering report:

- Bulk water supply;
- Bulk sewage reticulation; and
- Bulk storm water reticulation.

The calculations in this report are supposed to present an estimated value of the bulk services required for the development and will be subject to refinement during the design development process.

4.1 BULK WATER SUPPLY

4.1.1 DESIGN METHODOLOGY

The site will be services with the following water infrastructure:

- Water is currently being sourced from a bulk municipal connection from the City of Cape Town as well as supply from boreholes across the site.
- Bulk water for the development is planned to be sourced from the existing boreholes on site. Additional boreholes are being sunk to supplement the water supply for the remainder of the stand (including a new golf course which will be addressed in a separate services report). Once this connection has been finalised and the water use licence has been approved the municipal connection will be redundant.
- This water being pumped from the boreholes are being treated and any additional water that will be taken from the new proposed boreholes will also be treated before being used for potable water in the development.

4.1.2 WATER NETWORK SPECIFICATIONS

The following specification will be used to design the concept of the water network:

Table 4-1 Water design specifications

Specification	Value
Maximum pipe velocity	1.5 m/s
Daily peak factor	*Based on Figure 9.11 in the Red Book*
Pipe material (townships)	uPVC for 75mm to 400mm diameter pipes (Class 12 -16)
Minimum residual pressure	*24m (under peak demand);*
Maximum static pressure	*9bar*
Minimum pipe cover	1.0 m in roadways and 0.8 on sidewalks
Fire risk category	*Moderate Risk*
Distance between hydrants	*180m apart*
Minimum residual head at hydrant	*15m*
Minimum design flow	*6000 l/min*

4.1.2.1 POTABLE WATER DEMAND

The daily demand calculations were conducted by utilising the architectural layout of the proposed development (refer to Appendix A). This information was used to calculate both the daily average and daily peak demand as well as the peak instantaneous demand.

The following assumptions were used during the calculations:

- The quantity of water allowed per room was calculated as a middle way between Residential Zone 4 of the Stellenbosch standards and the provisions for a hotel room indicated in the SANS 10252-1 document, since the provision of 17.5kl/ha/day provision in the Stellenbosch design guidelines were deemed to be low.
- A slightly higher allowance was made to ensure that the water use licence application will be sufficient during the times of peak usage.
- Separate allowance was made for the kitchen and the laundry and the demand was based on the SANS 10252-1 standards.
- Various rooms were included in the category Places of Entertainment. These include the spa, gym, restaurant, cigar lounge etc.

Table 4-2 summarised the water demands of the development.

Table 4-2 Average and peak daily water demands

TOTAL AVERAGE DAILY DEMAND					
Facility	**Building Class**	**Area m2/Units**	**Reference**	**Demand (kl/day)**	
Function Area	Places of Entertainment (FSR = 0.3)	1514	25kl/ha/day	3.79	
Offices and shops	Offices (FSR = 0.3)	328	10kl/ha/day	0.33	
Hotel Rooms	Res Zone 4	34	400l/unit/day	13.6	
Kitchen	Kitchen (SANS10252-1)	430	12l/meal/day	5.17	
Laundry	Laundry (SANS10252-1)	28.3	15l/person/day	0.93	
Total				23.82	kl/day

PEAK DEMANDS				
	Flow	**Peak Factor**	**Demand**	
Peak Daily Demand	23.82	2.4	57.17	**kl/day**
Instantaneous peak demand	0.276	15	4.14	**l/s**

4.1.2.2 FIRE WATER DEMAND

According to the Stellenbosch guidelines, the development should be serviced as a Medium Fire Risk with regards to fire flow. A portion of the facility falls outside the existing hydrant coverage zone and therefore additional hydrants are required.

As stated in SANS10400, require the design to be tested with the additional flow of 20 l/s per hydrant. Based on the information from the fire engineer, two hydrants need to be operational at a time in order to do effective firefighting within the development. This increases the flow on the system from the aforementioned 4.14 l/s to 41.14 l/s during fire flow. It can however be

argued that potable water usage within the development will reduce to 0l/s during a fire. The maximum expected flow will therefore be 40l/s.

4.1.3 BULK CONNECTION REQUIREMENTS

The instantaneous peak demand will be used during the detail design to size the pipe network around the proposed hotel. An average daily demand of 23.82 kl/day will however be required for the development.

4.2 BULK SEWAGE RETICULATION

4.2.1 DESIGN METHODOLOGY

The site will be services by the following sewer infrastructure:

- No municipal sewer connection is available within the vicinity of the site
- An existing wastewater treatment package plant is being used to accommodate the existing development. The new hotel development will be serviced by the existing treatment plant.

4.2.2 SEWAGE NETWORK

The following was assumed when calculating the sewage generated for the development:

- Average Daily Demand:
  - Fire flow does not contribute to the sewage flow.
- Peak daily demand:
  - A wet weather inflow percentage of 15% was added to the peak sewage flow.
  - A peak daily factor of 2 was used for the development to provide a flow for the WWTW package plant to be designed for.

Table 4-3 provides a summary of the specifications that will be used to design the sewage network.

Table 4-3 Sewage network specifications

Specification	Value
Max flow capacity	75% full flow
Minimum pipe gradient	Erf sewers: 1:60 1:120 (160mm dia) 1:150 (160mm dia)
Pipe material	uPVC Class 34 or 400kPa
Peak Factor	2.5
Minimum Velocity at full flow	0.7 m/s
Minimum Pipe Cover	0.8m in roadways and 0.6m in servitudes
Maximum manhole spacing	80m

4.2.2.1 DAILY AVERAGE AND PEAK FLOW

When using the aforementioned criteria, the following results are obtained as presented in Table 4-4:

Table 4-4 Daily average sewage generation – practical

TOTAL AVERAGE SEWAGE GENERATED					
Facility	**Building Class**	**Area m2/Units**	**Reference**	**Demand (kl/day)**	
Function Area	Places of Entertainment (FSR = 0.3)	1514	25kl/ha/day	3.79	
Offices and shops	Offices (FSR = 0.3)	328	9kl/ha/day	0.29	
Hotel Rooms	Res Zone 4	34	300l/unit/day	10.2	
Kitchen	Kitchen (SANS10252-2)	430	20l/meal/day	2.48	
Laundry	Laundry (SANS10252-2)	28	10l/person/day	0.62	
Total				17.39	kl/day

PEAK GENERATION					
		Flow	**Peak Factor**	**Demand**	
Instantaneous peak generation		0.201	2.5	0.503	l/s
Stormwater infiltration		**0.503**	**1.15**	**0.579**	**l/s**
Peak daily generation		17.39	2	**34.78**	kl/day

4.2.3 BULK SEWER REQUIREMENTS

The sewage generated on the site will be drained to the existing WWTW package plant that is able to treat the sewage to a quality that complies to South African effluent discharge standards. The treated effluent will be discharged into the stormwater pond located on the site.

4.3 BULK STORM WATER GENERATION

4.3.1 STORM WATER MANAGEMENT PLAN

The storm water for the site will be managed as follows:

- No existing municipal stormwater system is available in the area.
- A stormwater pond is located on the site and has a surface area of approximately 6500m2. This pond will be used as a discharge point for the generated stormwater.
- According to the Stellenbosch design guidelines, the difference between the pre and post development run-off should be attenuated on site if the municipal system can not accommodate the generated flow. It is STRUXIT Projects opinion that this is not required due to the following reasons:
    - The existing stormwater pond will be used to discharge into and the storage required is trivial compared to the ponds surface area.
    - If the pond overflows during a flash flood, the stormwater flow would have been dissipated across the entire width of the pond bank.

- The downstream area does not have any residential areas or developments.

4.3.2 STORM WATER SPECIFICATIONS

4.3.2.1 RAINFALL DATA

In order to determine surface water run-off, probabilistic relationships between the average daily rainfall, rainfall intensity, duration and return period were required. These relationships were estimated by using a regional scale invariance approach, developed by Smithers and Schulze (2003). The project is located at 33°54'0.40"S and 18°43'9.37"E with an altitude of 87 m above mean average sea level (m.a.s.l). The mean annual precipitation (MAP) is estimated at 624 mm per annum by utilising the data from the following rainfall stations:

- KUILSRIVIER 0021326_W
- LONG ACRES 0021357_W
- KRAAIFONTEIN (BOS) 0021441_W
- BELLVILLE (BOS) 0021235_W
- DURBANVILLE (POL) 0021260_W
- BELLVILLE (SAR KWEKERY) 0021204_W

Design rainfall depths calculated for various recurrence intervals and storm durations are presented in **Table 4-5**.

Table 4-5 Rainfall depths (mm) for different recurrence intervals and storm durations

STORM DURATION	RECURRENCE INTERVAL (YEAR) AND RAINFALL DEPTH (mm)				
	1:2	1:5	1:10	1:20	1:50
5 minutes	4.9	6.5	7.7	9	10.8
10 minutes	6.8	9.2	10.9	12.6	15.1
15 minutes	8.3	11.2	13.2	15.4	18.4
30 minutes	11	14.8	17.5	20.4	24.4
45 minutes	13	17.4	20.7	24	28.8
1 hour	14.6	19.6	23.3	27	32.4
1.5 hours	17.2	23.1	27.4	31.9	38.2
2 hours	19.4	26	30.8	35.8	42.9

4.3.3 GENERATED STORM WATER

The rational method was used to determine the pre and post developed storm water run-off for the development. Some calculations provided a time of concentration of less than 15min. According to the Drainage Manual this should be replaced with a minimum value of 15min in order to make the generated flow significant. 15min was therefor used for the time of concentration.

Table 4-6 provides a summary of the results obtained (refer to Appendix D for the detailed calculations).

Table 4-6 Storm water run-off generated

CALCULATED AREA	RECURRENCE INTERVAL (YEAR) AND GENERATED FLOW (L/S)						
	1:2	1:5	1:10	1:20	1:25	1:50	Tc
Pre-Development	6.9	10.2	13.1	17.1	18.5	25.3	15min
Post Development	26.8	36.2	42.7	49.8	51.4	59.5	

4.3.4 BULK STORM WATER CONNECTION

No bulk stormwater connection is available for the site, but the sites stormwater reticulation system will discharge into the stormwater pond that is situated east of the development. Figure 4-1 and Figure 4-2 show the location of the pond in relation to the development.

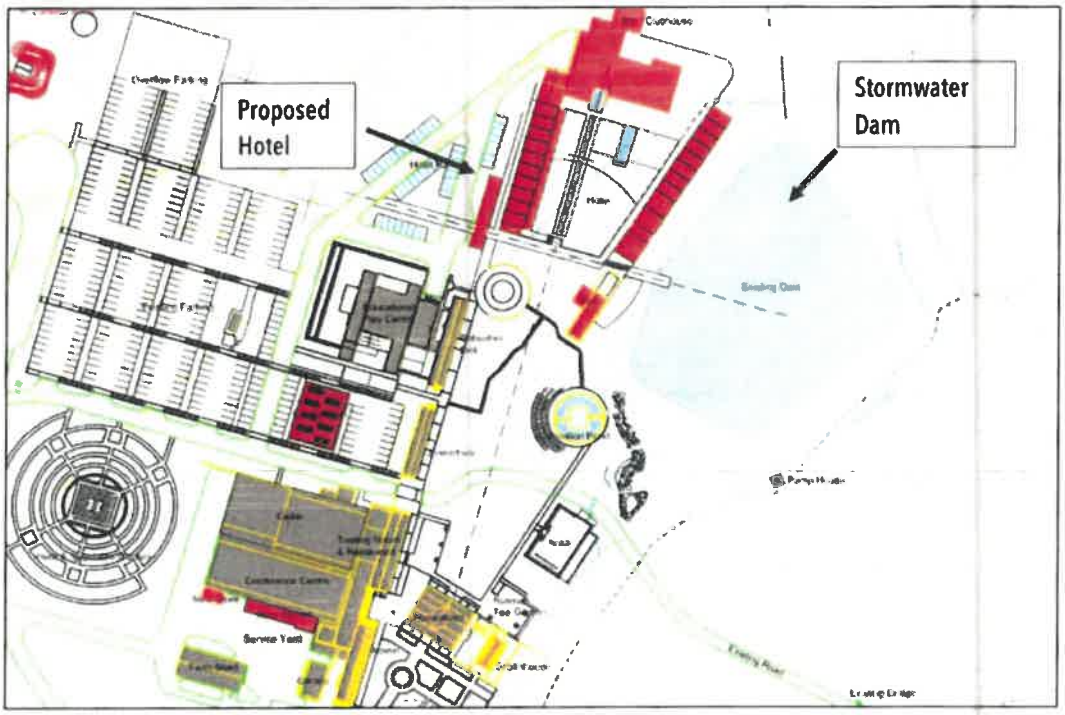


Figure 4-1 Stormwater pond location

4.3.5 ATTENUATION

Based on the stormwater calculations, the site will require storage of 65m² to accommodate the increased run-off produced by the development. Over the surface area of the pond, which is measured to be around 6500m², the development will require 10mm depth to achieve this storage. It is therefore the opinion of STRUXIT Projects that this will be sufficient to accommodate

the developments stormwater (both from a storage and an energy dissipation point of view) and should not require any additional measures.

For more detail on the storage calculations, please Refer to Appendix D of this report.

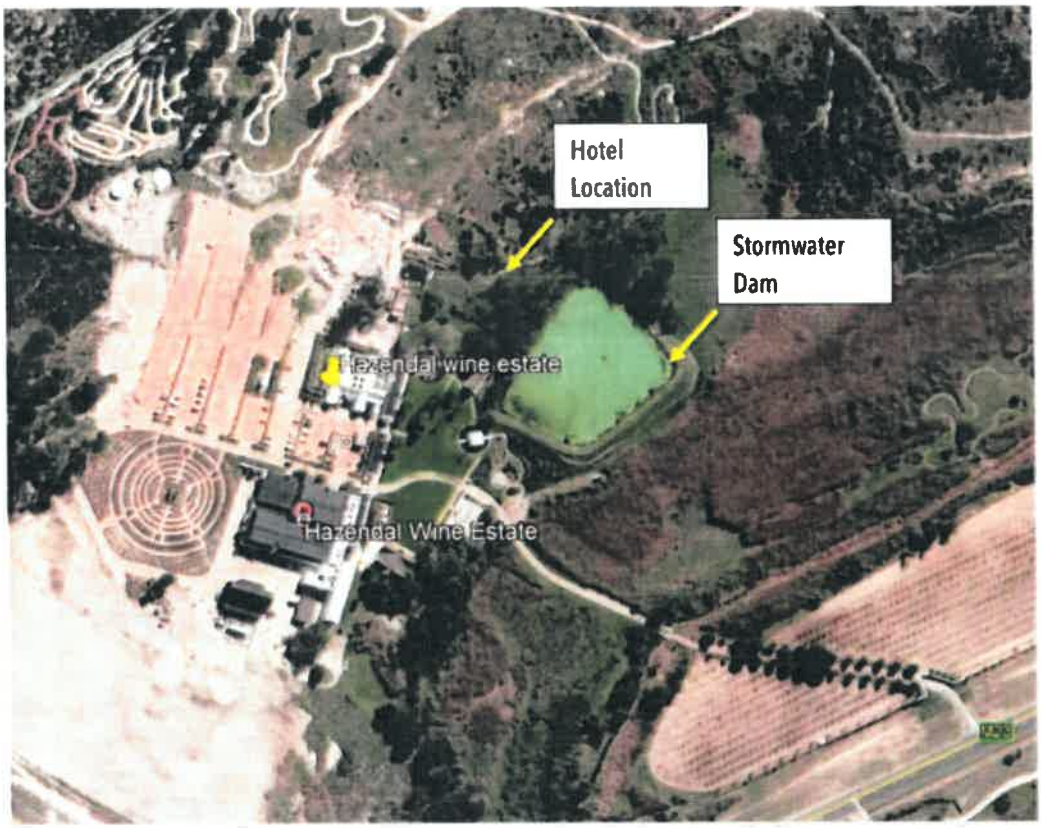


Figure 4-2 Aerial image of pond location

5 CONCLUSION

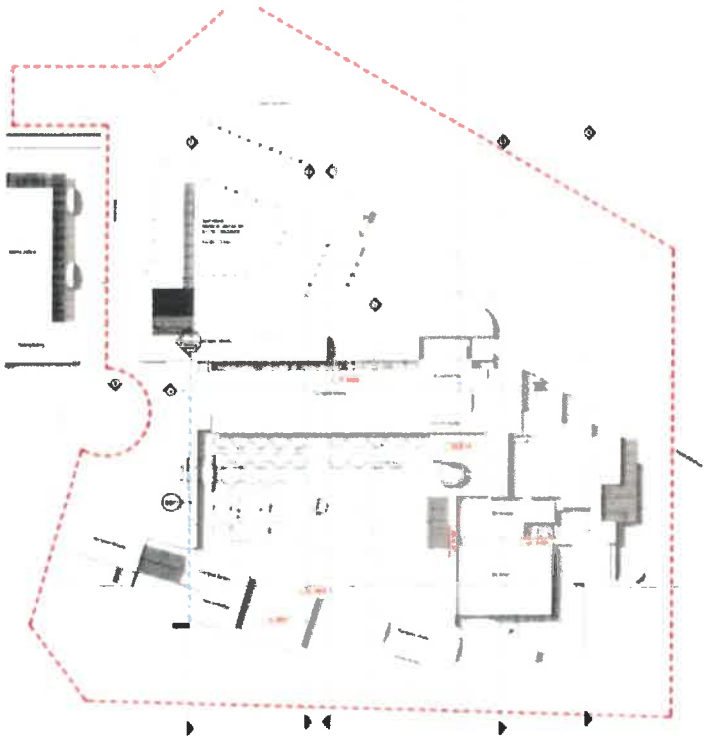
The development of the Hazendal Hotel will result in a change in demand for the following services:

- Bulk water supply;
- Bulk sewage reticulation; and
- Bulk storm water reticulation.

From the calculations included in this report, the following conclusions can be made.

- The peak water demand will be 40 l/s (during fire flow) and will be 4.14 l/s potable demand. Peak daily water demand will be 57.17 kl/day and will have to be provided by the existing borehole on the site. The average water demand on the underground water source will have to be included in the water use application that is currently being submitted and will be 23.82 kl/day.
- The peak sewage generated will be 0.579 l/s. The peak daily sewage generated will be 34.78 kl/day. This sewage will have to be treated by a sewage package plant, since not existing municipal infrastructure is available close to the development. The sewage will have to be treated to the required discharge standards prior to discharging. The discharging of the sewage will also have to be included in the new water use licence application.
- This facility will discharge at a peak of 51.4 l/s from the site if the run-off is concentrated during the 1:25 year storm. The stormwater will discharge into the existing stormwater pond.

APPENDIX A: ARCHITECTURAL DRAWINGS



1 | SITE PLAN
1 : 400

ROOM AREA SCHEDULE

GENERAL

REVISION

CLIENT

Boogertman + Partners

PROJECT

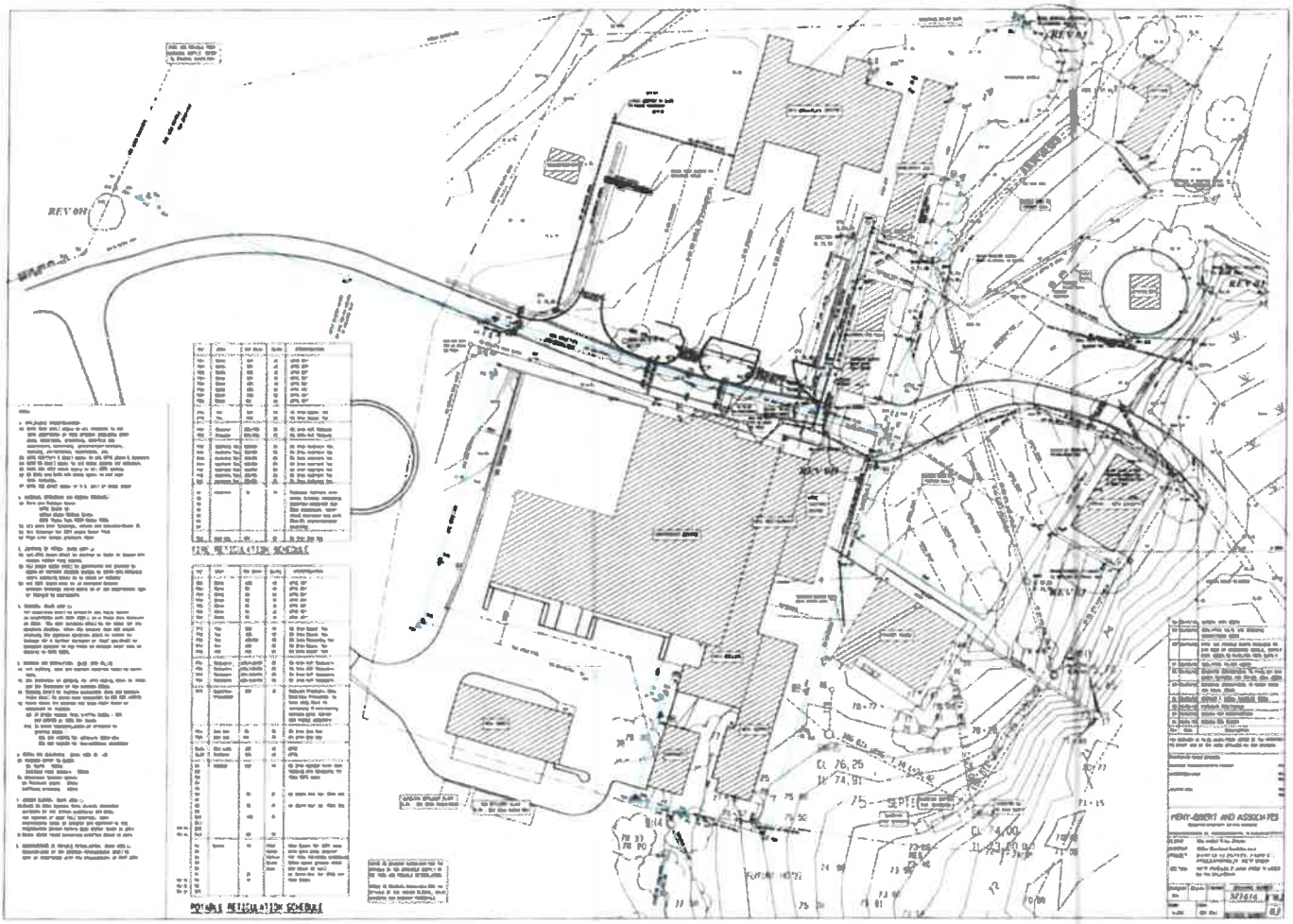
HAZENDAL HOTEL
on
MANTIS HOTEL GROUP
HAZENDAL WINE ESTATE
STELLENBOSCH

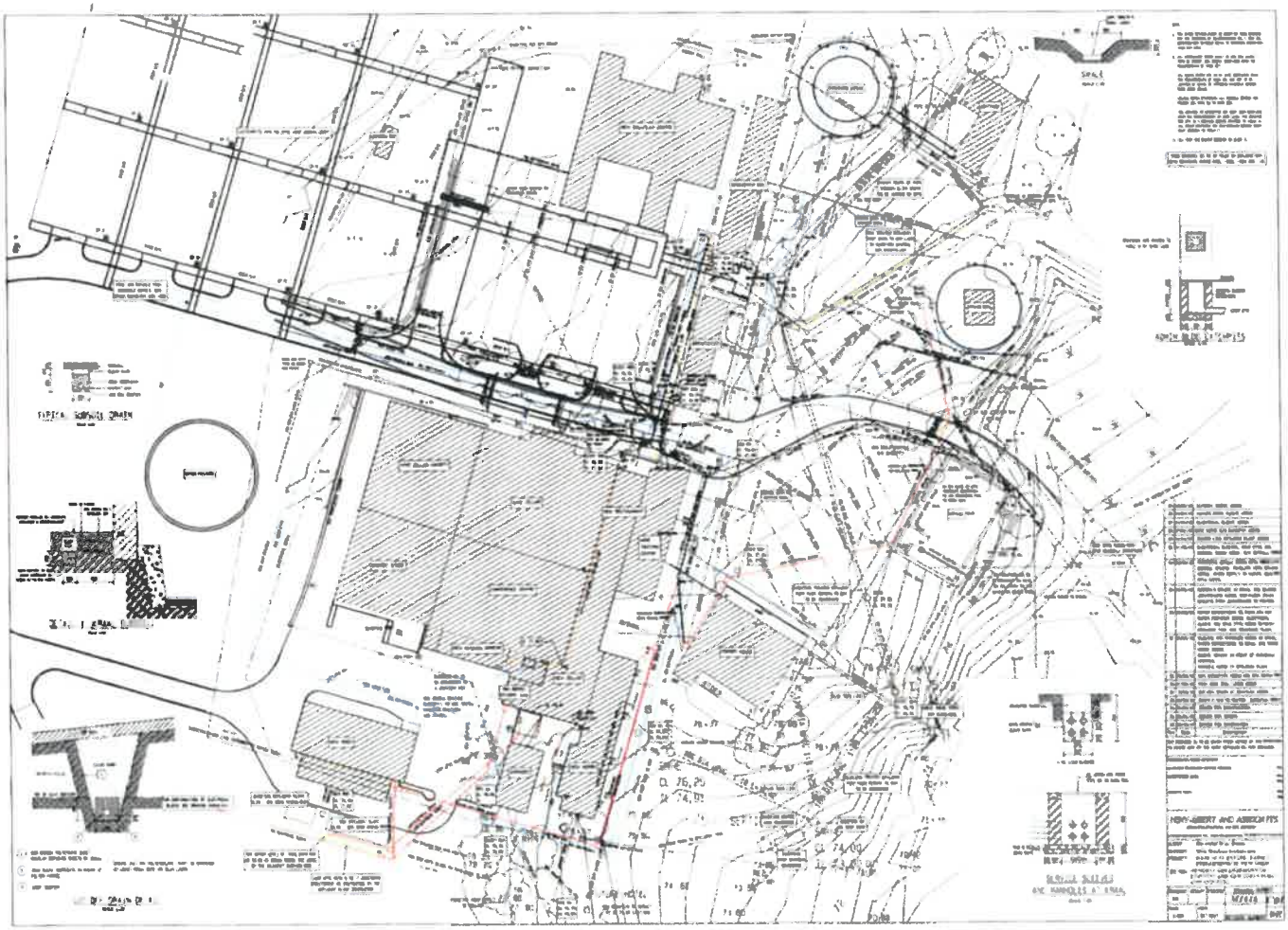
TITLE

GENERAL ARRANGEMENT PLAN
SCALE 1 : 400 @ A1

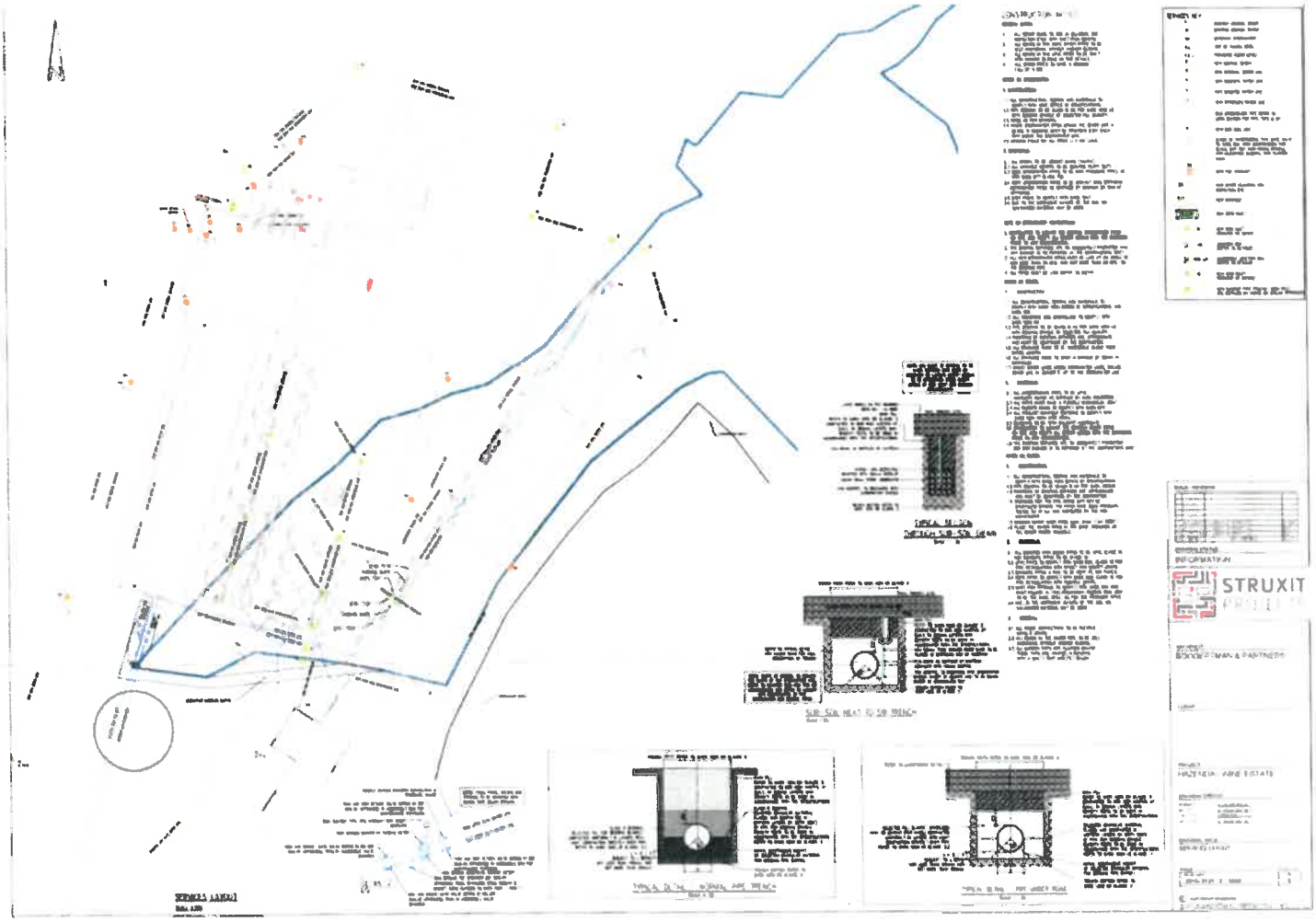
A000	01	AA	1000	1

APPENDIX B: EXISTING MUNICIPAL SERVICES





APPENDIX C: PROPOSED SERVICES LAYOUT


STRUXIT

APPENDIX D: CALCULATIONS

Description of catchment:	Hazendal Wine Estate	**Calculated by:**	
Element Description:	Pre Developed Catchment Area	**Date:**	Thursday, 27 February 2020
Project Number:	2019_0142	**Source:**	SANRAL, 2007

PHYSICAL PROPERTIES OF CATCHMENT:

Area of catchment:	A=	0.003639	km²
Water path (overland)	L_1=	0.13	km
Average slope	$H_{1.1}$=	80.000	m (roof)
Overland	$H_{1.2}$=	77.000	m (roof)
	L_1=	0.13	km
	S_{avg1}=	0.023076923	m/m
Area dolomite	D=	0%	

Longest water path	L=	0.13	km
Water path (water course)	L_2=	0	km
Average slope	$H_{0.85}$=	0.000	m (gutter)
Watercourse	$H_{0.10}$=	0.000	m (gutter)
	0.75L=	0	km
	S_{avg2}=	0	m/m

Area distribution factors (α + ß + γ = 1)					
Rural		Urban		Lakes	
α=	1	ß=	0	γ=	0

RURAL								URBAN		
SLOPE SLOPE C_3 (%)			PERMEABILITY C_2(%)			VEGETATION C_v (%)			USE		
Lakes and pans	10%	0.03	Very permeable	25%	0.04	Thick bush & plantations	0%	0.04	Lawns & Parks	0%	0.1
Flat areas	90%	0.08	Permeable	50%	0.08	Light bush & cultivated areas	0%	0.11	Industrial areas	0%	0.7
Hilly areas	0%	0.16	Semi-permeable	25%	0.16	Grasveld	50%	0.21	City / residential	0%	0.5
Mountaneous	0%	0.26	Unpermeable	0%	0.26	No vegetation	50%	0.28	Streets	0%	0.9
Total (100)	**100%**	0.075	**Total (100)**	**100%**	0.09	**Total (100)**	**100%**	0.25	Total (100)	0%	0.0

Rural coeficient C_1=	0.410	Urban coeficient C_2=	0.00

Return period	2	5	10	20	50	100	200
F_1	0.5	0.56	0.6	0.67	0.83	1	2
Adjust for dolomite	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Adjusted C_1	0.21	0.23	0.25	0.27	0.34	0.41	0.82
Total C	0.21	0.23	0.25	0.27	0.34	0.41	0.82

RAINFALL:

T_c (overland flow)

$$T_c = 0.604 \times \left(\frac{r L_1}{S_{avg1}^{0.5}} \right)^{0.467}$$

r =	0.3
T_c =	0.1916

V = 0.1884 m/s (0.2 - 0.5m/s)

T_c (channel flow)

$$T_c = \left(\frac{0.87 \times L_2^2}{1000 S_{avg2}} \right)^{0.385}$$

T_c =	0.0000

V = #DIV/0! m/s (0.8 - 1.3m/s)

T_c =	0.2500
Storm duration	**15 min**

15min is minimum

Values for r	
Paved areas	0.02
Clean soil	0.1
Sparse Grass	0.3
Moderate Grass	0.4
Thick Bush	0.8

Dolomite reduction (D_r)	
Steep (>30%)	0.5
Hilly (10 -30%)	0.35
Flat (3 - 10%)	0.2
Vlei's & Pans (<3%)	0.1

Average annual rainfall:	624 mm / annum
Rainfall region:	Winter

Return period	2	5	10	20	50	100	200
Point rainfall (mm)	8.30	11.20	13.20	15.40	18.40	20.90	23.50
Point intensity I (mm/h)	33.2	44.8	52.8	61.6	73.6	83.6	94.0
Area reduction factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Average intensity I (mm/hr)	33.2	44.8	52.8	61.6	73.6	83.6	94.0

PEAK FLOW:

Return period	2	5	10	20	25	50	100	200
Peak flow (m^3/s)	0.006872169	0.0102	0.0131	0.0171	0.0185	0.02529	0.0346	0.0778294
Peak flow (l/s)	6.9	10.2	13.1	17.1	18.5	25.3	34.609	77.829389

Description of catchment:	Hazendal Wine Estate	**Calculated by:**	
Element Description:	Post Developed Catchment Area	**Date:**	Thursday, 27 February 2020
Project Number:	2019_0142	**Source:**	SANRAL, 2007

PHYSICAL PROPERTIES OF CATCHMENT:

Area of catchment.	A=	0.003635	km²	
Water path (overland)	L_1=	0.012	km	
Average slope	H_{L1}=	78.000	m	roof
Overland	H_{L2}=	77.500	m	roof
	L_1=	0.012	km	
	S_{avg1}=	0.041666667	m/m	
Area dolomite	D=	0%		

Longest water path	L=	0.136	km
Water path (water course)	L_2=	0.124	km
Average slope	$H_{0.85L}$=	77.5	m
Watercourse	$H_{0.15L}$=	76	m
	0.75L=	0.093	km
	S_{avg2}=	0.016129	m/m

Area distribution factors (α + β + γ = 1)					
Rural		Urban		Lakes	
α=	0	β=	1	γ=	0

RURAL									URBAN		
SLOPE SLOPE C_3 (%)			PERMEABILITY C_2(%)			VEGETATION C_v (%)			USE		
Lakes and pans	0%	0.03	Very permeable	0%	0.04	Thick bush & plantations	0%	0.04	Lawns & Parks	0%	0.1
Flat areas	0%	0.08	Permeable	0%	0.08	Light bush & cultivated areas	0%	0.11	Industrial areas	0%	0.7
Hilly areas	0%	0.16	Semi-permeable	0%	0.16	Grassveld	0%	0.21	Flats	100%	0.8
Mountaneous	0%	0.26	Unpermeable	0%	0.26	No vegetation	0%	0.28	Streets	0%	0.9
Total (100)	0%	0	Total (100)	0%	0	Total (100)	0%	0.00	Total (100)	100%	0.8

Rural coeficient C_1=	0.000	Urban coeficient C_2=	0.80

Return period	2	5	10	20	50	100	200
F_t	0.5	0.55	0.6	0.67	0.83	1	2
Adjust for dolomite	-	-	-	-	-	-	-
Adjusted C_1	-	-	-	-	-	-	-
Total C	0.80	0.80	0.80	0.80	0.80	0.80	0.80

RAINFALL:

T_c (overland flow)

$$T_c = 0.604 \times \left(\frac{rL_1}{S_{avg1}^{0.5}} \right)^{0.467}$$

r =	0.02
T_c =	0.0259

V = 0.1288 m/s
(0.2 - 0.5m/s)

Values for r	
Paved areas	0.02
Clean soil	0.1
Sparse Grass	0.3
Moderate Grass	0.4
Thick Bush	0.8

T_c (channel flow)

$$T_c = \left(\frac{0.87 \times L_2^2}{1000 S_{avg2}} \right)^{0.385}$$

T_c =	0.0650

V = 0.5299 m/s
(0.8 - 1.3m/s)

Dolomite reduction (D_r)	
Steep (>30%)	0.5
Hilly (10 -30%)	0.35
Flat (3 - 10%)	0.2
Vlei's & Pans (<3%)	0.1

T_c =	0.2500
Storm duration	**15 min**

15min is minimum

Average annual rainfall:	603 mm / annum
Rainfall region:	Winter

Return period	2	5	10	20	50	100	200
Point rainfall (mm)	8.30	11.20	13.20	15.40	18.40	20.90	23.50
Point intensity I (mm/h)	33.2	44.8	52.8	61.6	73.6	83.6	94.0
Area reduction factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Average intensity I (mm/hr)	33.2	44.8	52.8	61.6	73.6	83.6	94.0

PEAK FLOW:

Return period	2	5	10	20	25	50	100	200
Peak flow (m^3/s)	0.026818222	0.0362	0.0427	0.0498	0.0514	0.0594452	0.0675	0.0759311
Peak flow (l/s)	26.8	36.2	42.7	49.8	51.4	59.5	67.53	75.931111

STORMWATER ATTENUATION FACILITY STORAGE CALCULATION

Short Unit Hydrograph

Pre Development (1.5 year storm)		
	Time (min)	Flow (l/s)
1TC	0.000	0.000
1TC	15.000	10.000
1TC	45.000	0.000

Post Development (1.56 year storm)		
	Time (min)	Flow (l/s)
2TC	0.000	0.000
2TC	15.000	54.400
2TC	45.000	0.000

Calculation of volume (Area between the two graphs)

Expansion of Short Unit Hydrographs			
Pre Development (1.5 year storm)		Post Development (1.56 year storm)	
Time (min)	Flow (l/min)	Time (min)	Flow (l/min)
0	0.000	0	0.000
1	0.667	1	3.963
2	1.300	2	7.927
3	2.040	3	11.890
4	2.720	4	15.854
5	3.400	5	19.817
6	4.080	6	23.781
7	4.760	7	27.744
8	5.440	8	31.708
9	6.120	9	35.671
10	6.800	10	39.635
11	7.480	11	43.598
12	8.160	12	47.562
13	8.840	13	51.525
14	9.521	14	55.489
15	10.201	15	59.452
16	9.861	16	57.471
17	9.521	17	55.489
18	9.181	18	53.507
19	8.841	19	51.525
20	8.501	20	49.544
21	8.160	21	47.562
22	7.820	22	45.580
23	7.480	23	43.598
24	7.140	24	41.617
25	6.800	25	39.635
26	6.460	26	37.653
27	6.120	27	35.671
28	5.780	28	33.690
29	5.440	29	31.708
30	5.100	30	29.726
31	4.760	31	27.744
32	4.420	32	25.763
33	4.080	33	23.781
34	3.740	34	21.799
35	3.400	35	19.817
36	3.060	36	17.836
37	2.720	37	15.854
38	2.380	38	13.872
39	2.040	39	11.890
40	1.700	40	9.909
41	1.360	41	7.927
42	1.020	42	5.945
43	0.680	43	3.963
44	0.340	44	1.982
45	0.000	45	0.000

Volume per Timestep			
Pre Development (1.5 year storm)		Post Development (1.56 year storm)	
Time (min)	Volume (m³)	Time (min)	Volume (m³)
0		0	
1	0.020	1	0.119
2	0.061	2	0.357
3	0.102	3	0.595
4	0.143	4	0.833
5	0.184	5	1.071
6	0.224	6	1.309
7	0.265	7	1.548
8	0.306	8	1.786
9	0.347	9	2.024
10	0.388	10	2.262
11	0.429	11	2.500
12	0.469	12	2.738
13	0.510	13	2.976
14	0.551	14	3.214
15	0.592	15	3.452
16	0.602	16	3.509
17	0.581	17	3.390
18	0.561	18	3.272
19	0.541	19	3.153
20	0.520	20	3.035
21	0.500	21	2.916
22	0.479	22	2.798
23	0.459	23	2.679
24	0.439	24	2.560
25	0.418	25	2.442
26	0.398	26	2.323
27	0.377	27	2.205
28	0.357	28	2.086
29	0.337	29	1.968
30	0.316	30	1.849
31	0.296	31	1.729
32	0.275	32	1.610
33	0.255	33	1.492
34	0.235	34	1.387
35	0.214	35	1.286
36	0.194	36	1.135
37	0.173	37	1.011
38	0.153	38	0.892
39	0.133	39	0.774
40	0.112	40	0.654
41	0.092	41	0.535
42	0.071	42	0.416
43	0.051	43	0.297
44	0.031	44	0.179
45	0.010	45	0.059
Total	13.774	Total	66.261
		Difference	52.487

INNOVATIVE TRANSPORT SOLUTIONS

24 Dr Havenga Crescent
Pro Park Building 1
Persequor Technopark
Pretoria (0020)
+27 (012) 349 3680
gauteng@itsglobal.co.za

5th Floor Imperial Terrace
Cape Quarter Drive
Tyger Waterfront
Bellville 7530
+27 (021) 914 6211
western.cape@itsglobal.co.za

www.itsglobal.co.za

HAZENDAL WINE ESTATE (PTY) LTD
P.O. Box 111
Soneike
7583

18 November 2019

Our Reference: 3802.1

Attention: Shlomi Azar

FARM 222, HAZENDAL ESTATE – GOLF COURSE AND BOUTIQUE HOTEL: TRANSPORT IMPACT STATEMENT

We refer to our appointment to evaluate the expected transport related impacts associated with the proposed Golf Course and Boutique Hotel on Hazendal Estate, Farm 222 Stellenbosch. Hazendal Estate falls within Stellenbosch Municipality area of jurisdiction in terms of services. Previously access to Hazendal Estate was obtained from Bottelary Road only. It is now proposed to also provide access via the City of Cape Town's municipal street network and this report is also in support of an application for access via Ronelle Street to the north of the property.

The property is located to the north of Bottelary Road, to the east of Kruis Street and to the south of the Brackenfell South Smallholdings. See Error! Reference source not found. in Annexure A for a Locality Plan.

Proposed Development

Previously ITS conducted a TIA dated June 2017 for the proposed development of the Hazendal Estate with the following land uses:

- Expand the existing restaurant with 60 additional seats, to a total of 140 seats inside and outside,
- New Conference Facilities 250 seats,
- Babushka Deli (±200m² GLA)
- New Trading Stalls – Jonkershuis (±200m² GLA)

Please also refer to the June 2017 TIA for more detail.

It is now proposed to also develop a 18-hole golf course and a boutique Hotel with 34 rooms on the estate. The hotel also includes a 200-seat function venue. Refer to **Figure 2** in Annexure A for the proposed site layout plan.

Existing Traffic Conditions

Existing Roadways in Site Vicinity

Bottelary Road (Provincial Main Road MR187): Class 2 Major Arterial One lane per direction, 100 km/h posted speed limit with paved shoulders and no sidewalks.

Kruis Street: Class 2 Primary Arterial. One lane per direction in the site vicinity, a speed limit of 60km/h, gravel shoulders and no sidewalks.

Ronelle Street: Ronelle Street to the west of Kruis Street is a Class 4 Collector. The section of Ronelle Street to the east of Kruis Street is currently unclassified, but it is expected that the Class 4 status will be extended to the east as Ronelle Street is extended to the east. One lane per direction in the site vicinity, no shoulders and a sidewalk along the northern side of the road.

Photo 1 to **4** in Annexure B shows the typical cross sections of the roads in the site vicinity.

Study Intersections

The following study intersections were included in the analyses:

- Int1: Kruis Street/Ronelle Street (Two-Way Stop)
- Int2: Bottelary Road/Kruis Street (Traffic Signal)
- Int3: Bottelary Road /Hazendal Wine Estate Access (Two-Way Stop)
- Int4: Bottelary Road /Botfontein Road (Two-Way Stop)

Transport Impact Analysis

Existing Conditions

All intersections currently operate at acceptable levels-of-service except the Bottelary Road/Botfontein Road intersection. This intersection operates at a level-of-service (LOS=F) during the a.m. peak hour with average delays of more than 50 seconds per vehicle for the critical movement. It is recommended that this intersection be upgraded with signals. The recommended upgrade was highlighted in several previous studies. This upgrade is not triggered by the Hazendal Development, it is an existing issue and it is recommended that the Roads Authority put this upgrade on budget for implementation in the near future. Please refer to the June 2017 TIA for more detail. See **Figure** 3 in Annexure A for a summary of the Existing Traffic Conditions.

Year 2024 Background Traffic Conditions

The 2024 Background Traffic volumes are based on the 2019 existing traffic volumes adjusted with a growth rate of 3 percent per annum over a five-year period. The trips associated with the latent development rights for the Schoongezicht Development was also added to Background Traffic Volumes. Based on information available, it is assumed that approximately 40 percent of the Schoongezicht Development has already been built and the trips associated with 60% latent rights is estimated at approximately 160 peak hour trips.

It is assumed that the signal upgrade recommended for the Bottelary Road/Botfontein Road intersection will already be implemented for the 2024 Background Conditions.

Based on the capacity analyses results, all the study intersections will operate at acceptable Levels-Of-Service (LOS) during the Weekday a.m. and p.m. peak hours. No additional upgrades are required for the background conditions. The Kruis Road/Ronelle Street intersection will be operating close capacity. This intersection has already been identified in previous applications for a possible upgrade with signal control.

See **Figure 4** in Annexure A for a summary of the Background Traffic Conditions and upgraded lane configuration.

Trip Generation and Trip Distribution

The trip generation rates below is based on the Committee of Transport Official's South African Trip Data Manual (TMH17):

- Golf course (COTO430) - 40 trips with 80/20 peak directional split during the a.m. peak hour and 50 trips with a 45/55 directional split during the typical weekday p.m. peak hour
- Hotel (COTO310) – 0.5 trips per room with 60/40 peak directional split during the a.m. peak hour and a 55/45 directional split during the typical weekday p.m. peak hour.
- Function Venue (COTO780) – 0.5 trips per seat with 90/10 peak directional split during the a.m. peak hour and 0.3 trips per seat with a 10/90 directional split during the typical weekday p.m. peak hour.

Based on these trip generation rates, the proposed Golf Course and Hotel with function venue can generate an additional 157 trips (132in/25out) during the a.m. peak hour and 127 trips (38in/89out) during the p.m. peak hour. For the purposes of this report these additional trips are added to the trips associated with the land uses approved in the previous application. The traffic counts were conducted during a time when there was little or no activity on the farm and for analysis purposes in this report the trips associated with all land uses on the farm was added to the counted traffic volumes. The total trips for all the land uses on the farm are 292 trips (251in/41out) during the a.m. peak hour and 255 trips (78in/177out) during the p.m. peak hour.

Please refer to the June 2017 TIA for more detail with regards to the land uses previous approved and the trip distribution pattern. **Figure 5** in Annexure A also illustrates the estimated Trip Generation and the expected Trip Distribution pattern.

Traffic Impact

In the June 2017 TIA the trip generation estimate was calculated assuming all the different land uses on the Estate will generate the maximum number of trips during the peak hours that was evaluated in the report. To evaluate the possible worst-case scenario with the golf course and the hotel, the maximum trips associated with the golf course and hotel was added to the trips calculated in the June 2017 TIA.

With the latest development proposal, the access configuration has been revised to a one-way circulation system with ingress off Bottelary Road at the main access up to the parking area and two-way traffic along a new access road between the parking area and Ronelle Street. Refer to **Figure 2**

in Annexure A for the SDP and access road alignment. No outbound movements will be allowed at the main access off Bottelary Road.

Previously the right-out movement at the main access off Bottelary Road was a critical movement. All outbound movements will now be accommodated via Ronelle Street. Based on the analysis results all study intersections will operate at acceptable levels-of-service with all the development traffic added to the road network except the Kruis Road/Ronelle Street intersection. This intersection will operate at a level-of-service LOS=F during the a.m. peak hour with average delays of more than 50 seconds per vehicle and a volume to capacity ratio of 0.65. However, the analysis is based on all the Hazendal Estate land uses generating maximum trips simultaneously and the Schoongezicht Development fully built out. Based on the analysis results the SARTSM 4 queue warrant for signals are not met and it is recommended that the intersection be monitored once the new Hazendal Estate access configuration with access via Ronelle Street is operational.

Furthermore, although the critical eastbound right-turn movement along Ronelle Street at the Kruis Road intersection will operate at a LOS=F during the a.m. peak hour, this movement will be operating at a volume to capacity ratio of 0.65, which means that the movement has some spare capacity. Vehicles will still find acceptable gaps in the conflicting traffic stream along Kruis Road, but they will have to wait for more than 50 seconds during the peak 15 minutes in the a.m. peak hour.

Based on the Western Cape Government Department of Transport and Public Works Road Network Management's warrants for turning lanes and the traffic volumes evaluated in this report a dedicated westbound right-turn lane is required long Bottelary Road at the access. However, the long-term plan is to relocate the access to the eastern boundary of the site and to limit abortive costs, it is recommended that the right-turn lane is painted on the existing road surface, without widening the road.

Accesses

Access is proposed via two accesses, i.e. the existing main access off Bottelary Road at ±KM5.36 as an ingress only and a new two-way secondary access road via an access servitude off Ronelle Street as illustrated on the SDP. No egress will be allowed at the existing Bottelary access.

Parking

Based on the November 2019 Stellenbosch zoning scheme requirements parking for the additional land uses should be provided at the following rates:

- Golf Course - 0.25 parking bay per player
- Hotel - 0.7 bays per room plus 20 additional parking bays for the Bar.
- Function Venue - 0.25 parking bays per seat

Based on the SDP more than 300 parking bays are provided on site, which is sufficient for all the approved and planned land uses on site.

Public Transport and Non-Motorised Transport

There are existing public transport services available along Bottelary Road. No additional facilities are recommended.

There are no existing sidewalks along Bottelary Road and no NMT facilities are recommended for this development.

Conclusions and Recommendations

Based on the evaluation in this report, the conclusions and recommendations are as follows:

- In previous reports the existing conditions at the Bottelary Road/Botfontein Road intersection was highlighted for possible signal upgrade and it is recommended that the Roads Authority should place this upgrade on budget for implementation in the near future. This upgrade is not triggered by the Hazendal Development.
- For the Background Traffic Conditions a growth rate of 3% per annum was applied to the existing traffic volumes and the traffic volumes associated with the latent development rights of the Schoongezicht Development were added to the analysis. The Kruis Road/Ronelle Street intersection will be operating close capacity during the Background Conditions. This intersection has already been identified in previous applications for a possible upgrade with signal control.
- The trips generated by the proposed new land uses now applied for is approximately 157 new-trips during the a.m. peak hour (132 inbound/25 outbound) and approximately 127 new-trips during the p.m. peak hour (38 inbound/89 outbound).
- Access is proposed via two accesses. An ingress only off Bottelary Road at the existing main access and a secondary two-way servitude access via Ronelle Street.
- With the Schoongezicht Development and all the approved and planned land uses of the Hazendal Estate completed the Kruis Road/Ronelle Street intersection will operate at a capacity at a level-of-service LOS=F during the a.m. peak hour. However, based on the analysis results a signal will not be warranted and it is recommended that the intersection be monitored upgraded with signal control once the SARTSM warrants are met.
- Based on the traffic volumes evaluated in this report a dedicated westbound right-turn lane is required long Bottelary Road at the access. However, the long-term plan is to relocate the access to the eastern boundary of the site and to limit abortive costs, it is recommended that the right-turn lane is painted on the existing road surface, without widening the road.
- Based on the SDP more than 300 parking bays are provided on site, which is sufficient for all the approved and planned land uses for Hazendal Estate.
- There are public transport services available along Bottelary Road and no dedicated facilities are recommended for the proposed development.

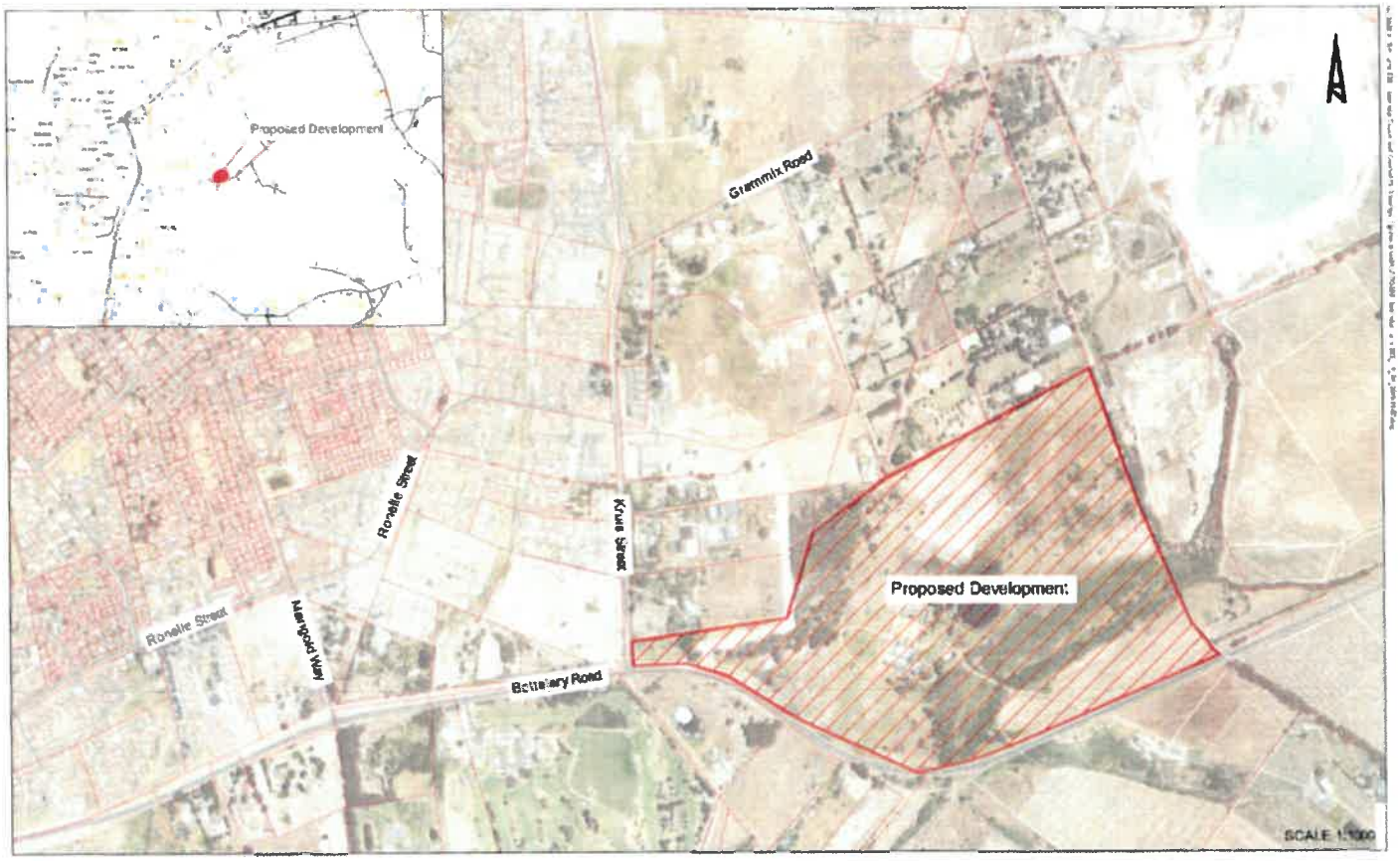
- There are no existing sidewalks along Bottelary Road and no public NMT facilities are recommended for this development.
- Based on the transport impact evaluation in this report, it is evident that the expected transport impact of the proposed Hazendal Estate development on Farm 222, Stellenbosch will be low and it is recommended that the development be approved from a transport perspective.

We hope this adequately addresses the expected transport impact associated with the proposed development. Please do not hesitate to contact us should you required any further information.

Yours sincerely,

Christoff Krogscheepers
For ITS Engineers

Annexure A: Figures



its	PROJECT	FIGURE	NUMBER
	HAZENDAL ESTATE FARM 222, STELLENBOSCH	LOCALITY PLAN	01

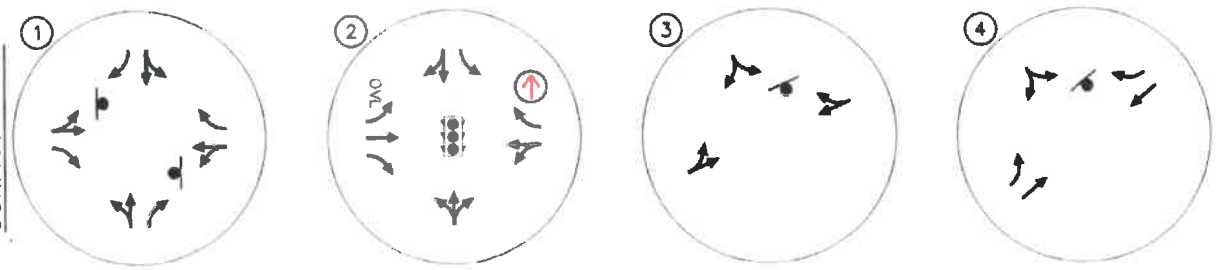
MASTER SITE DEVELOPMENT PLAN
Scale 1:1000

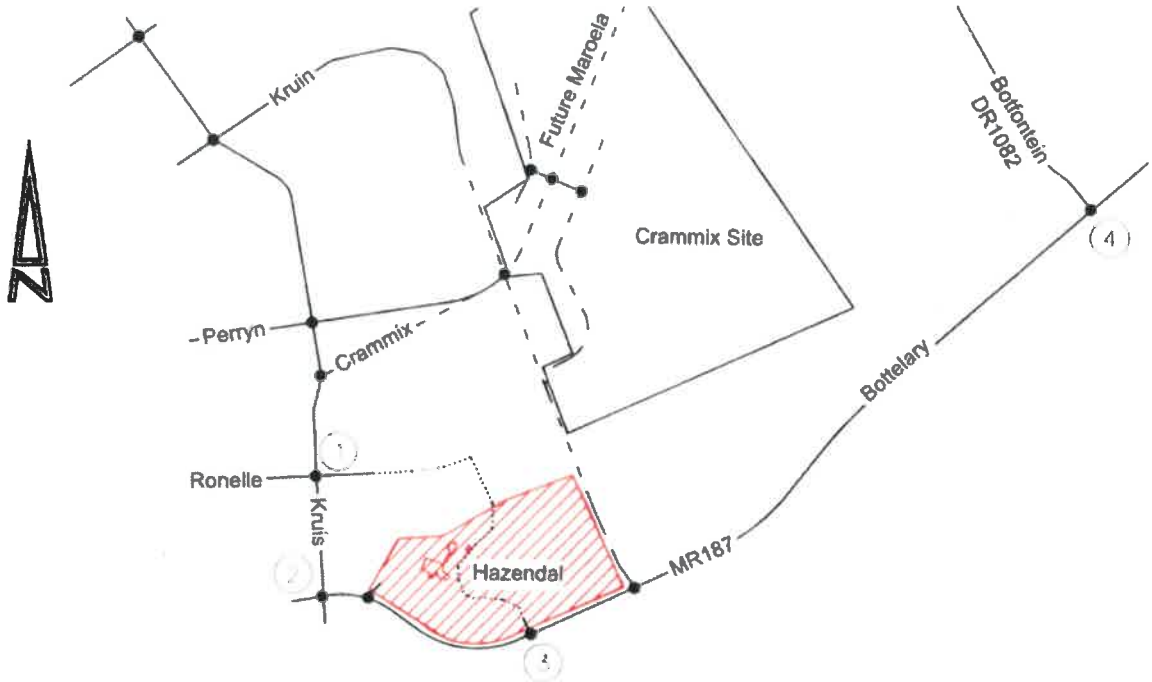
FIGURE 2
SITE DEVELOPMENT PLAN

+Partners

STELLENBOSCH

RECOMMENDED LANE CONFIGURATION





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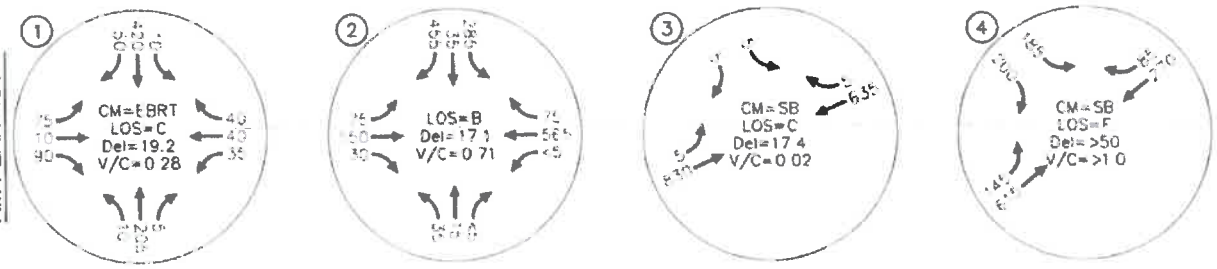

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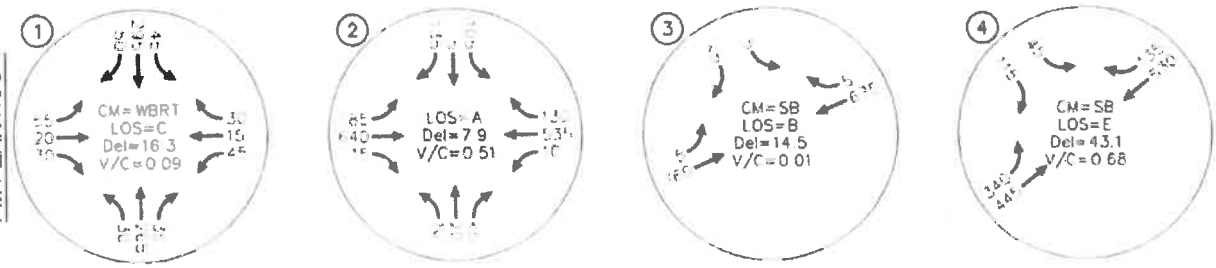


LEGEND

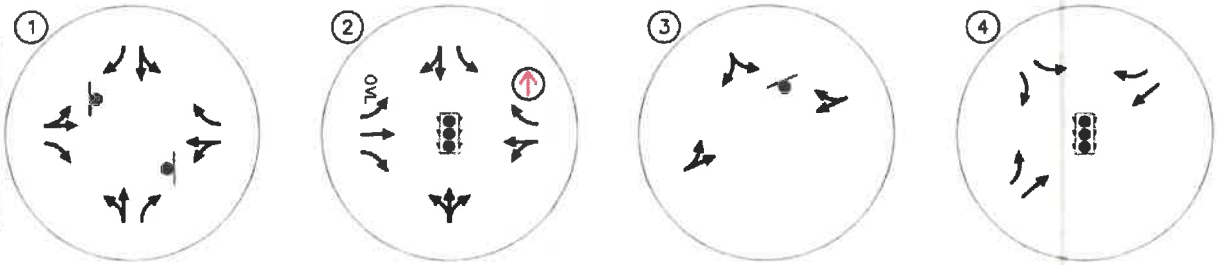
CM = CRITICAL MOVEMENT (UNSIGNALISED)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALISED)
CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALISED)
Del = INTERSECTION AVERAGE DELAY (SIGNALISED)
CRITICAL MOVEMENT DELAY (UNSIGNALISED)
V/C = CRITICAL VOLUME TO CAPACITY RATIO

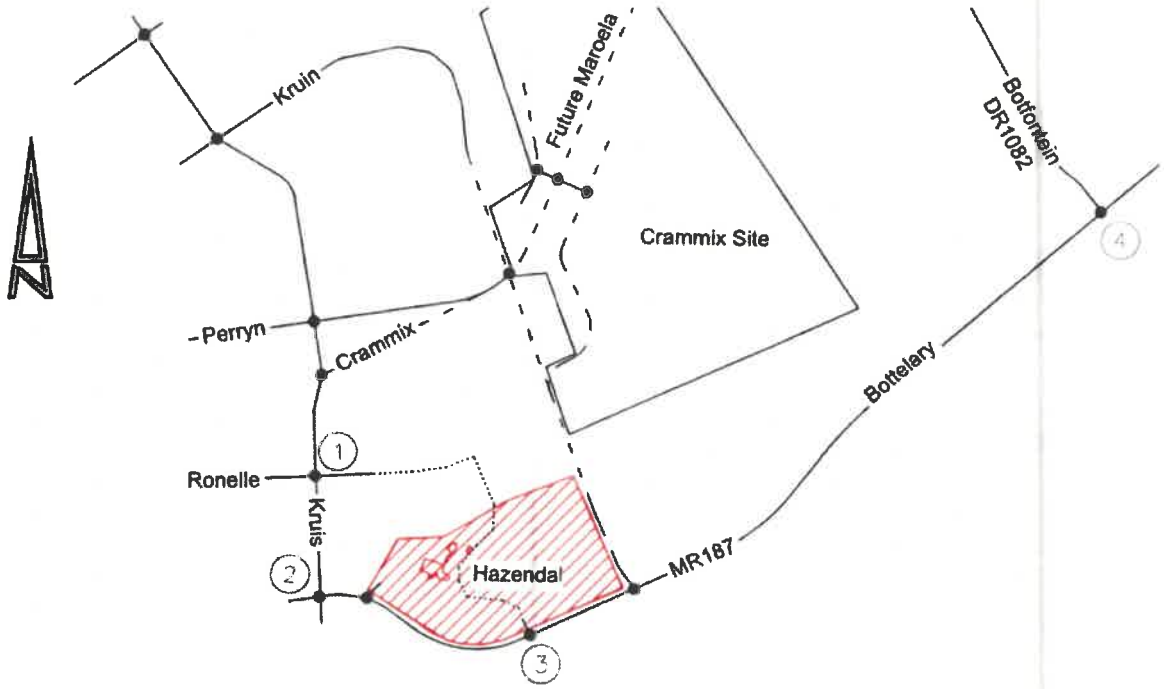
STOP/ YIELD CONTROL
TRAFFIC SIGNAL
PROTECTED RIGHT-TURN
OVL OVERLAP LEFT-TRUN

SCHEMATIC

PROJECT	FIGURE:	NUMBER
HAZENDAL ESTATE FARM 222, STELLENBOSCH	2019 EXISTING TRAFFIC CONDITIONS	3

RECOMMENDED LANE CONFIGURATION





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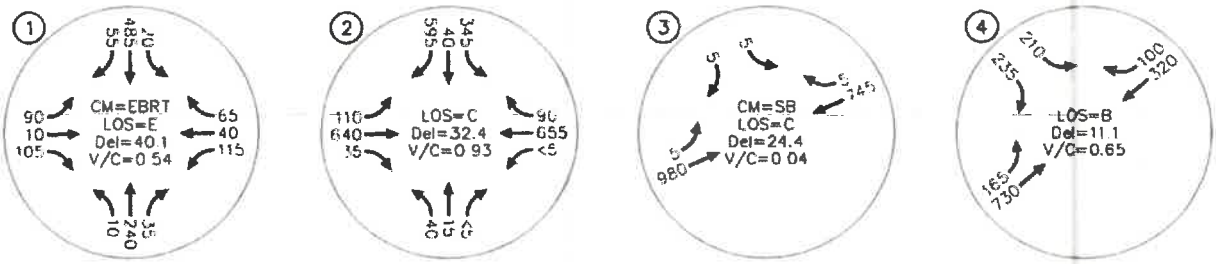

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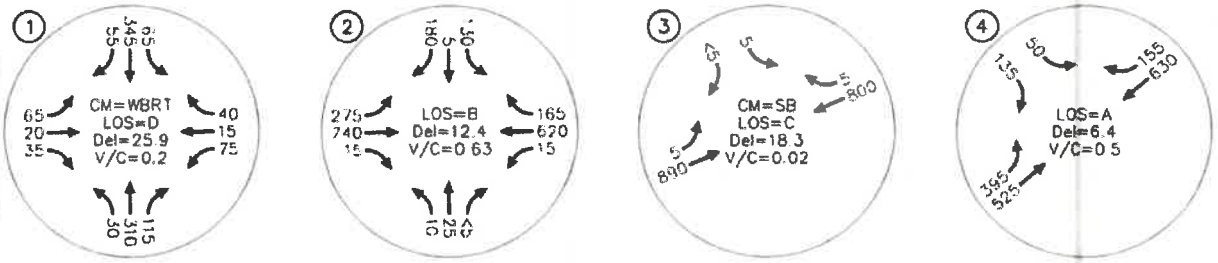

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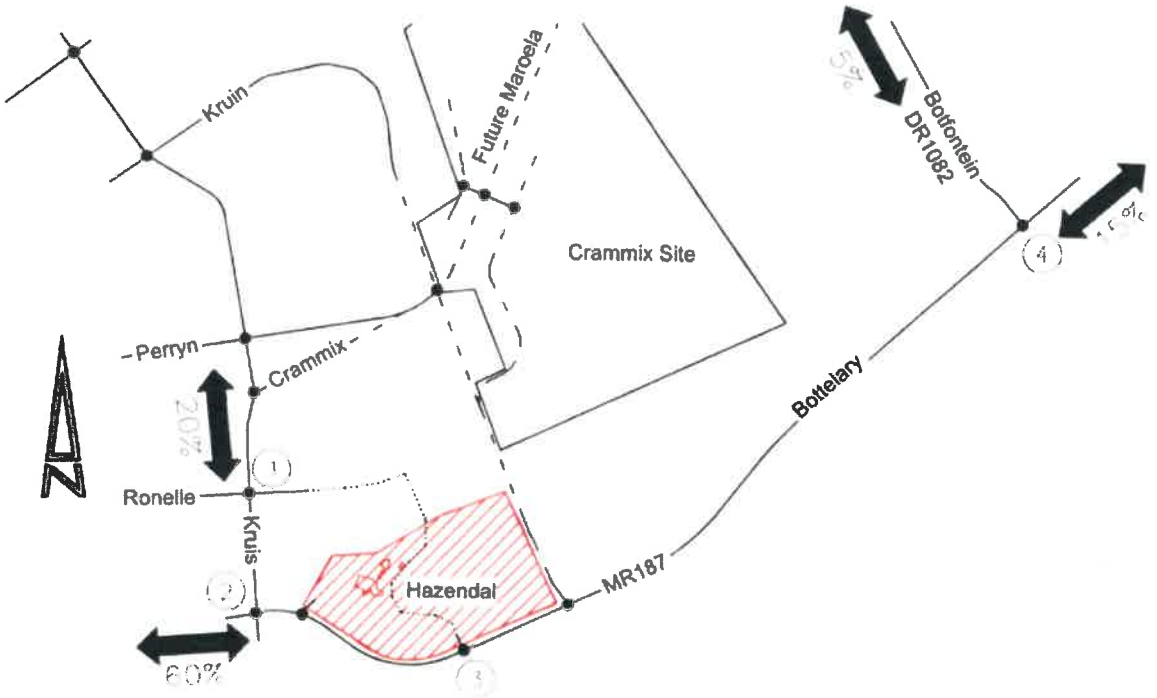
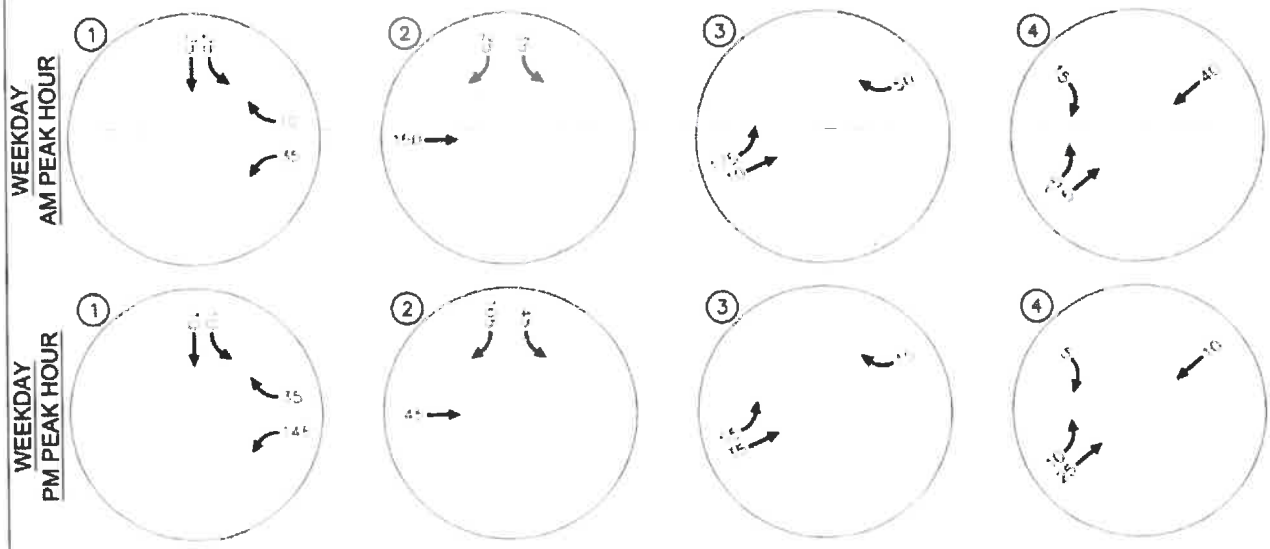
PROTECTED RIGHT-TURN
OVL OVERLAP LEFT-TRUN

SCHEMATIC

PROJECT:	FIGURE:	NUMBER:
HAZENDAL ESTATE FARM 222, STELLENBOSCH	2024 BACKGROUND TRAFFIC CONDITIONS	4



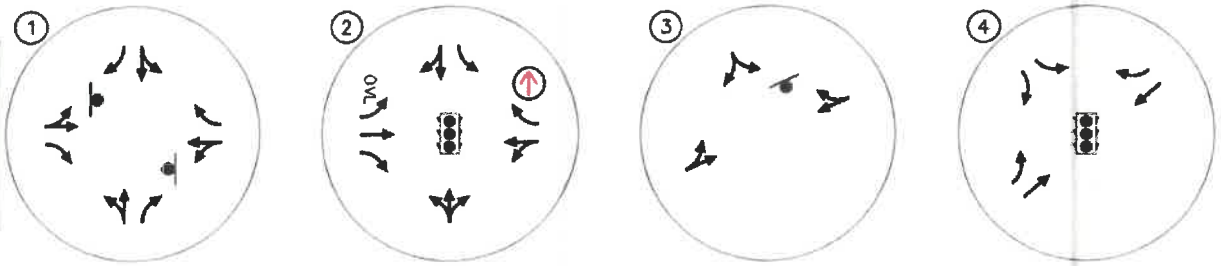


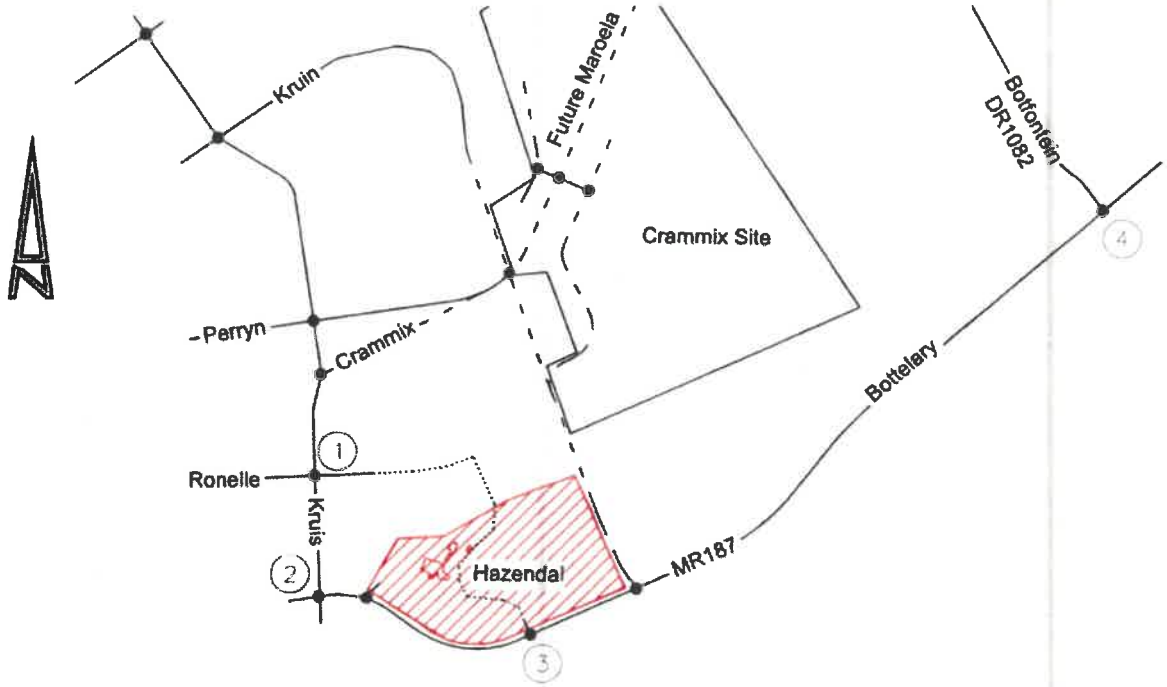
PEAK HOUR	IN	OUT	TOTAL
AM	251	41	292
PM	78	177	255

SCHEMATIC

PROJECT	FIGURE	NUMBER
HAZENDAL ESTATE FARM 222, STELLENBOSCH	ESTIMATED TRIP GENERATION AND EXPECTED DISTRIBUTION	5

RECOMMENDED LANE CONFIGURATION





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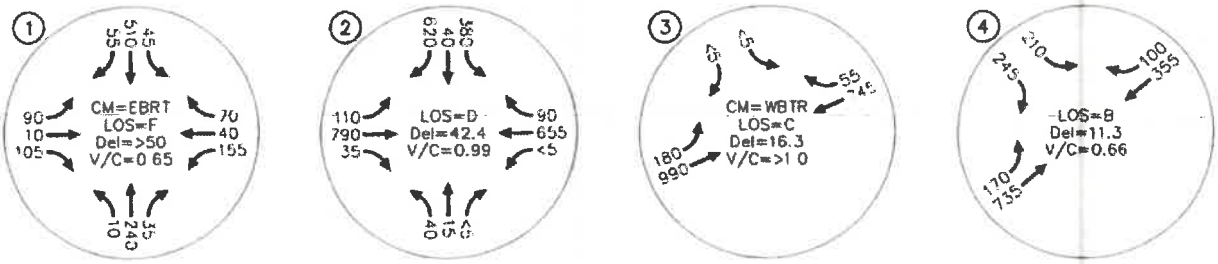

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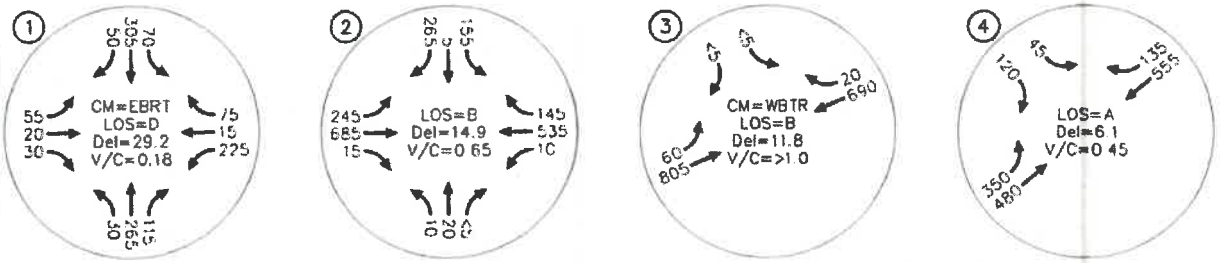

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SCHEMATIC

PROJECT:	FIGURE:	NUMBER:
HAZENDAL ESTATE FARM 222, STELLENBOSCH	2024 TOTAL TRAFFIC CONDITIONS	6

Annexure B: Photos

Photo 1 Botteley Road Eastbound View towards Kruis Street

Photo 2 Botteley Road Westbound View towards Site Access

Photo 3 Kruis Street Northbound View towards Ronelle Street

Photo 4 Ronelle Street Eastbound View towards Schoongezicht

Client
HAZENDAL WINE ESTATE (PTY) LTD

MAIN ENVIRONMENTAL CONSULTANT
KHULA ENVIRONMENTAL CONSULTANTS

HAZENDAL WINE ESTATE, STELLENBOSCH

Basic Assessment Process for the proposed development of a hotel and other activities

SPECIALIST AQUATIC ECOSYSTEMS ASSESSMENT

DRAFT FOR COMMENT

JANUARY 2020

PREPARED BY
Liz Day (PhD; Pr Nat Sci.)
lizday@mweb.co.za

LIZ DAY
CONSULTING
Specialist River and Wetland Consultant

LIZ DAY
CONSULTING Specialist River and Wetland Consultant

3 August 2019

DECLARATION OF SPECIALIST INDEPENDENCE

I, Elizabeth (Liz) Day as a specialist river and wetland consultant, and Director of Liz Day Consulting (Pty) Ltd, hereby confirm my independence as a specialist and declare that I do not have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which KHULA Environmental Consulting was appointed as the Environmental Assessment Practitioner (EAP) in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for work performed, specifically in connection with specialist input into the Basic Assessment Process and Water Use Licence Application for the proposed development of a hotel and various ancillary activities at Hazendal Wine Estate, Stellenbosch.

Full Name: Dr Elizabeth (Liz) Day
Liz Day Consulting (Pty) Ltd (trading as LDC)
lizday@mweb.co.za

Title / Position: Director)

Qualification(s): BA, BSc, BSc Hons, PhD

Experience: > 20 years working on freshwater ecosystems
Relevant work experience: Liz has worked as a freshwater ecologist / aquatic ecosystems specialist for the past +24 years, primarily in the Western Cape, and has produced over 700 technical and Environmental Impact Assessment reports, requiring the assessment of rivers and/or wetlands.

With regard to the current project, she has worked on the site for the past three years, having compiled the Maintenance Management Plan for watercourses on the site and provided ongoing input into project planning. She has also worked extensively in the Kuils / Eerste River catchment, including on the Kuils River R300 road bridge, various developments in Stikland along the Kuils River as well as downstream in the Westbank, Mfuleni and Khayelitsha areas. Liz has undertaken numerous Risk Assessments since the introduction of the DWS Risk Assessment Matrix and has experience in wetland delineation and wetland assessment and mapping. She has long-term experience in water quality assessment and dam management.

Registration(s): Member of IAIA; Member of SAIEES; Registered Professional Natural Scientist by SACNASP (Reg No 400270/08) for fields of Biological Science, Ecological Science and Zoological Science.

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Background

Hazendal Wine Estate has, over the last few years, undergone extensive upgrading and rehabilitation of existing buildings, as well as significant alien vegetation clearing and landscaping for the development of various recreational facilities on the site. These include a golf course and bike park. Development of a hotel is now proposed, abutting a dam and partially within an area previously identified as a wetland (Day 2018). The proposed development is however subject to the outcomes of various applications for authorisation, including authorisation by the Department of Environmental Affairs and Development Planning (DEADP) and the Department of Human Settlement, Water and Sanitation (DHSWS) in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998) and the National Water Act (NWA) (Act 36 of 1998) respectively.

A number of other aspects either directly or indirectly associated with the proposed hotel development are also included in the above NEMA and NWA applications, including:

- Water, sewerage and other services for the hotel;
- Possible construction of an access road over the Bottelary River and wetlands;
- Treatment and reuse of sewage effluent in an existing farm dam;
- Abstraction of water from boreholes;
- Irrigation with treated sewage effluent;
- Construction of various boardwalks and pathways through and in the vicinity of watercourses on the site;
- Watercourse rehabilitation activities.

KHULA Environmental Consultants has been appointed by the developer (Hazendal Wine Estate (Pty) Ltd) to undertake the required Basic Assessment Process for consideration of development authorization in terms of NEMA. Since several of the proposed activities could potentially affect aquatic ecosystems (rivers and wetlands) on and associated with the site, Liz Day Consulting (Pty) Ltd ("LDC") was in turn appointed to provide specialist input into the Basic Assessment for this project, from an aquatic ecosystems perspective. LDC was also engaged to undertake the necessary applications for authorization for the above activities in terms of the NWA, through the Department of Human Settlement, Water and Sanitation (DHSWS). This includes application for a Water Use License (WUL) and/or Registration of water uses associated with the proposed development.

The present document presents the specialist findings with regard to aquatic ecosystems. This is intended to inform both the NEMA and WUL applications.

1.2 Terms of reference

The terms of reference for this project required that the appointed specialist aquatic ecologist should provide the following inputs:

- Baseline descriptions of the affected watercourses (drawn in part from previous input);

- Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) assessments of watercourse condition, sensitivity and importance;
- Identification of any significant aquatic resources on or near the site in terms of regional conservation plans;
- Identification of the implications of the proposed activities for aquatic ecosystems;
- Identification of measures to avoid, mitigate against or control such impacts;
- Consideration (in association with the project engineer and landscaper) of measures to improve dam water quality through passage through artificial channels / wetlands around the hotel;
- Inclusion of all of the above in a Basic Assessment Report along with a formal rating of the significance of the identified impacts, with and without mitigation;
- If necessary, compilation of a Risk Assessment matrix for Section 21c and i activities associated with the proposed development activities;
- Input into the Construction Phase EMPr for the project;
- Updating of the existing MMP for the Hazendal site, to include additional / amended measures as a result of the proposed development.
- Report finalisation, based on receipt of a single round of comments.

1.3 Activities informing this input

The following activities were undertaken to inform the present input into this project, namely:

- Numerous site visits to assess different parts of the site in relation to aquatic ecosystems and proposed activities, between 2017 and September 2019;
- A wetland delineation in 2018, based on the requirements and protocol outlined in DWAF (2008) – this was surveyed by Cape Survey, accompanied by this specialist, in 2019;
- Ongoing liaison with the project development team and EIA specialists, including:
  - Mr Shlomi Azar (Hazendal Wine Estate);
  - Ms Monique Sham (project EAP: KHULA Environmental Consultants);
  - Mr Chris Meny (project engineer: Meny-Gibert and Associates);
  - Ms Millucia Sampson (landscape architect);
  - Mr Brett Mc Bean and Mr Robbie Marshall (Golfdata);
- Compilation of the present report, which includes:
  - A structured specialist Basic Assessment Report (BAR) in terms of the NEMA;
  - Application of the Department of Water and Sanitation (DWS) (2015) Risk Assessment Matrix, if required in terms of the NWA.

1.4 Definitions

All reference to wetlands and water courses in this document were based on the following definitions of wetlands and water courses, as stipulated in the National Water Act (NWA) (Act 36 of 1998):

"**watercourse**" means -

(a) *a river or spring;*
(b) a natural channel in which water flows regularly or intermittently;
(c) a wetland, lake or dam into which, or from which, water flows; and
(d) any collection of water which the Minister may, by notice in the Gazette, declare to be watercourse, and a reference to a watercourse includes, where relevant, its bed and banks;

"**wetland**" means -

land which is transitional between terrestrial and aquatic systems where the water

table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

1.5 Study area

Figure 1.1 shows the location of Hazendal Wine Estate (Re Farm 222, Stellenbosch). It is accessed off the Bottelary Road, on the western boundary of Stellenbosch Municipality.

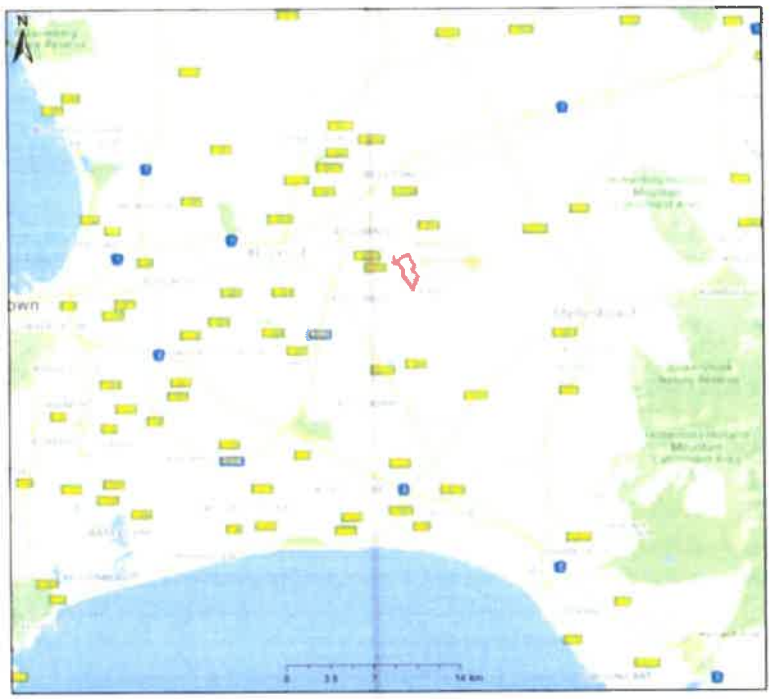

Figure 1.1
Location of Hazendal Wine Estate (red polygon)

2 DEVELOPMENT DESCRIPTION AND ASSUMPTIONS

2.1 Overview

This report considers the following development aspects, described in more detail in this section:

- The Hazendal Hotel and its associated sewerage and other services;
- Treatment of sewage effluent on site, and its storage in an existing farm dam;
- Abstraction of water from four boreholes;
- Irrigation with treated sewage effluent;
- Construction of various boardwalks and pathways through and in the vicinity of watercourses on the site;
- Various river and wetland rehabilitation activities.

Figure 2.1 presents the proposed master development plan (Developer's Preferred Alternative) for the site, showing the locations of the main components outlined above.

Note that the focus of these activities is the portion of Hazendal Wine Estate that lies to the north of the Bottelary Road (M23), with only two of the boreholes being located in the area to the south of the road. For this reason, the area referred to hereafter as the "site" is that portion of the estate that lies to the north of the M23, unless stated otherwise.

2.2 The Hazendal Hotel

Two alternative sites have been proposed for the hotel, namely:

- The Developer's Preferred Alternative (**Figure 2.1**), comprising:
    - The hotel itself, which would occupy a ±5000m^2 area on the northern edge of an existing farm dam (Dam 1 in **Figure 3.1**);
    - Landscaping and planting of the hotel precinct in accordance with the site landscape plan (**Figure 2.2**);
    - Parking areas for the hotel and associated golf course (±5000m^2), to the north of the hotel;
    - Access via a new road, to be constructed north of the existing historical and new estate buildings;
- Alternative 1 (**Figure 2.3**) comprising:
    - A hotel within the Bottelary wetland;
    - Parking for some 30 vehicles in and abutting the wetland;
    - An access road to the hotel, running from the existing main access route to the existing estate buildings, east through the Bottelary River wetlands, to the hotel.

Alternative 1 was originally developed as an approach that would protect the werf from multiple hotel gguests, who could access thehotel without having to drive through the werf. The Alternative was however ruled out in early iterative phases of development planning, on the grounds of its ecological impact and because better siting opportunities existed elsewhere on the Estate. The design details for this alternative have thus not been developed in as much detail as in the case of the Developer's Preferred Alternative.

Figure 2.1

- Proposed development layout (Developer's Preferred Alternative) , showing the proposed location of the Hazendal Hotel, boardwalks, bird hides, jetty and two of four boreholes. Note that borehole 2 is in fact BH5 as per GEOSS data. The extent of delineated wetlands is shown on the figure as well, as dotted line polygons.

Figure 2.2
Landscape / planting plan for the proposed development layout (Developer's Preferred Alternative)

Figure 2.3
Alternative 1 development layout, showing the alternative proposed location of the Hazendal Hotel and its access road. All other aspects remain the same as per the Developer's Preferred Alternative (boardwalks etc) – See Figure 2.1

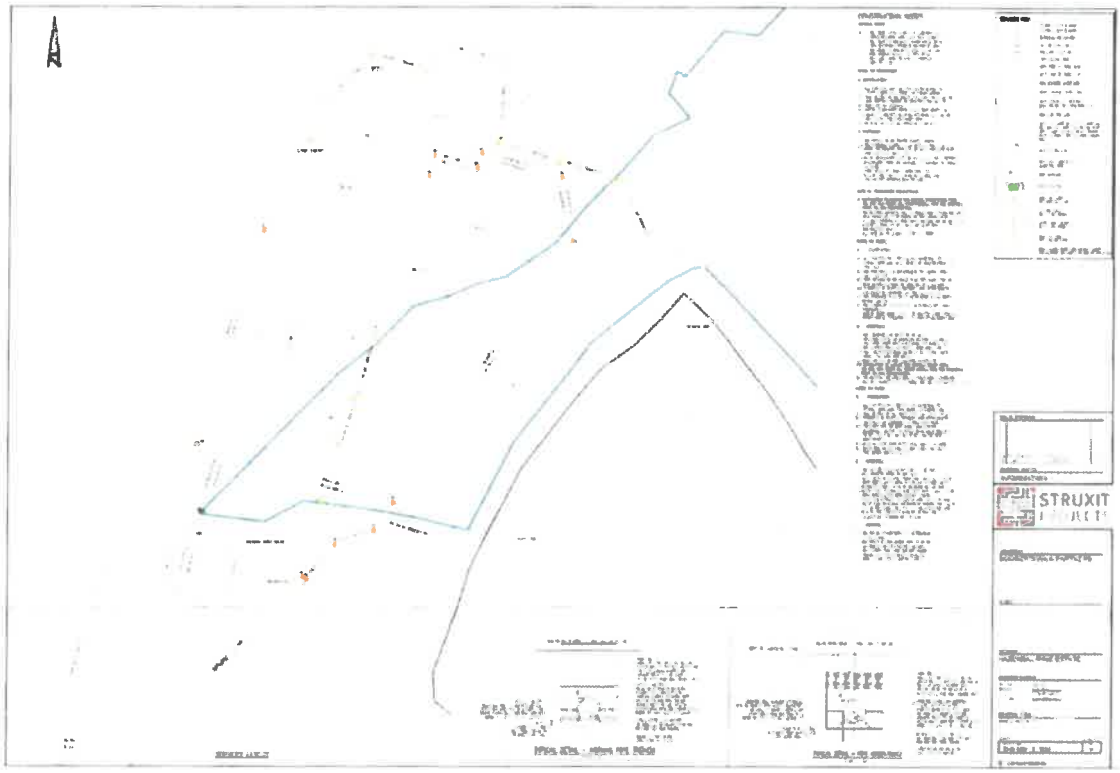

Figure 2.4
Services layout, showing position of sewers and stormwater lines – Developer's Preferred Alternative (Figure after Struxit 2019)

2.3 Sewage treatment services for the proposed hotel (Developer's preferred alternative)

Sewage generated at the hotel site would be pumped to the new sewage treatment plant described in Section 2.6. Existing sewers and septic tanks on the site would be abandoned (Meny Gibert 2017).

The WWTW package plant would be able to treat sewage to a quality that complies to South African effluent discharge standards and the treated effluent would be discharged into Dam 1 (Struxit 2019). The latter report calculates peak daily sewage generation to be 29.505 kl/day, with an average daily sewage generation of 14.753 kl/day. **Figure 2.4** shows the proposed sewer alignment.

2.4 Stormwater management from the hotel

Stormwater generated on the hotel (Developer's Preferred Alternative) and parking area would be discharged into Dam 1 (see **Figure 3.1**) via a piped outlet, as shown in **Figure 2.5** (after Struxit 2019).

No water quality amelioration is mentioned in the stormwater management report (Struxit Project 2019) and no reference is made to Water Sensitive Urban Design (WSUD) methods.

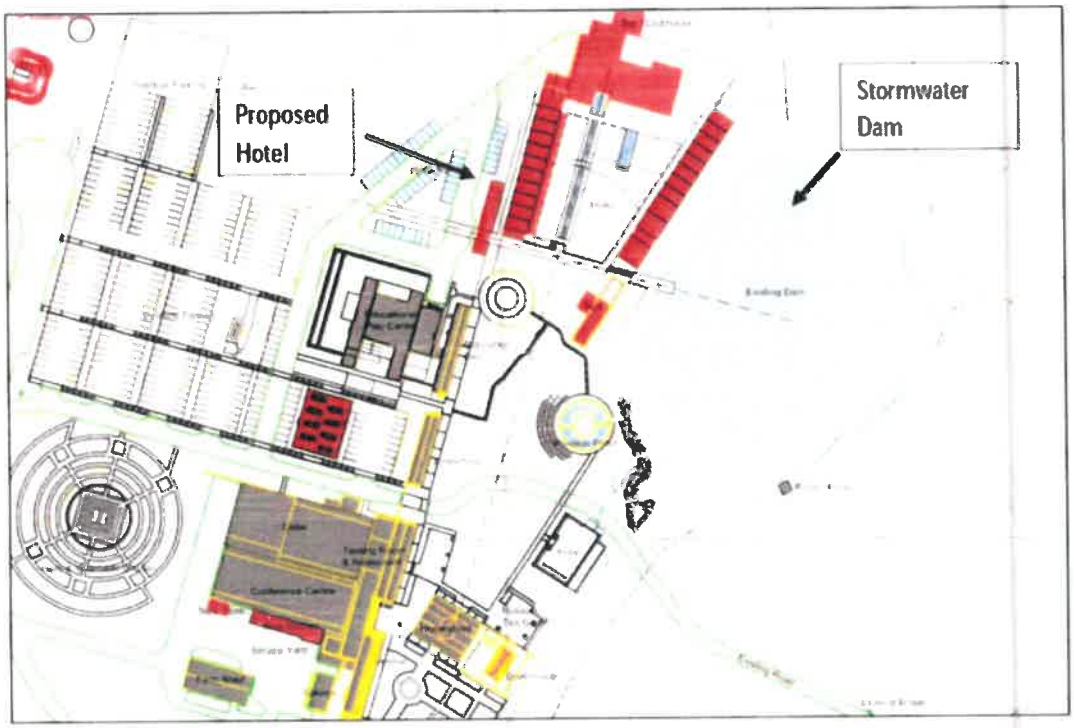

Figure 2.5
Proposed stormwater design passing runoff into Dam 1 – Developer's Preferred Alternative. Figure after Struxit (2019). "Existing Dam" shown in this figure is "Dam 1" in Figure 3.1

2.5 Treatment and re-use of sewage effluent

Implicit in the development design is the treatment and re-use of sewage effluent on the site. At present, treated effluent from the wine processing plant is passed into Dam 1 (see **Figure 3.1**) via a pipeline. The proposed change in effluent treatment would be for the treatment of sewage and wine manufacturing effluent to be passed into a new wastewater treatment plant, capable of treating effluent to an improved quality. Up to 100 m^3 effluent per day could be treated by this system (Aqwise 2017) – Struxit Projects (2019) calculate the peak daily sewage generation at Hazendal as 29.505 kL/ day (i.e. 29.505 m^3/ day).

The standard module allows for outputs of treated effluent of the following quality:

- Chemical Oxygen Demand (COD): <125 mg/L
- Biological Oxygen Demand (BOD): < 20 mg/L
- Total Suspended Solids (TSS): <30 mg/L
- Total Nitrogen: < 20 mg/L.

No specifications for the treatment of orthophosphate are provided in the Aqwise literature, although discussions with Mr Harel Rauch (Aqwise) indicated that total ammonic concentrations would be reduced to concentrations below 3 mg/L (email to Liz Day of 2 April 2017).

Struxit Projects (2019) note that treated effluent would conform to South African effluent discharge standards. In the case of orthophosphate, general effluent limits imposed by DHSWS are 10 mg P/L.

Treated effluent would be discharged via a pipeline from the treatment facility, located in the Farm Shed (north eastern portion of the site – see **Figures 2.1 and 2.4**), and discharged into the existing farm dam (Dam 1 in **Figure 3.1**).

Treated effluent stored in the dam would be used as an irrigation source on the farm, irrigating the golf course as well as landscaped areas and vineyards / other agricultural areas of the farm. The water would be pumped from the dam, and stored in a reservoir for irrigation use. This water would be supplemented by borehole water, abstracted from boreholes BH1 and BH5[1].

2.6 Abstraction of water from boreholes

Four boreholes, two on the portion of Hazendal on the northern side of the Bottelary Road (as shown in **Figure 2.1**) and an additional two on the extended site south of the Bottelary Road have been drilled. Abstraction from these boreholes, which all lie within 500m of a watercourse, would require a water use license. **Figure 2.6** shows the locations of all four boreholes.

[1] Borehole BH5 in GEOSS data is represented in Figure 2.1 as Borehole2 – in this report, it is referred to as BH5.

Figure 2.6
Locations of the four boreholes on site (data as supplied by GEOSS)

2.7 Construction of various boardwalks, birdhides and pathways through and in the vicinity of watercourses on the site

Figure 2.1 shows the extent of a number of raised wood-and-steel boardwalks proposed for the Hazendal site. These additional areas would be intended to allow visitors to the Estate to walk within the wetlands, thus improving their experience without impacting unduly on the aquatic system. A total area of ±1500m^2 of boardwalk is proposed – the alignments shown in **Figure 2.1** are assumed to be indicative only. They include up to three bird hides.

In addition, up to two jetties are proposed for Dam 1.

2.8 Various river and wetland rehabilitation activities

The following river / wetland rehabilitation activities are considered here:

- Rehabilitation of the degraded wetland seeps east of Dam 1, including a portion of the poplar seep east and south east of Dam 1 (see **Figure 3.1**) and the degraded upper and lower reaches of Seep C, with a combination of re-shaping, diversion of flows and re-planting;
- Rehabilitation of the Bottelary River valley bottom wetlands A and B, by the removal of infill and berms along the edge of and within the wetland.

See **Figure 3.1** for the locations of the affected wetlands.

3 DESCRIPTION[2] OF AFFECTED WETLANDS ON AND ASSOCIATED WITH THE SITE

3.1 Site overview

The Bottelary River passes through the southern portion of Hazendal Wine Estate ("the site"), entering across the eastern boundary and exiting the site on its south western boundary, under the M23 / Bottelary Road (**Figure 3.1**). The site as a whole comprises a combination of vineyards, historical buildings, some of which are now used as restaurants and other amenities, a golf course, still being completed at the time of this report, and a bike park. Large areas of alien vegetation have been cleared on the site over the past three years to make way for the golf course and bike park, in areas described in Day (2018) as disturbed, alien-infested parts of the site.

Figure 3.1
Bottelary River through the site - Figure adapted from Cape Farm Mapper
https://gis.elsenburg.com/apps/cfm/#

Within the site, the river is crossed by an historical access road, with a concrete culvert. Extensive, mainly reedbed wetlands occur on the right[3] hand river floodplain, and these are also crossed by the road, with a small pipe allowing drainage of water across the road. **Figure 3.2** shows the main aquatic and other features referred to in this section.

Two impoundments (Dam 1 and [4]WF ("water feature") in **Figure 3.2**) are located immediately east / upslope of the road. Of these, the smaller one (WF) has recently been landscaped and designed as a lined, artificial water feature, with water pumped from the small area of standing water comprising the dam, and allowed to circulate back by way of a small artificial stream, leading down to the dam below. WF previously comprised a larger, unlined dam, constructed to supplement storage from Dam 1.

[2] This information is adapted from and supplemented by that presented in the MMP for the site (Day 2018)
[3] By convention, left and right hand sides as seen when facing downstream
[4] Note that this was referred to as Dam 2 in the MMP (Day 2018)

Dam 1 is an unlined dam, and some seepage passes from the dam into the river, and into the wetlands to the east. A pumphouse is located on the river margins – this pumphouse recirculates water from the dam to a reservoir to the north, but was out of use at the time of this assessment. Its use commenced in 1994 (M. Sham, pers. comm. to Liz Day, January 2020). Dam 1 is fed by water channelled from a seep to the north east (Seep C) as well as by treated effluent from the existing winery effluent treatment system and water generated by extensive subsurface drains located upslope of the existing historical buildings and wine cellar, and in use for many years. It is possible that the dam is also located within a seep – upslope wetland vegetation (mainly poplars) may indicate this, but the extent of historic infill and excavation at the time of delineation precluded a definitive conclusion based on soil augering. It is also possible that the upslope poplars and other patchy wetland-associated vegetation resulted from a locally raised water table as a result of water stored in the dam. However, this report assumes conservatively that the dam is located on a minor seep, with inflows significantly supplemented by water from Seep C and the other sources listed above.

The site as a whole is characterised by large areas of deep clays, overlain by sandy soils of varying depth. Where the clay lies close to the surface, the site is prone to the development of seepage wetlands, and these characterise parts of the right hand (northern) slopes into the Bottelary River.

The following sections provide brief descriptions of the different watercourse types and their condition on the site. Their locations are indicated in **Figure 3.2** and, in part, in **Figure 3.3**, as well as in the photographs in **Table 3.1**.

3.2 Catchment context

The Bottelary River lies in DWS quaternary catchment G22E and is a tributary of the Kuils River, which flows roughly south through the City of Cape Town Municipal Area, to its confluence with the Eerste River, near Macassar. Although most of the river reaches pass through mainly agricultural and peri-urban areas as far as the confluence of with the Kuils River, the upper reaches are fed by effluent from the Scottsdene Waste Water Treatment works, which are assumed to contribute most of the summer flows to this naturally seasonal system. The Scottsdene WWTW lies some 3.5km upstream of the present site.

3.3 Context in the Western Cape Biodiversity Spatial Plan

The Western Cape Biodiversity Spatial Plan (Pool-Stanvliet et al. 2017)] does not include the proposed hotel site as 'critically important' for biodiversity but only recognizes it as an Ecological Support Area 2 (ESA2). This pertains mainly to the wetland and does not designate any sensitive terrestrial vegetation

None of the aquatic ecosystems on the site are identified in the Western Cape Critical Biodiversity Spatial Plan (Pool-Stanvliet et al 2017) as aquatic Critical Biodiversity Areas (CBAs). The Bottelary River channel and the minor seeps that feed into are however identified as Level 2 Ecological Support Areas (ESA2). This category is defined in Pool-Stanvliet et al (2017) as applying to *"Areas that are not essential for meeting biodiversity targets, but that may play an important role in supporting the functioning of* [Protected Areas] *PAs or CBAs, and delivering ecosystem services"*. The report recommends that such areas should be restored and/or managed so as to minimize impacts on ecological infrastructure functioning.

Figure 3.4 shows the systems identified in the WCBSP dataset.

Figure 3.2
Delineated natural and artificial aquatic ecosystems (and other key features on site, as referred to in the text. "WF" = Water Feature (former Dam 2). *=degraded / grassed portion of Seep C

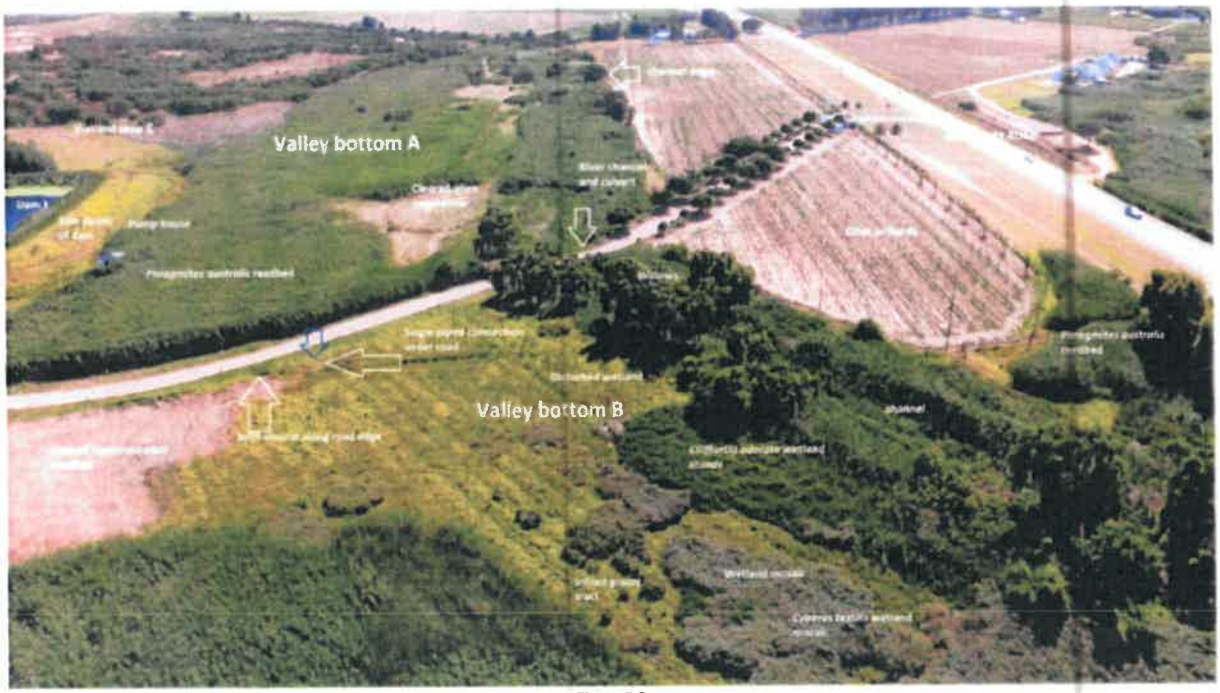

Figure 3.3
Aerial photograph of site, taken from west of wetland B (December 2017)
Photo courtesy W. Day

Figure 3.4
Site in context of WCSBP (Stanvliet et al 2017). Figure from Cape Farm Mapper (https://gis.elsenburg.com/apps/cfm/)

3.4 Context in the City of Cape Town's Biodiversity layer

With the exception of the Bottelary River itself, which is mapped as a watercourse in the City's river layer, none of the aquatic ecosystems on the site are identified in the City of Cape Town's Critical Biodiversity Areas layer. However, it is noted that within the City's biodiversity layer, all natural wetlands are accorded some status, with the lowest ranked being classified as Ecological Support Areas (Snaddon and Day 2009).

3.5 NFEPA Context

The Bottelary River is included in the National Freshwater Ecosystem Priority Areas (NFEPA) River dataset (Driver et al 2011) – NFEPA rivers are all those rivers that are includd in 1:500 000 spatial map layers.

None of the other natural hillslope seeps on the site are included in this dataset (which was derived in many areas from desktop mapping only) and none of the rivers are associated with areas of importance for fish conservation or other species-specific conservation concerns.

3.6 Watercourses on and associated with the site

3.6.1 The Bottelary River

Using the national classification for wetlands and other aquatic ecosystems, as developed by Ollis et al (2013), the Bottelary River has been classified as a natural, channeled valley bottom wetland and on Hazendal Wine Estate includes broad seasonal mosaic wetlands, reflecting inflows from natural hillslope seeps, and specifically the tributary shown in **Figure 3.2** as "seep C".

The Bottelary River enters the present site as a narrow, channelised river, closely abutted by agricultural fields. In these reaches, the river is steep-sided and vegetated mainly by dense (alien) invasive kikuyu grass (*Pennisetum clandestinum*), with occasional, also alien, willow trees (*Salix babylonica*) (see Photo A in **Table 4**). Just upstream of the site boundary, however, the extent of wetland off the right hand channel increases dramatically, as shown in **Figure 3**. The channel itself continues as a steep-sided, relatively straight system, with willows being the main tree component, but including dense stands of indigenous *Phragmites australis* and *Typha capensis* reeds and *Cyperus textilis* sedges as well as various weedy and /or alien species (e.g. *Sesbania punicea*, dense growths of *Commelina benghalensis*, *Ricinus communis*) (Photo B). Kikuyu grass is also present along unshaded areas of the densely vegetated channel zone.

Day (2018) described water quality in the river at the time of the assessment as characterized by:

- Slightly brackish water (Electrical conductivity 112.3 mS/m) – this is expected for seasonal rivers on the Cape Flats;
- Neutral to mildly alkaline water (pH 7.9);
- *Escherichia coliform* bacteria indicative of low levels of sewage contamination or potential contamination from livestock or poultry – the influence of the WWTW upstream is however a likely potential source of these bacteria;
- High levels of orthophosphate (PO_4-P) enrichment, with orthophosphate concentrations of 2.76 mg/l – well above DWAF (1996)'s hypertrophic threshold for aquatic ecosystems and again, probably reflecting sewage effluent flows from the WWTW as well as possible irrigation seepage from fertilized agricultural areas;

- Nitrogen enrichment within the eutrophic range (calculated Total Inorganic Nitrogen 7.07 mg N/L).

These data accorded well with other data for this site, as provided in the River Health Programme (RHP)'s 2005 assessment of (*inter alia*) the Bottelary River. This study scored the river downstream of the present study area Poor with regard to water quality, as well as with regard to aquatic macroinvertebrate habitat and riparian vegetation. Overall Habitat Integrity (or condition) of the river was rated Fair to Poor, while only fish communities were rated as in a Good condition, presumably reflecting an absence of alien fish species and the possible presence of indigenous fish species that ought to occur in this catchment, including Cape galaxias (*Galaxias zebratus*) and Cape kurper (*Sandelia capensis*) (RHP 2005)[5].

River condition in the reaches of the river forming the focus of this input is primarily impacted by the following:

- Extensive loss of indigenous vegetation;
- Invasion by alien vegetation;
- Poor water quality;
- Changes in natural flow regime;
- Channelisation and assumed artificial straightening of the river channel;
- Encroachment of agricultural areas almost up to the (left hand) edge of the channel (see Photos C and D);

3.6.2 Low levels of pollutants assumed to be associated with runoff from adjacent agricultural and other areas. Valley bottom wetlands

While the Bottelary River itself is in a generally poor condition both on and outside of Hazendal Wine Estate, it is associated with extensive wetlands within the study area, and these are generally in a far better condition and are of greater ecological and conservation importance than the river. Their approximate extent is indicated in **Figures 3.2 and 3.3** (valley bottom wetlands A and B), while Photos E to J (**Table 4**) provide illustrations of the type of wetland entailed. The wetland area extends from the right hand bank of the river, across almost the whole of the flat valley floor on the study site. It comprises a mosaic of stands of indigenous *Phragmites australis, Cyperus textilis, Pennisetum macrourum* and *Cliffortia odorata*, with smaller patches of (also indigenous) *Juncus kraussii* and *Juncus capensis*. Along the northern side of the wetland, particularly downstream of the access road, the cosmopolitan bulrush *Typha capensis* dominates in place of *Phragmites australis*. Since the former tends to out-compete other wetland plants in freshwater areas, it is assumed that its dominance reflects inflows of fresher water from minor seepage areas off the hillslopes to the north. A cut-off drain discharges fresh water into the wetlands some 80m downstream of the access road. This outlet has, over time resulted in the formation of a wetland, referred to as Artificial Wetland Seep D and described in Section 3.5.3.

Woody alien vegetation forms dense stands along the downstream boundary of the site, where the wetland narrows, before being fragmented by the Bottelary Road crossing.

Although generally more diverse and in a better condition than the river itself, these wetlands, particularly downstream of the access road (Valley Bottom Wetland B in **Figure 3.2**) have been impacted by the following:

- Sedimentation from upstream and on-site landuse activities, possibly promoting the growth of reedbeds on the site;
- Interruption of shallow subsurface flows, particularly in summer, as a result of the access road, with its single pipeline to convey water from one side of the road to the

[5] Note that this study did not include any assessment of fish species

other. This has resulted in visible wetland degradation as a result of droughting on the downstream side of the road, in the central wetland, and has probably contributed to expansion of reedbeds upstream of the road, as a result of ponding of water upstream of the barrier caused by the road;

- Disturbance to the natural wetland profile - the remains of an old track / road across the wetland are evident in a raised swathe, vegetated by kikuyu grass, downstream of the access road (see **Figure 3.3**), while informal crossings associated with a biking trail across the wetlands in the upstream end of the site also result in localised disturbance;
- Past diversion of flows – the remains of an old weir on the bottom of the northern (right hand) bank is assumed to have been used in the past to abstract water, but also indicates likely channelization along this side of the wetland to create drier arable areas in the central part of the wetland;
- Ongoing diversion of groundwater through-flows, and their concentration into drainage pipes and furrows, from where they are discharged into the river downstream of the main site buildings (see Section 3.2.4);
- Localised infilling / disturbance along the access road edge, particularly along the downstream side, resulting in weedy, disturbed areas of raised ground, prone to alien invasion;
- Localized infrastructure within the wetland (sewer, cables);
- Abstraction from watercourses passing into the wetland, reducing throughflows;
- Fragmentation as a result of crossings by roads including the site access road and the Bottelary Road downstream.

The valley bottom wetlands described above are assumed to be fed in part by wet season overflows from the Bottelary River, but more significantly, they probably derive their flows from wetland seeps and groundwater flows that discharge into the right hand floodplain. This, along with the wide flat valley bottom in this area, explains the presence of the expansive wetlands on Hazendal Estate, compared to the narrow channel that occurs on the upstream site.

The most significant of these wetland seeps (Seep C) lies north east of the main dam (Dam 1) mapped in **Figure 3.2**, and is described in Section 3.5.3.

3.6.3 Wetland seeps into the Bottelary River

Wetland conditions occur in several places on the site where the clay lies close to the surface (< 0.5m from the surface).

One of these (Seep C in **Figure 3**) is characterised by a spring or "eye" in its upper reaches, and supports dense growths of indigenous wetland plants, including Palmiet (*Prionium serratum*) – a once-common wetland species in the Western and Eastern Cape, but which is now increasingly threated and certainly rare in the Stellenbosch and City of Cape Town urban areas. The spring delivers permanent flows into the wetland – it was still flowing in late summer 2017, during a severe and prolonged drought, and in the summers of 2018 and 2019.

The wetland, considered of very high conservation importance (see Section 3.7), is intersected by a dirt road about 80m downstream of the point where the spring daylights, and the road results in significant wetland degradation, concentrating flows under the road within a few large pipes, which discharge downstream into an area characterized by erosion and extensive invasion by alien vegetation. From here, an artificial channel diverts a significant but

unmeasured portion of flows into the adjacent Dam 1, from where it has historically been used for irrigation. The golf course, under construction at the time of compilation of this report, includes allowance for the lowering and narrowing of this road, as allowable as a Maintenance Activity on infill through a watercourse. This should improve watercourse function, although the number and size of pipelines under the road remain an issue.

The remaining flows pass within the eroded, degraded channel down a slope that was, until the recent construction of the golf course, severely alien-infested. The channel sides are steep and infilled in places. Two areas have been excavated into the hillslope on the eastern side of the wetland in this area, presumably to facilitate water storage in the past. These are indicated as excavated depressions in **Figure 3.2**.

The wetland widens out towards the base of the slope, forming a wide wetland area that merges with the valley bottom mosaic wetland habitat (Valley Bottom Wetland A, described above). Past disturbance of this area is however suggested by extensive kikuyu grass in the seep zone generated just above the floodplain.

Past shading by alien vegetation as well as loss of flows to alien vegetation and diversion to Dam 1 have severely limited the extent and quality of vegetation in the seep, particularly in its reaches past the excavated depressions. There are however still some areas where relatively good quality wetland vegetation occurs, including a wide *Pennisetum macrourum* wetland just upslope of Valley Bottom Wetland A, and abutting the golf course. The western portion of the lower Seep C wetland (asterisked in **Figure 3.2**), and extending to the edge of the poplar forest and Dam 1, is the most degraded portion of this wetland, in the sense of having lost virtually all wetland plant species, and now comprising mainly grass. Diversion of seepage flows from the wetland into the dam probably contribute to this wetland shrinkage.

Other areas that also support seep wetlands include the area just upslope of Dam 1, where stands of poplars indicate a high water table ("poplar wetland" in **Figure 3.2**), and soil augering has confirmed a band of wetland above the dam, albeit in a degraded condition, without any indigenous vegetation wetland markers. This area was delineated with difficulty in this study – extensive infilling as well as excavation has taken place in the past, and detection of consistent soil markers of periodic near-surface saturation was inconsistent and in places very difficult to achieve with any confidence. The situation is moreover complicated by the fact that the dam itself is assumed to contribute to a raised upslope water table, encouraging the spread of poplars in the area, which is fed by water diverted from Seep C as well as from subsurface drains controlling water flows past the built environment to the west and by treated effluent from the winery, across the site

The steep hillslopes that occur west of the access road between valley bottom wetlands A and B, are characterized by clay layers almost on the surface or overlain by just a few centimeters of soil. These are also likely to have supported seepage wetlands under natural conditions. Augering of soils during the 2018 wetland delineation process showed the presence of strong mottles in shallow soils abutting the existing historical homestead, suggesting that the homestead was originally constructed on or very close to a broad seasonal wetland seep. Such construction does however date back as far as 1699, when the farm was founded, and 1781 when the existing manor house was constructed (https://www.hazendal.co.za/about) and natural wetland function over a period in excess of 200 years of human activity. development and shallow sub-surface flow drainage has effectively ceased in many areas of natural seepage wetlands, largely as a result of the construction of buildings and cellars immediately upslope of the river corridor, and associated construction of cut-off drains, aimed at drying out these areas and permanently cutting off natural seepage flows. As a result, the outcomes of the wetland delineation suggest that the effective functional wetland edge today in the vicinity of the homestead lies close to Valley Bottom Wetland B, and no longer extends far up the

hillslope seeps, with the occurrence of mottles in these areas reflecting past rather than present function. This is indicated in **Figure 3.2,** which differentiates between the "functional wetland edge" of the valley bottom wetlands and the "historical wetland edge", which includes the now-drained seeps.

3.6.4 Artificial wetlands

In addition to the extensive wetlands described above, there are also a number of artificial waterbodies, most of which are mapped as artificial impoundments in **Figure 3.2**. Ironically, these are the only wetlands in this area that are reflected in the National Freshwater Ecosystem Priority Area (NFEPA) GIS wetland cover for this area. The latter study was however based largely on desk-top and modelled information. The following artificial systems have been included in this study:

- ***Dam 1*** – this is the largest of the impoundments on the site. It is edged on its northern side by a dense stand of poplars (as already described) and is assumed to be fed to a limited extent by any seepage water that moves through this alien invaded seep. It is however mainly filled by water diverted by means of an artificial trench from seep C, as well as water from the eastern outflow of the subsurface drain constructed on the upslope (northern) side of the main buildings of the farm, and (to some degree by surface precipitation. The shallow dam margins are edged by reeds (mainly *Typha capensis* bulrush) and these are likely to expand further into the dam if it shallows with the addition of sediment. Deeper areas support stands of floating water lilies (*Nymphaea nouchali*) and various aquatic weeds, with wind-blown *Lemna gibba* (duckweed) forming a dense cover on the water surface on the lee side of the dam. The dam provides habitat to several species of waterfowl and waders but is an artificial, locally common habitat type. Although fed by channelised water diverted from Seep C, Dam 1 is not considered an "off-channel" dam, as it has been constructed in the natural poplar-infested seep. However, it appears possible that this seep in part owes its origins to backup of water in the dam.

  Once-off water quality data for the dam (Appendix D) indicated that it was at this time hypertrophic (i.e. excessively nutrient-enriched) with regard to phosphorus concentrations. Expansion of *Lemna gibba* across the water body over the past two years supports this suggestion, and it is assumed that the main source of phosphorus enrichment into the dam derives from the winery effluent.

- ***Artificial seep D***: An artificial wetland (seep D in **Figure 3.2**) occurs on the northern bank of the Bottelary River, in its downstream reaches through the site. This wetland, comprising dense stands of *Typha capensis* reeds, edged by kikuyu grass and stands of (alien) Brazilian Pepper and other trees, has formed at the western outflow of a cut-off drain, constructed in 1995 (see Day 2017). The cut-off drain conveys subsurface water from behind the homestead, and into the Bottelary River. The dense reedbed that has developed in the shallow channel is consistent with a persistent, significant flow of subsurface water, lying close to the surface as a result of both the shallow channel excavation and gradual daylighting of the drain, as the natural ground level drops off towards the river valley. An adjacent sewer manhole, the surrounds of which have clearly been subjected to ongoing sewage seepage, is assumed to have

contributed nutrients and additional surface flows that have encouraged the proliferation of *Typha capensis* in the seep;

At the time of this report, Seep D was being incorporated into the landscaped area of the site, with planting of indigenous wetland vegetation, cutting of reeds and removal of alien vegetation, as per the Estate MMP.

3.7 Wetland ecosystem services

3.7.1 Valley bottom wetlands A and B

The wetlands described above are assumed to be at least locally important valley bottom wetland habitats – an increasingly scarce habitat in an urban context. They are also likely to play a role within the catchment, in terms of the following important ecosystem services, which the wetlands are large enough to be likely to perform to a measurable degree, namely:

- Slowing down of runoff into the river and thus reducing downstream flooding;
- Erosion control;
- Flood attenuation;
- Water quality amelioration during flood periods, as a result of sediment and nutrient trapping.

3.7.2 Seepage wetland C

This system is assumed to perform the following important wetland functions:

- Contribution to perennial flows in the Bottelary River through wet season retention and dry season controlled release of water;
- Flood attenuation / runoff control;
- Provision of important and increasingly rare Palmiet wetland habitat;
- Erosion control;
- Sediment collection;
- Water filtration;
- Provision of ecological corridors through an increasingly disturbed site;
- Provision of water for irrigation use.

3.7.3 Poplar seep

This degraded seep in its current condition provides limited ecosystem services, other than the provision of some water into downstream areas – such water is collected in the dam immediately downstream. In the event that the poplars were removed and the wetland rehabilitated, its level of ecosystem services performed would increase. Note however that to some extent the poplar wetland is also believed to be fed by dam water, resulting in an artificially raised water table.

The wetland extends along the eastern side of the dam, towards the Bottelary Wetlands (Valley Bottom Wetland A). This part of the wetland may have been fed by seepage water from Seep C, prior to its partial diversion to Dam 1. It is labelled Poplar Wetland A in **Figure 3.2**.

3.7.4 Artificial Dam 1 and WF (Dam 2 in Day 2018)

These artificial systems provide the following mainly anthropogenic services, namely:

- Water storage;
- Attenuation of flows;
- Some water quality amelioration through retention and sedimentation;
- Standing water habitat and nesting / feeding areas for some wetland fauna (both artificial and common habitats).

3.7.5 Artificial seep D

- Attenuation of surface flows;
- Water quality amelioration;
- Attenuation of diverted subsurface flows, and thus erosion protection;
- Diffusion of subsurface drainage into wetland B, mitigating against the impacts of concentrated flows.

3.8 Wetland Condition and importance

The assessment methodologies outlined in Appendices A-C were used to assign wetland condition and importance categories to the different watercourses. Note that assessment of condition is applicable only to natural watercourses and other wetlands, and not therefore to Dam 1, the water feature (WF) or artificial seep D.

3.8.1 Valley bottom wetlands A and B

- Ecological importance and sensitivity: Moderate
- Conservation importance: High
- Condition: PES Category C /D: Moderately to Largely Modified from natural.

3.8.2 Seepage wetland C

- Ecological importance and sensitivity: Moderate to high
- Conservation importance: High
- Condition: PES Category C/D: Moderately to Largely Moderately modified from natural.

3.8.3 Poplar seep

- Ecological importance and sensitivity: Low
- Conservation importance: Very Low
- Condition: PES Category E: Largely Modified

3.8.4 Artificial Dam 1 and water feature WF

- Ecological importance and sensitivity: Low
- Conservation importance: Very Low
- Condition: Not applicable

Table 4
Photographic illustrations of Bottelary River and associated wetlands on and near the study area. Photographs Dec 2016 – 2019

Photo A
Narrow Bottelary River channel at upstream boundary of Hazendal Estate

Photo B
Bottelary River Valley Bottom Wetland A in upper reaches of the site, showing localised disturbance from bike trails

Photo C
Bottelary River channel (LHS of photo), densely invaded with *Phragmites australis* reeds, upstream of the road bridge on Hazendal Estate, showing existing vineyards abutting the river and its wetlands

Photo D
Bottelary River channel downstream of the Hazendal access road bridge

Photo E
View from terraced hillslopes north of the river, looking down onto the smaller dam (WF in Figure 3.2) and the densely reeded floodplain upstream of the Hazendal Wine Estate access road

Photo F
Historical access road across the Bottelary River on Hazendal Estate, showing infill and kikuyu grass invasion of the wetland margins just downstream of the access road (RHS of photo)

Photo G
Looking north along access road showing wetlands on either side

Photo H
Mozaic wetlands in area downstream of access road – this view shows disturbed grassy section through wetland, probably used as a track in days when this wetland was under agriculture

Photo I
Drainage channel through wetlands downstream of road crossing, fed by pipe culvert under access road

Photo J
Mozaic wetlands on Bottelary River floodplain – these are of high ecological importance

Photo K
Artificial wetland B (foreground) formed by subsurface drain outlets into the Bottelary River (top of riparian bank in background)

Photo L
Invasion of Dam 1 surface by *Lemna gibba* (duck weed) showing poplar forest on northern bank (RHS of photo)

Photo M
Areal view over site showing wide valley bottom wetlands A and B, intersected by the access road

Photo N
Disturbed area north of dam 1 in poplar forest – soils here show near-surface mottling, diagnostic of periodic saturation in top 50cm

Photo O
Infilling and excavations in disturbed area north of extant poplar forest – this area was under dense alien *Acacia* vegetation at start of this study (2018)

Photo P
Disturbed margins of Seep C, showing clearing of alien invasion and past excavation along wetland edge

Photo Q
Upper reaches of Seep C with Palmiet wetland vegetation, *Juncus kraussii, Juncus capensis* and other sedges

Photo R
Road crossingover upper reaches of Seep C, showing wetland fragmentation and shrinkage downstream. This road to be lowered and narrowed as part of golf course construction

Photo S
Infill and alien vegetation along the lower recahes of Seep C, with the developing golf course to the left (east)

Photo T
Patch of better quality *Pennisetum macrourum* wetland in Seep A in the area just upslope of Valley Bottom Wetland A

4 ASSESSMENT OF THE IMPLICATIONS OF THE PROPOSED DEVELOPMENT FOR AQUATIC ECOSYSTEMS

This section provides an assessment of the ecological impacts of the proposed development, and recommends mitigation measures to address these impacts where possible. A formal rating of impact significance is provided in the tables (s) at the end of each section.

4.1 The Hazendal Hotel and its associated sewerage and other services: Developer's Preferred Alternative

The proposed hotel would be located on the northern bank of Dam 1, extending back through a portion of the poplar wetland (Poplar wetland B), and into the degraded terrestrial area beyond, as shown in **Figure 2.2**. If constructed, it would include a parking area to the north, and be equipped with sewage, water and electricity services. Subsurface drains would be required to manage subsurface flows through the site on an ongoing basis. Section 2.2 describes the proposed hotel.

4.1.1 Design and layout implications

A. Loss of wetland habitat

The area of delineated poplar wetland that would be lost as a result of construction of the hotel and associated services and parking has been calculated roughly as some 3200 m^2. This wetland is disturbed, infilled in places, bermed and excavated, and its reference condition is very difficult to assess, as it is likely that its extent is in part affected by an elevated water table as a result of the dam. Its importance, conservation status and condition were assessed as follows in Section 3.7:

- Ecological importance and sensitivity: Low
- Conservation importance: Very Low
- Condition: PES Category E: Largely Modified

The ecological implications of loss of this wetland, from the perspective of downstream systems, would be Low, given its limited extent, degree of infilling and topographical change and generally poor condition. While the wetland could be rehabilitated to a better condition by removal of alien, water-thirsty poplars, the extent of other kinds of disturbance such as major changes in wetland topography through berm construction, infilling and excavation suggest that rehabilitation efficacy would be limited, and in a do-nothing scenario, even assuming removal of poplars was included, wetland condition would be likely to rise to a PES Category D /E at best without significant physical intervention.

B. Degradation of the remnant poplar wetland as a result of changes in throughflows

It is possible that the portion of poplar wetland east and south east of the dam would also be affected by construction of the hotel, as a result of changes in through-flows. However, this wetland is assumed to be fed primarily by seepage from the dam, and thus the extent of such change is likely to be limited. Changes in through-flows as a result of the (recommended) restoration of flows currently diverted from Seep C into the dam via an open trench could result in shrinkage of the south eastern wetland – this issue is discussed in Section 4.7.

C. Changes in flows into the Bottelary River system as a result of interference with subsurface drainage through the poplar wetland

The proposed hotel would intercept subsurface flows and collect these – it has been suggested that such flows would be recycled to provide irrigation for landscaped areas of the hotel precinct.

Although this approach could arguably contribute to reduced flows into the downstream aquatic ecosystem, in fact, the receiving environment is Dam 1, which does not provide environmental releases into the Bottelary River system in any case, but rather acts as a store for water for irrigation and other use. Since this flow volume would in fact be supplemented by inflows of treated effluent from the on-site waste water treatment plant, the influence of locally reduced inflows as a result of subsurface drainage and irrigation of the hotel is considered negligible, albeit unquantified, while the removal of some of the poplars to make way for the hotel precinct would also result in additional subsurface water availability.

D. Water quality and quantity impacts associated with stormwater runoff from the hotel precinct

The Civil Services (Struxit 2019) report for the proposed hotel development indicates the passage of stormwater runoff directly into Dam 1 (referred to as a stormwater pond). No allowance is made for water quality amelioration and the design assumes that in large flows, the dam would overtop and spill across the full width of the bank - assumed to be the southern dam embankment. This water would then dissipate into the Valley Bottom wetlands of the Bottelary River, before passing into the river itself. It is assumed that such levels of dissipation would have few ecological consequences for either the wetlands or the river downstream.

No water quality amelioration is however allowed for, and it is likely that stormwater runoff into the dam would include low concentrations of contaminants such as hydrocarbons from parking areas, nutrients from fertilized landscaped areas and possible periodic runoff from water features within the hotel, managed as isolated systems. In the event that the latter are chlorinated to reduce algal growth and maintain water clarity, the formation of toxic chloramines in receiving waters that contain ammonia would be an undesirable outcome.

The above issues are likely to be of low magnitude and would be associated with impacts of low significance only, primarily affecting Dam 1 only, which has low ecological importance. ***However, from an aesthetic and sustainable ecosystem management perspective, these would contribute to reduced ecosystem health and resilience, and could precipitate nutrient enrichment, already recognized as a problem in dam management from the perspective of plant control.***

E. Water quality impacts as a result of the proximity of a sewer to watercourses

Sewage from the hotel site would be passed to the on-site WWTW for treatment. The sewer line would run within some 30 m of Dam 1 and within 130 m of Valley Bottom wetlands A and B.

It is possible that at times there may be leakage or overflows from the sewer manholes, which could pass into the watercourses, resulting in nutrient enrichment that could (especially in the case of the dam) trigger nuisance blooms of algae or other floating aquatic plants, and generally degrade ecosystem health. Clearly human health and aesthetic impacts would also be associated with such events and it is assumed that they would be quickly attended to by management.

This impact is thus considered likely but of low magnitude, short duration and thus low significance.

Mitigation measures

The following measures are recommended:

i. Loss of wetland habitat in the poplar forest should be compensated for by improvement in wetland habitat elsewhere – ideally in Seep C and in the poplar wetland east and south east of Dam 1 (see **Figure 3.2**). it is noted in this regard however that a formal wetland offset is NOT required, given the low level of significance of impact associated with wetland loss. The rehabilitation measures referred to in Section 4.7 must therefore be implemented, and ideally the "best practice" measures outlined below should also be included in dam / hotel landscaping design to improve wetland habitat quality;

ii. Removal of (alien) poplar trees around the dam margins, and along the eastern margins in particular, should result in additional water being available to feed the degraded wetland (asterisked in **Figure 3.2**), and this would contribute to its improvement while protecting it from ongoing risk of invasion;

iii. The dam would be fed by borehole water, treated effluent and subsurface seepage flows as well as stormwater runoff – the existing offtake (an open channel trench) from Seep C to the dam must be infilled and all water passing through Seep C allowed to pass into and through the wetland, as further outlined in Section 4.7 (mitigation);

iv. Stormwater design should include measures to address water quality upstream of the dam – that is, through the inclusion of standard best practice management devices included in Water Sensitive Urban Design (WSUD) approaches, such as infiltration trenches, enhanced swales or biofiltration systems. These should at least be located within the parking area, to manage runoff generated there;

v. Any water features treated with chlorine should be discharged only into the sewer and not into the stormwater system;

vi. Measures to reduce the likelihood of sewage spills include:

   a. Manhole covers should be in clear view, so that problems can be quickly detected;

   b. All manhole covers must be above the height of the 1:50 year floodline.

Best practice measures for consideration in hotel siting and detailed design

The hotel layout and positioning does not pose a major impact with regard to its effects on aquatic ecosystems, given the degraded and largely unrestorable condition of the poplar wetland and the artificial nature of the dam. However, it is noted that the proximity of the dam to the hotel may result in a number of impacts to hotel residents / visitors as well as give rise to various management pressures, and this section provides a few measures that would be useful to address these, albeit would not be required from an ecological perspective. These comprise:

EITHER

i. Re-slope the dam margins on the side abutting the hotel, so as to create a gentle slope (1:5 or preferably less steep into the dam – this would lend itself to the establishment of a robust planted layer of seasonal wetland vegetation, that provides a visual buffer against potential future water quality issues and symptoms, including algal and other undesirable plant growths. At the same time, these margins would be robust in the face of (and in fact thrive in) conditions where there is a clear seasonal drop in water level as a result of low summer flows and increased water demand, and raised wet

season water levels. However – they would be vulnerable to invasion by bulrush, although such could be managed with ongoing weeding and dense initial planting;

OR

ii. Maintain a steep drop-off from the dam margins to reduce bulrush invasion along the hotel edge, but establish dense rooted aquatic plants along these margins – plants such as indigenous lilies *Nymphaea nouchali* would be appropriate for this and would also be effective in contributing to nutrient uptake;

iii. Extend a jetty / walkway into the water, and away from the planted margins, to ensure that visitors have access to water furthest away from where there is likely to be accumulation of unsightly floating plant growths such as algae, *Lemna gibba* or other invasive plants;

iv. Include plantings designed to maximise aquatic habitat complexity in and around the dam – e.g. establish rooted plants such as pondweed (*Potamogeton pectinatus*) that will oxygenate the water column and provide sheltered subsurface habitat for fish and aquatic predators such as dragonfly nymphs that will reduce the dominance by pests such as mosquitoes and midge larvae.

4.1.2 Construction phase implications

A. Disturbance of the dam margins and edge of the poplar wetlands, increasing standing water turbidity and affecting habitat quality

The construction phase of the hotel would almost certainly include excavation into the water table, resulting in the need for dewatering. This could result in the passage of silty water into the dam, contributing to poor water quality. It could also affect the degraded portion of wetland seep C to the east, if water was directed in this direction. Given the degree of degradation of this portion of the wetland, such impacts would be of Low significance.

Disturbance of the poplar wetland would occur as a result of the excavation of trenches for sewer, water and other services – this portion of wetland would however be lost to the overall hotel footprint in any case, and such impacts are not considered relevant in this context.

The dam margins would however be disturbed as a result of excavation for the installation of the stormwater outlet, as well as for the assumed installation of a boardwalk and jetty associated specifically with the hotel, on the northern dam edge. This impact would be of Low significance, given the artificial nature of the dam habitat, but would nevertheless be undesirable.

B. Possible disturbance to wetland Seep C as a result of uncontrolled runoff and construction-associated activities during hotel and parking area construction

The site is clayey and as a result, areas in addition to the dam itself (addressed in A above) downstream of construction disturbance are vulnerable to runoff of water containing fine sediments, that would settle out to form layers of surface clay, contributing to ecological degradation and reducing the efficacy of rehabilitation activities. In the case of the hotel site, downslope aquatic ecosystems in addition to Dam 1 include the remnant poplar wetland and the middle to lower reaches of Seep C, including the degraded portion between the seep and the dam (asterisked in Figure 3.2). Of these, the grass cover of the latter would be effective at trapping sediment fines – but this would result in long-term further degradation of the area, unless active intervention occurred.

Mitigation measures

The following measures are recommended:

i. The flows currently being diverted from Seep C through the proposed hotel site should be reinstated as flows through Seep C before the start of construction activities – measures for the rehabilitation of Seep C are outlined in Section 4.7;

ii. Construction requiring excavation and dewatering should be planned so that it takes place outside of the wet season – i.e. it is limited to the period between October and May;

iii. Dewatering activities must be controlled so that clayey water does not pass directly into the dam or other wetlands. The following is recommended, although alternative approaches that achieve the same outcomes or better may be utilized:

   a. Dewatered water must be filtered or allowed to settle in temporary sedimentation areas, before being discharged – settlement should aim to result in a 50% or more reduction in water turbidity;

   b. Water thus treated may be discharged into the disturbed portion of Seep A (asterisked in **Figure 3.2**) provided that:

      i. Water flows are spread out to prevent concentrated flows and maximise potential for grass to trap fine sediments;

      ii. Rehabilitation measures for Seep C are addressed as outlined in Section 3.10, after construction activities requiring dewatering of the hotel and its services have been completed;

iv. The disturbed banks of Dam 1 at the outlet of the stormwater pipe should be landscaped and planted as stable aquatic marginal areas after construction has been completed;

v. A Construction phase Environmental Management Programme (CEMPr) must be compiled and implemented, under the supervision of a Site Control Officer or similar designation.

4.1.3 Operational phase implications

Impacts such as sewage overflows and unmitigated runoff of stormwater from hardened areas have all been dealt with in Section 4.1.1, from the perspective of layout and design, and are not repeated here.

During its operational phase, the proposed hotel would however be associated with a number of other potential impacts, including:

- Disturbance to adjacent wetlands as a result of increased pedestrian movement - increased numbers of visitors to the site as a whole as a result of the hotel is likely to increase pressures on open space areas such as the wetlands and their adjacent corridors, increasing noise, human presence and general disturbance in proximity to the dam and wetlands, potentially disturbing nesting birds and other fauna, and increasing impacts such as trampling and compaction of wetland areas. It is however also recognised that birds are likely to adapt to increased disturbance and the main wetlands of the Bottelary River and Seep C are all at some distance from the hotel, albeit not the golf course.

Mitigation measures

The following measures are recommended:

i. The ecological setbacks currently recommended in the Maintenance and Management Plan (MMP) for the site as a whole (KHULA 2018) must be instated throughout the site, to improve overall wetland and other watercourse resilience to increase disturbance. These buffers were:
   a. Valley bottom wetlands A and B: 20m
   b. Bottelary River: 20m
   c. Dam 1 and wetland seep D: 10m.

   Note that in the case of the portion of wetland A abutting the golf course, the buffers may be reduced to minimum width of 15m, as the golf course arguably poses a lower level of threat to the wetlands than impacts such as agriculture or hardened development;

ii. The buffers must be managed as outlined in the MMP, with the following main requirements:
   a. Hardened developments such as decks, restaurants and seating areas do not support buffer function;
   b. Paths or boardwalks are permissible within the buffer areas – these should be located on the outer (upslope) edge of the buffers and should be designed with input from an aquatic ecologist (See Section 4.7);
   c. The buffers must be planted with locally indigenous vegetation, suited to the conditions within the buffers, which range from seasonal to temporary wetland through to terrestrial upland areas;
   d. The buffers must be planted with species that will provide cover and habitat for small to medium sized fauna (e.g. otters, mongooses, porcupines, duikers etc.) which are likely to occur within the wetland corridor. This means that they may be lawned or planted with groundcover – they need to be landscaped with vegetation that is generally >300mm high, rising to tall shrubs / restios in places, and with only limited patches of low growing groundcover or grasses (<20%);
   e. The plant list and planting plant drawn up by the horticulturalist and landscape architects must be agreed on with the wetland ecologist;
   f. Alien vegetation must be kept outside of the buffer areas – it is noted that maintenance of kikuyu grass outside of these areas is not a realistic management objective – however, kikuyu grass MUST be maintained at covers below 20% during the first two years of buffer establishment and maintenance, to allow for the establishment of desirable indigenous plants in this area, without their being smothered by kikuyu;
   g. Where the wetland bank is steep and /or eroding or in danger of eroding, it should be shaped back to grades of 1:4 or (preferably) flatter, to allow for better connectivity between the wetland and the buffer / ecological corridor – such works must be done to the specifications of a wetland ecologist, and may, under such conditions, be carried out with an excavator, working from the upland side of the buffer and not from within the wetland;
   h. Where paths (e.g. the proposed golf course pathway) run within the buffer areas, the area of hardened surface must be minimized, particularly where the pathway runs parallel with rather than perpendicular to the slope. This applies to the south westerly portion of the proposed pathway just east of Seep C, extending to Valley Bottom A. Such pathways must be split into two narrower lined tracks, to accommodate a single golf car. The wetland edge of

the tracks should include a shallow vegetated swale, designed to dissipate runoff from the tracks, and pass it into the buffer at multiple points, rather than as a concentrated flow from the lowest point of the track.

4.2 The Hazendal Hotel and its associated sewerage and other services: Alternative 1

Figure 2.3 illustrates the proposed hotel layout for Alternative 1, as formulated in early design discussions by the project development team. It is assumed that, in the event that this layout was implemented, that its sewer would be aligned through Valley Bottom Wetland A, along the proposed new access road, and that stormwater runoff would be directly into this wetland.

This layout would have the following ecological impacts:

- Extensive loss of Valley Bottom Wetland A, as a result of the direct footprint of the hotel, which would lie within the wetland, and as a result of the access road, which would extend an estimated 210m from the existing road across the wetland, north east through the wetland, to the downstream edge of Seep C into Valley Bottom Wetland A;
- Additional wetland degradation as a result of north-south fragmentation of Valley Bottom Wetland A by the road and hotel structure, interfering with seepage flows from the north into the main wetland body. This would potentially increase the saturation period upslope (north) of these structures (resulting in *Typha capensis* dominance) and likely droughting of wetlands downslope (south) of the road / structures, especially where these currently receive seepage from major seeps to the north (i.e. the remnant poplar wetland and Seep C);Interference with longitudinal flows through Valley Bottom Wetland A, especially during flood events, when the structures, which lie well within the 1:50 year floodline would block flows, potentially increasing flooding outside of the current floodline and (more importantly from an ecological perspective) precipitating scour and erosion within the wetland, as a result of blockages to natural flow;
- Increased risk of ongoing sewage contamination of Valley Bottom Wetland A, as a result of the passage of a sewer within the wetland, where leaks would not be easily detected and where the position of the sewer would make it vulnerable to flood damage as well as (unless its manholes were raised) overflows as a result of flooding of manholes during flood events;
- Ongoing degradation (water quality impacts, scour as a result of concentrated flows) into Valley Bottom Wetland A as a result of stormwater inflows, the effect of which would be exacerbated as a result of the assumed loss of resilience as a result of the above impacts;
- Increased likelihood of invasion of the remnant wetland as a result of landscaping of the hotel precinct with non-wetland and potentially exotic species, and the vulnerability of a degraded system to alien invasion.

The above impacts would be considered of very high negative significance.

Although it is possible to mitigate to some degree against some of the impacts, such as blockages of flow by the road, alien invasion and stormwater impacts, such mitigation would have negligible effect in reducing the overall impact of wetland loss and degradation as a result of major construction within a wetland of at least Moderate Ecological importance and sensitivity and High conservation importance.

The overall impact would thus remain of Very High Negative Significance, and avoidance mitigation in the form of the No Development Alternative or the Developer's Preferred Alternative is strongly recommended.

4.3 Storage of treated sewage effluent in an existing farm dam

Implicit in the development proposal is the treatment and re-use of effluent produced on the estate. Treatment of effluent produced on the site has been ongoing for many years, although the previous system was prone to leakage (personal observation) and produced effluent with higher concentrations of nutrients than the system proposed now (as indicated by the elevated nutrients in Dam 1).

The new WWTW plant has a stated capacity for the production of up to 100m^3 of effluent per day. Struxit (2019) estimate however an average daily production of 14.75 m^3/day (see Section 2.5). This would be stored in Dam 1 and potentially also in two underground water tanks. Although in reality the effluent would be mixed with other water in the dam (e.g. rainfall and existing stored water) for the current purposes it is assumed that (worst case) all water in the dam comprises treated effluent.

In a development context, the dam would not be connected to direct surface flows (these would be routed into the wetland to the east as part of the proposed rehabilitation plan). Thus it is extremely unlikely that there would be any circumstances under which the treated effluent could exceed storage capacity in Dam 1, and passage of treated effluent into the Bottelary River via Valley Bottom Wetland A is not considered as a likely impact.

Storage of treated effluent would be associated with the following impacts to aquatic ecosystems:

- Maintenance of the dam in a hypertrophic condition with regard to nitrogen and phosphorus nutrients – once-off water quality samples for the dam suggests a system that is already hypertrophic with regard to these nutrients. These limited data are substantiated by the evidence of a highly productive system with supporting a large biomass of aquatic plants rapid plant growth. While it is understood that the new plant would treat effluent to the General Limit for effluent prescribed by DWS, these limits lie well above the hypertrophic threshold for standing water systems, as indicated in Appendix F (Table F1). This means that the long-term condition of the dam will be nutrient-enriched system, prone to high rates of nuisance plant growth including the potential for blue-green algal blooms at times (most likely if macrophyte plants are removed / not present) and with a likelihood that, over time, low-oxygen conditions could develop in the water as a result of the accumulation of organic material from decomposing plants on the base of the dam.

  Given that the dam is an artificial ecosystem, the direct ecological implications of these impacts would be of low significance. However, the management burden of such conditions from an Estate perspective would be high, particularly given the proximity of the proposed hotel to the dam.

- Risk of periodic further contamination of the dam in the event of malfunction of the package plant – this risk is considered low, as the plant is located at distance from the dam and the aesthetic and associated economic implications of passage of untreated effluent into the dam are assumed to be such that overflow in the vicinity of the plant itself would be a more likely outcome – this would still have impacts on the Bottelary River. However, this risk as assumed to be less than that posed by the previous effluent treatment system, which produced visible long-term leaks into the river system.

The above impacts are considered of Low to Medium Ecological Significance (albeit of high aesthetic and economic risk to the development).

The following mitigation measures are recommended:

i. Orthophosphate and total inorganic nitrogen concentrations in treated effluent must be reduced to within the range for mesotrophic to eutrophic systems, and at least below the range for hypertrophic ecosystems – that is, orthophosphate concentrations MUST be reduced to < 0.13mg P/L and < 10 mg N/L. Note that these concentrations would still be high enough to promote high levels of plant growth, and ideal in-lake concentrations would be < 2.5 mg N/l and < 0.05 mg P/L. The WWTW plant consultants should be consulted in this regard – possible mechanisms for reduction of orthophosphate would include ongoing dosing of treated effluent with various flocculants including ferric chloride;

ii. Ongoing harvesting of floating plants from the dam surface should be allowed for in the Estate management budget – removal rather than eradication (e.g. with herbicides) is recommended, as the harvesting process allows for removal of nutrients from the system, rather than merely treating its symptoms, and would not pose a risk to downstream wetland systems;

iii. Inclusion of devices to aerate and /or circulate water through the dam should be considered as devices to reduce the likelihood of algal dominance;

iv. The introduction of plants such as pondweed (*Potamogeton pectinatus*) into the system is recommended, as these rooted plants can stabilize bottom sediments, are excellent for nutrient uptake and reduce dominance by problem floating plants such as *Lemna gibba*, other potential exotics not yet present and phytoplankton or other algae.

4.4 Abstraction of water from boreholes

Abstraction of water from four boreholes is proposed, for the purposes of irrigation and domestic / hotel water supply, to supplement the treated sewage effluent as a water source (see Section 4.3).

The boreholes have already been drilled and established, outside of any watercourses. This section thus assesses only the impacts of abstraction on aquatic ecosystems. The assessment is based on the geohydrological report of GEOSS (2019), which notes that *"the regional aquifer directly underlying the south of the property is classified by the Department of Water Affairs and Forestry (DWA4 F; 2001) as an intergranular and fractured [aquifer] with an average yield potential of 0.1 – 0.5 L/s. However, the intergranular aquifer is underlain by a fractured aquifer with an unknown yield potential. The northern section has been classified to be underlain by a fractured aquifer with an average yield of 0.5 – 2.0 L/s (...). A fractured or secondary aquifer describes an aquifer in which groundwater flows through fractures or fault structures"*.

The boreholes have been drilled at depths between 77 and 200m below the surface, and on the basis of GEOSS (2019) it appears that all four target the secondary aquifer.

This means that abstraction from the boreholes would not have any impact on the wetlands (including the Bottelary River) addressed in this report, which are fed with groundwater from the primary aquifer. It is understood that the primary aquifer is perched over a clay layer, and water collecting on this clay layer moves as through-flows towards the river, forming wetlands where it daylights close to the surface.

4.5 Irrigation with treated sewage effluent

Irrigation of parts of the estate with treated sewage effluent has been proposed. It is assumed that irrigation water would tend to seep towards the Bottelary River and its wetlands (Valley

Bottom Wetlands A and B). Where irrigation occurred upslope of Seep C, it would be likely to pass into this wetland. The potential ecological effects of irrigation with effluent are as follows:

- Increased productivity – while this might be desirable in irrigated crops or pastures, in systems that are intended to be managed as natural ecosystems, it would be a negative impact, as it would tend to encourage the proliferation or fast-growing, often alien and/or weedy species (e.g. kikuyu grass) at the expense of slower-growing natural occurring species;
- Increased wettedness – summer irrigation in the vicinity of naturally seasonal wetlands would potentially increase dry season wettedness, making the wetlands vulnerable to invasion by *Typha capensis* - an indigenous but cosmopolitan species that thrives in conditions of perennial saturation and nutrient availability and which is associated with poor quality wetland habitat.

The above impacts would be of greatest significance where they affected more sensitive and/or ecologically important systems. These are confined to Seep C. The reedbed dominated Bottelary wetlands (Valley Bottom Wetlands A and B) would have relatively low sensitivity to additional nutrients, as they are already permanently saturated and dominated by opportunistic plant species (*Typha capensis* and *Phragmites australis*). Excessive inflows of effluent into the wetlands could see a switch from the more saline-tolerant *Phragmites australis* wetland communities to *Typha capensis* – such irrigation is however unlikely.

Seep C and its buffer area would be most susceptible to the impacts of irrigation with treated effluent, noting however that if the recommended mitigation measures around effluent quality are implemented (see Section 4.3) then the effects of nutrient enrichment as a result of irrigation would be dramatically decreased too.

The Bottelary River itself would, in its natural condition, be expected to be sensitive to nutrient enrichment and perennial flows. The river does however already receive treated effluent from the Scottsdene WWTW upstream of the current site, and feeds into the Kuils River downstream, which is also already significantly impacted by WWTW inflows. The impacts to the Bottelary River as a result of this measure are thus expected to be negligible.

The artificial golf course pond established just north of the ecological buffer around Valley Bottom Wetland B would also be vulnerable to nutrient enrichment as a result of irrigation with effluent water. This pond is already considered vulnerable to extensive invasion of its shallow margins by *Typha capensis*. Nutrient enrichment of standing water areas would increase their vulnerability to invasion by floating aquatic weeds and/or algae.

The following mitigation measures are recommended:

i. The mitigation measures around effluent quality outlined in Section 4.3 must be implemented if irrigation is carried out within 100m of any watercourse;

ii. The recommended ecological setbacks may not be irrigated with treated effluent, even during their establishment phases. However, treated effluent that is diluted to concentrations where total phosphorus and total inorganic nitrogen concentrations

all lie within the range for mesotrophic[6] standing-water ecosystems, or less enriched systems, may be utilized for these areas,

4.6 Construction of various boardwalks, jetties, bird hides and pathways through and in the vicinity of watercourses on the site

4.6.1 General

Figure 2.1 shows the approximate extent of boardwalks proposed on the site. These would run in a loop from the existing access road, across the eastern portion of Valley Bottom Wetland B, across the road and in a broad loop across the western portion of Valley Bottom Wetland A. Three bird hides have been proposed, on the board walk through Valley Bottom Wetland A.

In addition, up to two jetties are proposed for Dam 1.

Maintenance measures for the boardwalks in their operational phase have already been included in the (approved) MMP for the site (Day 2017).

4.6.2 Impacts associated with Layout and Construction

The following impacts would be associated with the layout and construction phases of the proposed boardwalks and bird hides:

- Trampling of reedbeds and other wetland areas;
- Loss of sensitive wetland areas as a result of being traversed by boardwalks;
- Loss of wetland vegetation as a result of shading by the boardwalk;
- Compaction as a result of the possible use of heavy machinery to transport materials through the wetlands;
- Wetland degradation as a result of accumulation of excess or waste building material / litter in the wetland;
- Increase in alien or weedy vegetation along the boardwalk alignment as a result of the creation of disturbed areas;
- Interruptions to ecological connectivity through the wetland as a result of the boardwalk being too low to allow the passage of small to medium sized fauna beneath it.

Without the implementation of measures to mitigate these impacts, they have been assessed as of Medium negative significance. They could however be readily mitigated, through implementation of the following (essential) measures:

i. The final alignment of the boardwalks and bird hides to be agreed on on-site with the wetland ecologist;

ii. The width of the boardwalk should be minimised;

[6] That is, <2.5 mg n/l; <0.047 mg p/l – as defined by DWAF (1996) and DWAF (2002)

iii. The boardwalk should generally be at least 40cm above ground level – it is understood that in places this would not be practically possible but at all times the design of the boardwalk should be such that small and medium fauna cannot get trapped beneath it;

iv. The boardwalk should be slatted so that rainwater can pass between the boards and into the wetland below;

v. The construction disturbance width must be limited to no wider than 6m, including the boardwalk structure – this corridor must be clearly demarcated before construction commences and the area outside of this zone should be treated as a no-go areas;

vi. The bird hides should be designed such that each extends over a maximum area of 16m^2. It is strongly recommended that an avifaunal specialist be asked to contribute to the detailed design of these hides (e.g. input on aspect, viewing slots etc.);

vii. The "bird hide" areas may not be converted into open space picnicking, seating or any purposes other than facilitating bird watching;

viii. No heavy machinery / vehicles to be allowed into the wetland during construction of the boardwalk / bird hides – all building material must be transported using manual labour (with wheel barrows) and board walk support poles should be hand augered or otherwise installed using manual labour only;

ix. All construction associated material must be removed from the wetlands within one week of completion of construction;

x. Construction should be during the dry season only, but also outside of peak nesting season – thus late January to end of April only;

xi. Reeds and other vegetation that are growing within the boardwalk footprint must be cut down to just above the soil surface before construction, and all cut plant material removed from the wetlands. Indigenous plants may not be uprooted / excavated from the boardwalk footprint, as this would exacerbate disturbance.

4.6.3 Impacts associated with the Operational / Maintenance phase

The operational phase of the boardwalks and bird hides would be associated with the following ecological impacts

- Long-term disturbance of the inner wetland areas, as a result of the passage of people through what are currently relatively undisturbed areas;
- Increase in litter in the areas abutting the boardwalks;
- Additional disturbance / possible predation of birds and other indigenous fauna as a result of ease of access for dogs along the boardwalk;
- Disturbance to wetland fauna (e.g. nesting birds) and vegetation as a result of periodic cutting of encroaching reeds and other vegetation along the edge of the boardwalk;

- Periodic compaction / disturbance as a result of boardwalk and bird hide maintenance activities (e.g. replacement of timber).

The above impacts have been assessed as of Medium negative significance. They could however be mitigated through the following (essential) measures, namely:

i. Allowance must be made for weekly litter collection from within the wetland abutting the boardwalk and bird hides;

ii. Maintenance of reeds / other vegetation along the edge of and beneath the boardwalk / bird hides should be as per the approved MMP for boardwalks in this area (see Day 2017);

iii. Maintenance of the boardwalk and bird hides should be as per the approved MMP for boardwalks in this area (see Day 2017);

iv. No dogs should be allowed on the boardwalks.

4.7 Cumulative impacts

This report thus far has described various ecological impacts that would be associated with implementation of the numerous activities proposed for the Hazendal Estate. Mitigation against all of these measures has also been proposed, and in all cases (with the exception of Alternative 1, for which Avoidance is required), implementation of such measures is believed likely to reduce the impact to low levels of significance.

Nevertheless, the cumulative effect of the general upgrading and development of the site is likely to result in increased overall pressures on the aquatic ecosystems on site, despite the application of mitigation measures against individual impacts. Even development activities that do not in their own right trigger any requirement for authorisation (e.g. the golf course) would contribute to generally increased disturbance to and pressure on these systems. Such pressures would include increased numbers of visitors to the site as a whole, thus increasing pressure on open space areas such as the wetlands and their adjacent corridors, increasing noise, human presence and general disturbance in proximity to the dam and wetlands, potentially disturbing nesting birds and other fauna, and increasing impacts such as trampling and compaction of wetland areas.

It is however also recognised that birds are likely to adapt to increased disturbance and the main wetlands of the Bottelary River and Seep C are all at some distance from the hotel, albeit not the golf course. Nevertheless, the proposed activities would be assumed to have an overall impact on wetland resilience, while the development of the golf course, hotel and associated infrastructure, which would become large-scale "fixes" at a landscape scale, would affect opportunities for wetland rehabilitation going forward.

The following measures are recommended to address these cumulative impacts, and to improve wetland resilience in particular.

i. Wetland buffers must be instated, rehabilitated and managed as functional ecological corridors, as outlined in the mitigation measures in Section 4.1.3 and as per the approved Maintenance and Management Plan for the wetlands (Day 2018);

ii. Eroding or overly steep banks of Wetland A should, where appropriate, be flattened and reshaped so as to create a better transitional area between core wetland and buffer;

iii. Areas of infill in Wetland A may be removed and reshaped where ecologically desirable, provided that the disturbance involved can be controlled and the fill disposed of appropriately;

iv. Connectivity between Wetlands A and B must be improved through the installation of additional pipelines under the existing access road across the wetland;

v. A detailed rehabilitation plan must be drawn up by the wetland ecologist, in conjunction with the landscape architect, and implemented for Wetland C, with the objective of rehabilitating it to a PES Category C or better. This plan should include the following measures:

   a. The flows currently being diverted from Seep C through the proposed hotel site should be reinstated, by blocking off the diversion channel and allowing the flows to spread through the wetland – it may be necessary to include reno mattresses or gabion baskets to facilitate the spread of flows back into the wetland at appropriate depths;

   b. The heights and number of culverts under the existing access road across the seep should be adjusted where necessary to allow for the spread of flows into the downstream (rehabilitated) wetland, without draining the upstream area too much or allowing water to accumulate upstream on a perennial basis;

   c. Any subsurface drains in the golf course upslope of the degraded lower section of Seep C (asterisked in Figure 3.1) must be passed into this wetland and spread out using infiltration trenches or other approaches, to improve wetland condition;

   d. Where past activities have led to constriction of flows and the creation of confined eroded gullies, these should be reshaped as part of the (naturally) broad seep wetland in this area – note however that in places such areas have stabilised and are vegetated with good quality indigenous vegetation and there may be arguments to leave some of these areas in situ;

   e. Woody alien vegetation must be removed from the wetland;

   f. Where the wetland or buffer areas are vegetated primarily by kikuyu grass, the top 100 – 200 including the grass should be skimmed off and removed from the wetland, to establish areas with residual topsoil in which more desirable indigenous species can establish, noting that it is highly likely that over time kikuyu grass will reinvade these areas;

   g. Areas of fill or foreign material in the wetland or its buffer must be removed and the area re-shaped to blend in with the surrounding wetland;

   h. The degraded western portion of the wetland, abutting the remnant poplar wetland, should be reshaped in places so as to include shallow depressional areas in its lower reaches that may allow for the establishment of more diverse nodes of indigenous wetland vegetation;

   i. All landscape shaping should seek to create a gently varying topography that mimics natural conditions as far as possible;

   j. The rehabilitated wetland area would require extensive planting and a planting plan should be drawn up that allows for the establishment of appropriate indigenous plant species throughout this area – a three year time frame may be allowed for this. Seeding of the area with core species and the on-site cultivation of other appropriate species may be cost-effective measures to achieve the required improvement in wetland condition;

k. An excavator or other machinery may be used to achieve the above measures, where appropriate, provided that its activities are supervised by someone with rehabilitation experience and a clear understanding of the required rehabilitation outcomes;

l. Where additional boardwalks are required across or through the rehabilitated wetland, then these could be accommodated without undue negative impacts provided that their design and construction is in accordance with the mitigation measures outlined in Section 4.6 and their alignment is agreed on by a wetland ecologist;

vi. Poplars in the remnant wetland abutting the dam must be removed and indigenous vegetation established in their place. This measure may be phased, if desired, provided that it is completed within 5 years from the start of hotel construction, and noting that poplars spread easily via interconnected roots which would need to be taken into account if phased clearing is carried out. The poplars may be replaced with indigenous trees if desired. However, the rehabilitated Seep C should not be planted with trees as these would not have formed part of the natural wetland species component and would reduce wetland function by shading, drying and leaf litter.

5 THE NO DEVELOPMENT ALTERNATIVE

The "no development" alternative in this project is assumed to reflect activities on the estate that do not require authorisation. It is thus assumed that, in terms of this alternative, the estate would continue its current operations, including agriculture, restaurants, vegetable gardens and the golf course. It is also assumed that implementation of the authorized MMP would continue – although it is assumed too that measures such as wetland enhancement / rehabilitation included in the MMP would possibly not take place.

It is furthermore assumed that activities such as clearing of invasive alien vegetation would also take place, as this is legally mandated in terms of the National Environmental Management: Biodiversity Act (NEM:BA).

There would be no boardwalks or bird hides, with their associated impacts. There would also be no enforcement of the requirement for the establishment of ecological buffers. In the event that ecological buffers were not established between developments such as the golf course and existing wetlands, the watercourses would degrade, particularly from the perspective of their capacity to provide longitudinal corridors through the landscape.

The "no development" alternative, as described above, would maintain the *status quo* of aquatic ecosystems in the estate. It has been assessed as of Low negative significance, as its trajectory is not significantly negative. However, it is unlikely that the opportunities for future rehabilitation that are triggered by the proposed development (Developer's Preferred Alternative only) would be implemented in a no development scenario, and thus high quality protective buffers around the golf course and other areas of the existing development abutting watercourses would probably not be established.

6 FORMAL ASSESSMENT OF IMPACTS

Tables 6.1 to 6.5 summarise the results of the formal assessment of impacts associated with the proposed development interventions, as described in Sections 4 and 5. The assessment methodology is outlined in Appendix E. Note that assessments of the two development alternatives (hotel and access road options) and the other common development aspects (sewage treatment, borehole abstraction etc.) are all in comparison to the current trajectory – that is, the no development alternative.

Impacts have been assessed with- and without implementation of the recommended mitigation measures.

Table 6.1
Assessment of significance of impacts associated with the proposed Hazendal Hotel and associated infrastructure and access road
Table to be read in conjunction with Section 4

Criteria	Developer's Preferred Alternative	Alternative 1
Design and Layout Impacts		
Impact A:	**Loss of wetland habitat**	
Nature of impact:	Negative	Negative
Extent of impact:	Local	River reach
Duration of impact	Permanent	Permanent
Probability of occurrence:	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low	Medium
Degree to which the impact can be reversed:	Irreversible	Irreversible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (Negative)	High (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (negative)	N/A
Impact B:	**Degradation of remnant poplar wetland**	
Nature of impact:	Negative	Not applicable
Extent of impact:	Local	
Duration of impact	Permanent	
Probability of occurrence:	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	Irreversible	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (Negative)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (negative)	
Impact C:	**Changes in flows into the Bottelary River**	
Nature of impact:	Negative	Negative
Extent of impact:	Local	River reach

Duration of impact	Permanent	Permanent
Probability of occurrence:	Probable	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Negligible	Medium
Degree to which the impact can be reversed:	Irreversible	Irreversible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (Negative)	High (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (negative)	**N/A**
Impact D:	**Water quality and quantity impacts associated with stormwater runoff into downstream watercourses**	
Nature of impact:	Negative	Negative
Extent of impact:	Local	Local
Duration of impact	Permanent	Permanent
Probability of occurrence:	Possible	Possible
Degree to which the impact may cause irreplaceable loss of resources:	Negligible	Low
Degree to which the impact can be reversed:	Reversible with effort	Reversible with effort
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (Negative)	Low to Medium (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (negative)	**N/A**
Impact E:	**Water quality impacts as a result of the proximity of a sewer to watercourses**	
Nature of impact:	Negative	Negative
Extent of impact:	Local	Local
Duration of impact	Short to medium term	Medium term
Probability of occurrence:	Probable	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low	Low
Degree to which the impact can be reversed:	Reversible	Reversible with major effort
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)	Medium (negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)	N/A
Construction Phase Impacts		
Impact A:	**Disturbance of the dam margins and edge of the poplar wetlands**	
Nature of impact:	Negative	This impact not assessed – the very high negative significance of the design of this alternative meant
Extent of impact:	Local	
Duration of impact	Short term	
Probability of occurrence:	Probable	

Degree to which the impact may cause irreplaceable loss of resources:	Low	that further assessment was irrelevant – the alternative is rejected by this study as an ecologically acceptable option
Degree to which the impact can be reversed:	Reversible	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (negative)	
Impact B:	**Disturbance to wetland Seep C**	
Nature of impact:	Negative	This impact not assessed – the very high negative significance of the design of this alternative meant that further assessment was irrelevant – the alternative is rejected by this study as an ecologically acceptable option
Extent of impact:	Local	
Duration of impact	Short to Medium term	
Probability of occurrence:	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	Reversible with effort	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (negative)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)	
Operational Phase Impacts		
Impact A:	**Disturbance to valley bottom wetlands A and B; Dam 1; Seep C; remnant poplar wetlands and buffer areas**	
Nature of impact:	Negative	This impact not assessed – the very high negative significance of the design of this alternative meant that further assessment was irrelevant – the alternative is rejected by this study as an ecologically acceptable option
Extent of impact:	Local	
Duration of impact	Permanent	
Probability of occurrence:	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	Reversible with effort	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (negative)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)	

Table 6.2
Assessment of significance of impacts associated with the proposed storage of treated sewage effluent in Dam 1
Table to be read in conjunction with Section 4

Criteria	Developer's Preferred Alternative
Impacts	**Maintenance of Dam 1 in a hypertrophic condition and periodic overflows of nutrient enriched water into the Bottelary River system**
Nature of impact:	Negative
Extent of impact:	Local to river reach
Duration of impact	Long-term
Probability of occurrence:	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Reversible with effort
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low to Medium (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)

Table 6.3
Assessment of significance of impacts associated with the proposed treated sewage effluent irrigation. Table to be read in conjunction with Section 4

Criteria	Developer's Preferred Alternative
Impacts	Increased plant productivity and increased wettedness (change in hydroperiod)
Nature of impact:	Negative
Extent of impact:	Local
Duration of impact	Long-term
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Reversible with significant effort
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)

Table 6.4
Assessment of significance of impacts associated with the proposed construction of various boardwalks, bird hides and pathways through and in the vicinity of watercourses on the site. Table to be read in conjunction with Section 4

Criteria	Developer's Preferred Alternative
Design, Layout and Construction Impacts	
Impacts	See Section 4.6.2: Disturbance and degradation of wetlands and their buffers
Nature of impact:	Negative
Extent of impact:	Local
Duration of impact	Short to Medium term

Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Reversible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)
Operational Phase Impacts	
Impacts	See Section 4.6.3: Disturbance and degradation of wetlands and their buffers
Nature of impact:	Negative
Extent of impact:	Local
Duration of impact	Long term
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Reversible
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low to Medium (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (negative)

Table 6.5
Assessment of Cumulative Significance of impacts associated with the proposed development proposals. Table to be read in conjunction with Section 4

Criteria	**Developer's Preferred Alternative**
Impacts	General wetland disturbance and degradation
Nature of impact:	Negative
Extent of impact:	Local
Duration of impact	Long-term
Probability of occurrence:	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Low
Degree to which the impact can be reversed:	Reversible with significant effort
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (Negative)
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (positive)**

Impact A:	**Loss of wetland habitat**	
Nature of impact:	Negative	Negative
Extent of impact:	Local	River reach
Duration of impact	Permanent	Permanent
Probability of occurrence:	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	Low	Medium
Degree to which the impact can be reversed:	Irreversible	Irreversible
Cumulative impact prior to mitigation:	Medium (negative)	Medium to high (negative)
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (Negative)	High (Negative)
Cumulative impact post mitigation:	Low (positive)	No meaningful mitigation possible
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	**Low (negative) Positive with additional cumulative impact mitigation**	**N/A**

7 APPLICABILITY OF THE NATIONAL WATER ACT TO THE PROPOSED ACTIVITIES

The activities assessed in this report included a number of water "uses", as defined in section 21 of the National Water Act (NWA) (Act 36 of 1998). As such, they are subject to authorisation and/or registration with the DHSWS.
The water uses included comprise:

a. taking water from a water resource (borehole abstraction);

b. storing water (Dam 1 and the golf course pond used for irrigation);

c. impeding or diverting the flow of water in a watercourse (rehabilitation activities for Seep C and valley bottom wetlands A and B);

f. discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit (discharge of treated effluent into Dam 1 and thence at times into the Bottelary River system;

i. altering the bed, banks. course or characteristics of a watercourse.

Implementation of the Section 21c and i water uses outlined above would be expected to result in in improved watercourse condition and ongoing management, compared to the present. These uses would thus probably be Generally Authorised in terms of GN509 of August 2016.

However, exclusions to the applicability of GN509 include the following:

- Instances where an application must be made for a water use license for the authorisation of any other water use as defined in section 21 of the Act that may be associated with a new activity;
- Where storage of water results from the impeding or diverting of flow or altering the bed, banks, course or characteristics of a watercourse; and
- Any water use in terms of section 21(c) or (i) of the Act associated with construction, installation or maintenance of any sewerage pipelines, pipelines carrying hazardous materials and to raw water and wastewater treatment works.

The four boreholes lie within 500m of a wetland, and are thus excluded from General Authorisation for the taking and storing of water in terms of GN538 of 2016, and would thus require licensing, thus making GN509 inapplicable to the Section 21c and I uses proposed.

In addition, the fact that the hotel would include a sewer within the "regulated area of a watercourse" is also an exclusion to GN509.

Based on the above, it was agreed in discussion with DHSWS officials that a water use licence application would be required for consideration of the above proposed water uses.

8 RECOMMENDATIONS AND CONCLUSIONS

8.1 General

This report has assessed a range of development proposals for Hazendal Estate. The estate includes a number of natural and artificial wetlands, including the Bottelary River and its associated valley bottom wetlands. Although all of the identified watercourses are degraded to some extent, they are all, with the exception of the poplar wetland and Dam 1, considered of High Conservation Importance, with rehabilitation potential. Improvement in wetland condition and function has been recommended, through the implementation of a number of rehabilitation measures, including addressing erosion, re-establishment of flows through wetland seeps, planting of indigenous vegetation and the creation and management of effective wetland buffer areas.

8.2 Recommendations

Drawing on the findings of this report, it is recommended that Alternative 1 should not be considered for authorisation as it would be associated with impacts of high significance that are essentially unmitigable. In addition, these impacts can be almost entirely avoided by selection of the Developer's Preferred Alternative, which has been designed as part of an iterative process with input from the development team including the wetland ecologist.

Authorisation of the Developer's Preferred Alternative would be considered acceptable from the perspective of its impacts on aquatic ecosystems, provided that the full set of mitigation measures outlined in this report, including the measures to address Cumulative Development Impacts, are implemented as described.

8.3 Additional requirements

This report identified a number of water uses, which would require separate consideration for authorisation by DHSWS through a Water Use License Application (WULA).

The WULA will run concurrent with the NEMA Basic Assessment application.

9 REFERENCES

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APPENDICES

APPENDIX A

Wetland Condition assessment protocol

A1 Wetland condition

Wetland condition was assessed using the desk-top Present Ecological State (PES) methodology, adapted from DWAF (1999). The methodology is based on a comparison of current attributes of the wetland, which are scored against those of a desired baseline or reference condition, resulting in the assignment of a wetland to one of six PES categories, as defined in DWAF (1999) and described in Table A1. The methodology is applicable to natural wetlands only.

Table A1.1

Relationship between Present Ecological State (PES) and showing deviation from natural conditions, as defined in DWAF (2008). (Note: subcategories of DWAF 2008 have been excluded)

PES RATING/ VALUE	DEVIATION FROM REFERENCE CONDITIONS	SCORE (% SIMILARITY TO REFERENCE OR NATURAL CONDITION)	PES CATEGORY
0	No Change	≥92	A
1	Small Change	>82 To 92	B
2	Moderate Change	>62 To 82	C
3	Large Change	>42 To 62	D
4	Serious Change	> 22 To 42	E
5	Extreme Change	0 To 22	F

APPENDIX B

Methodology for determining the Ecological Importance and Sensitivity (EIS) of wetlands

B Ecological Importance and Sensitivity (EIS) protocol for wetlands

The method used to assess the EIS of wetlands is a refinement of the DWA Resource Directed Measures for Water Resources: Wetland Ecosystems method (DWAF 1999). It includes an assessment of ecological (e.g. presence of rare and endangered fauna / flora), functional (e.g. groundwater storage / recharge) and socio-economic criteria (e.g. human use of the wetland).

Scoring of these criteria places the wetland in a Wetland Importance Class (A-D) (see Table B.1).

Table B.1 Wetland Importance Class integrating Ecological Importance and Sensitivity, and functional and socio-cultural importance modifiers

Importance class (one or more attributes may apply)	Range of Median	Wetland Importance Class
Very high Representative of wetlands that: • support key populations of rare or endangered species; • have a high level of habitat and species richness; • have a high degree of taxonomic uniqueness and/or intolerant taxa; • provide unique habitat (e.g. salt marsh or ephemeral pan; physiognomic features, spawning or nursery environments); • is a crucial avifaunal migratory node (e.g. RAMSAR wetlands); • may provide hydraulic buffering and sediment retention for large to major rivers that originate largely outside of urban conurbations; • have groundwater recharge/discharge comprising a major component of the hydrological regime of the wetland; • are highly sensitive to changes in hydrology, patterns of inundation, discharge rates, water quality and/or disturbance; and • are of extreme importance for conservation, research or education.	>3 <=4	A
High Representative of wetlands that: • support populations of rare or endangered species, or fragments of such populations that are present in other similar and geographically-adjacent wetlands; • contain areas of habitat and species richness; • contain elements of taxonomic uniqueness and/or intolerant taxa; • contain habitat suitable for specific species (e.g. physiognomic features); • provide unique habitat (e.g. salt marsh or ephemeral pan; spawning or nursery environments, heronries); • may provide hydraulic buffering and sediment retention for rivers that originate largely outside of urban conurbations, or within residential fringes of urban areas; • have groundwater recharge/discharge comprising a component of the hydrological regime of the wetland;	> 2 <= 3	B

• may be sensitive to changes in hydrology, patterns of inundation, discharge rates, water quality and/or human disturbance; and • are important for conservation, research, education or eco-tourism.		
Moderate Representative of wetlands that: • contain small areas of habitat and species richness; • provide limited elements of habitat that has become fragmented by development (e.g. salt marsh, ephemeral pan; roosting sites and heronries); • provide hydraulic buffering for rivers that originate in urban areas; • are moderately sensitive to changes in hydrology, patterns of inundation, discharge rates and/or human disturbance; • perform a moderate degree of water quality enhancement, but are insensitive to sustained eutrophication and/or pollution; and • are of importance for active and passive recreational activities.	>1 <= 2	C
Low/marginal Representative of wetlands that: • contain large areas of coarse (reeds) wetland vegetation with minimal floral and faunal diversity; • have a high urban watershed:wetland area ratio; • are important for active and passive recreation; • provide moderate to high levels of hydraulic buffering; • may be eutrophic and generally insensitive to further nutrient loading; • are generally insensitive to changes in hydrology, patterns of inundation, discharge rates and/or human disturbance; • have regulated water; and • contain large quantities of accumulated organic and inorganic sediments.	>0 <= 1	D

Rating	**Explanation**
None, Rating = 0	Rarely sensitive to changes in water quality/hydrological regime
Low, Rating =1	One or a few elements sensitive to changes in water quality/hydrological regime
Moderate, Rating =2	Some elements sensitive to changes in water quality/hydrological regime
High, Rating =3	Many elements sensitive to changes in water quality/ hydrological regime
Very high, Rating =4	Very many elements sensitive to changes in water quality/ hydrological regime

APPENDIX C

Methodology for determining the Conservation Importance of wetlands

C Wetland Conservation Importance

In order to provide a more specific guide to the relative conservation importance of individual wetland patches on the present site, a methodology developed by Ewart-Smith and Ractliffe (2002) was utilised. This methodology assigns low, medium and high conservation importance ratings to individual wetlands, on the basis of the following criteria (note that the highest category applicable to any wetland, based on any one criterion, is the one accorded the wetland as a whole):

- **Low conservation importance:**
  - does not provide ecologically or functionally significant wetland habitat, because of extremely small size or degree of degradation, and/or
  - of extremely limited importance as a corridor between systems that are themselves of low conservation importance.
- **Moderate conservation importance:**
  - provides ecologically significant wetland habitat (e.g. locally important wetland habitat types), and/or
  - fulfils some wetland functional roles within the catchment, and/or
  - acts as a corridor for fauna and/or flora between other wetlands or ecologically important habitat types, and/or
  - supports (or is likely to support) fauna or flora that are characteristic of the region and/or provides habitat to indigenous flora and fauna, and/or
  - is a degraded but threatened habitat type (e.g. seasonal wetlands), and/or
  - is degraded but has a high potential for rehabilitation, and/or
  - functions as a buffer area between terrestrial systems and more ecologically important wetland systems, and/or
  - is upstream of systems that are of high conservation importance.
- **High conservation importance:**
  - supports a high diversity of indigenous wetland species, and/or
  - supports, or is likely to support, red data species; supports relatively undisturbed wetland communities, and/or
  - forms an integral part of the habitat mosaic within a landscape, and/or
  - is representative of a regionally threatened / restricted habitat type, and/or
  - has a high functional importance (e.g. nutrient filtration; flood attenuation) in the catchment, and/or
  - is of a significant size (and therefore provide significant wetland habitat, albeit degraded or of low diversity).

APPENDIX D

RESULTS OF ONCE-OFF WATER QUALITY ANALYSES FROM DAM 1

bemlab
www.bemlab.co.za
Part of BlueCare

sanas

16 Van der Berg Crescent
Gant's Centre
Strand

Tel (021) 853-1490
Fax (021) 853-1423
E-Mail admin@bemlab.co.za

P O Box 684
Somerset Mall.
7137

Vat Reg Nr 4200161414

CERTIFICATE OF ANALYSES

Report Nr WT016214.DOC

Liz Day
The Freshwater Consulting Group
Posbus 740
Rondebosch
7701

Date received 20-12-2016

Sampled by client

Water Analyses Report

Origin	Lab. Nr.	pH @ 25°C	EC @ 25°C mS/m	P mg/l	NH_4-N mg/l	NO_3-N mg/l	*NO_2-N mg/l	Date Tested	Date Sampled	*Suspended solids (mg/l)	Temperature at reception (°C)
Hazendal	16214	7.9	112.3	2.76	0.05	6.99	0.03	21-12-2016	Unknown	9	9.0

*** = Not SANAS Accredited***

Origin	Lab. Nr.	E. coli cfu/100ml	Date Tested	Date Sampled	Temperature at reception (°C)
Hazendal	16214	345	20/12/16	Unknown	9.0

Statement The reported results may be applied only to samples received Any recommendations included with this report are based on the assumption that the samples were representative of the source from which they were taken

Notes:

To ensure sample integrity samples are stored only for seven days after release of the report Thereafter it is disposed of and a fresh sample will be required if additional analyses are requested

Results marked with "Not SANAS Accredited" in this report are not included in the SANAS Schedule of Accreditation for this laboratory These results relate to the items tested

This test report shall not be reproduced except in full, without written approval of the laboratory

Refer to website for uncertainty of measurement and referenced methods

Sample condition: Samples received in good condition

Dr. Pieter Raath
Senior Manager

23-12-2016
Date reported

APPENDIX E

DESCRIPTION OF IMPACT ASSESSMENT RATINGS

The following impact assessment ratings have been used in this report.

Nature of the impact
This is an appraisal of the type of effect (positive or negative) the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected.

Extent of the impact
Extent defines the physical extent or spatial scale of the impact. The impact could:

- **Site specific:** limited to the site.
- **Local:** limited to the site and the immediate surrounding area (1-10km)
- **Regional:** covers an area that includes an entire geographic region or extends beyond one region to another.
- **National:** across national boundaries and may have national implications.

Duration of the impact
The specialist should indicate whether the lifespan of the impact would be:

- **Short term:** 0-5 years.
- **Medium term:** 5-15 years.
- **Long term:** beyond the operational phase, but not permanently).
- **Permanent:** where mitigation either by natural processes or by human intervention will not occur in such a way or in such time span that the impact can be considered transient.

Consequence of Impact
Indicate how the activity will affect the environment.

Probability of occurrence
Probability describes the likelihood of the impact occurring. The likelihood can be described as:

- **Improbable/unlikely:** low likelihood of the impact occurring.
- **Probable:** distinct possibility the impact will occur.
- **Highly probable:** most likely that the impact will occur.
- **Definite:** impact will occur regardless of any prevention measures.

Irreplaceable loss of resources
Describes the degree to which resources will be irreplaceably lost due to the proposed activity. It can be **no loss of resources, marginal loss, significant loss** or **complete loss of resources**.

Reversibility
This refers to the degree to which an impact can be reversed.

- **Fully reversible:** where the impact can be completely reversed.
- **Partly reversible:** where the impact can be partially reversed.
- **Irreversible:** where the impact is permanent.

Indirect impacts
Indirect impacts are secondary impacts and usually occur at a different place or time. Specialists will need to elaborate on any indirect or secondary impacts of proposed activities. If there are no indirect impacts specialist will need to briefly explain so.

Cumulative impact
An effect which in itself may not be significant but may become significant if added to other existing or potential impacts that may result from activities associated with the proposed development. Cumulative impacts prior to and post mitigation must be assessed. The cumulative effect can be:

- **Negligible:** the impact would result in negligible to no cumulative effect.
- **Low:** the impact would result in insignificant cumulative effects.
- **Medium:** the impact would result in minor cumulative effects.
- **High:** the impact would result in significant cumulative effects.

Degree to which impact can be avoided
This indicates the degree to which an impact can be avoided. The degree of avoidance can either be **high** (impact is completely avoidable), **moderate** (impact is avoidable with moderate mitigation), **low** (the impact is difficult to avoid and will require significant mitigation measures) or **unavoidable** (the impact is cannot be avoided even with significant mitigation measures).

Can the impact be avoided and if so, how can it be avoided (example: demarcation of no-go areas).

Degree to which impact can be managed
This indicates the degree to which an impact can be managed. The degree of management can either be **high** (impact is completely manageable), **moderate** (impact is manageable with moderate mitigation), **low** (the impact is difficult to manage and will require significant mitigation measures) or **unmanageable** (the impact is cannot be managed even with significant mitigation measures).

How can the impact be managed over time (example: clearance of alien vegetation).

Residual impacts
Residual impacts are those impacts that remain following the implementation of mitigation measures. Residual impacts must be identified and discussed. If there are no residual impacts, the specialist will need to briefly explain that the activity will have no residual impacts.

Degree to which an impact can be mitigated
This indicates the degree to which an impact can be reduced. The degree of mitigation can either be **high** (the impact can be **fully** mitigated), **moderate** (the impact can be **partly mitigated**) or **not mitigated at all**.

Significance
Based on a synthesis of the information contained in the above-described procedure, the significance of the potential impacts can be assessed (prior and post mitigation) in terms of the following significance criteria:

- **No impact.**
- **Low negative:** where it would have negligible effects, and would require little or no mitigation.
- **Low positive:** the impact will have minor positive effects.
- **Medium negative:** the impact will have moderate negative effects and will require moderate mitigation.
- **Medium positive:** the impact will have moderate positive effects.

- **High negative:** the impact will have significant effects and will require significant mitigation measures to achieve an accepted level of impact.
- **High positive:** the impact will have significant positive effects.
- **Very high negative:** the impact will have highly significant effects and are unlikely to be able to be mitigated adequately.
- **High positive:** the impact will have highly significant positive effects.

APPENDIX F

DEPARTMENT OF WATER AND SANITATION GENERAL EFFLUENT LIMITS COMPARED TO TARGET WATER QUALITY RANGES AND ACUTE AND CHRONIC TOXICITY LEVELS

(AFTER DWAF 1996)

Table F.1 Wastewater limit values applicable at present to discharge of wastewater into a water resource, compared to DWAF (1996) TWQRs.

SUBSTANCE/PARAMETER	GENERAL LIMIT	DWAF Target Water Quality Range (TWQRs)	DWAF guidelines: Acute toxicity value
Faecal Coliforms (per 100ml)	1 000		
Chemical Oxygen Demand (mg/l)	75*		
pH	5.5-9 5	pH should not vary from the range of background pH values for a specific site and time of day by >0.5 of a pH unit or by > 5%, whichever estimate is the more conservative	
Ammonia (ionised and un-ionised) as Nitrogen (mg/l)	3	≤ 0.007	0.100
Nitrate/Nitrite as Nitrogen (mg/l)	15		
Chlorine as Free Chlorine (mg/l)	0.250	≤ 0.0002	0.005
Suspended Solids (mg/l)	25	Increases should be < 10% of the background TSS concentrations at a specific site and time	
Electrical Conductivity (mS/m)	70 mS/m above intake to a maximum of 150 mS/m	Total dissolved solid concentrations should not be changed by >15% from the normal cycles of the water body under unimpacted conditions at any time of the year and the amplitude and frequency of natural cycles in TDS concentrations should not change.	
Ortho-Phosphate as phosphorus (mg/l)	10	Inorganic phosphorus concentrations should not be changed by >15% from that of the water body under local, unimpacted conditions at any time of year AND the trophic status of a water body should not increase.	
Fluoride(mg/l))	1	≤ 0.750	2.540
Soap, oil or grease (mg/l)	2.5		
Dissolved Arsenic (mg/l)	0.020	≤ 0.010	0.130
Cadmium and its compounds (mg/l)	0.005	**≤ 0.00015-0.00040	**0.003-0.013
Dissolved Chromium (VI) (mg/l)	0.050	≤ 0.007	0.200
Dissolved Copper (mg/l)	0.010	**≤ 0.0003 –0.0014	**0.0016-0.012
Dissolved Cyanide (mg/l)	0.020	≤ 0.001	0.110
Dissolved Iron (mg/l)	0.300	Concentrations should not vary by > 10% of the background iron concentration at a specific site and time	
Dissolved Lead (mg/l)	0.010	**≤ 0.0002 – 0.0012	**0.004 – 0.016
Dissolved Manganese (mg/l)	0.100	0.180	1.300
Mercury and its compounds	0.005	≤0.00004	0.0017

SUBSTANCE/PARAMETER	GENERAL LIMIT	DWAF Target Water Quality Range (TWQRs)	DWAF guidelines: Acute toxicity value
(mg/l)			
Dissolved Selenium (mg/l)	0.020	≤ 0.002	0 030
Dissolved Zinc (mg/l)	0.100	≤ 0.002	0 036
Boron (mg/l)	1		

* After removal of algae

** dependent on hardness of water range from soft to hard wate

	ANGLES			SIDES			CO-ORDINATES		
	°	'	"	Cape Roods			y Cape Roods		x
A	69	37	0	AB	104,27	A	+ 201,64	-	213,48
B	216	34	40	BC	411,89	B	+ 98,47	-	228,58
C	223	48	40	CD	138,41	C	- 193,26	-	519,34
D	93	22	50	DE	72,97	D	- 196,36	-	657,71
E	125	38	10	EF	88,11	E	- 269,28	-	660,38
F	178	42	30	FG	57,68	F	- 323,20	-	590,70
G	187	22	10	GH	226,75	G	- 357,46	-	544,30
H	235	22	30	HI	307,66	H	- 514,44	-	380,67
I	127	28	50	IK	109,41	I	- 818,15	-	429,78
K	82	53	40	KL	150,24	K	- 897,73	-	354,70

No. 3470/1915

Approved
(Sgd) A.H. Cornish-Bowden
f Surveyor-General

Title ... Stel Q 24.6
dated 16.8.1915

February, 1914

Sheet ~~BH 8 CB/W3 T W4~~
BHSY- 1432 (6786) (6788) 6792
BHSY- 1294 (6790) (6790)
" 1292 (6781)
" 1262 (6741)

FOR ENDORSEMENTS SEE BACK OF DGM.

Rem M783. 7087

Scale 200 Cape Roods = One Inch

1. 30 000

SB

Remainder Farm 222, Haasendal

Legend

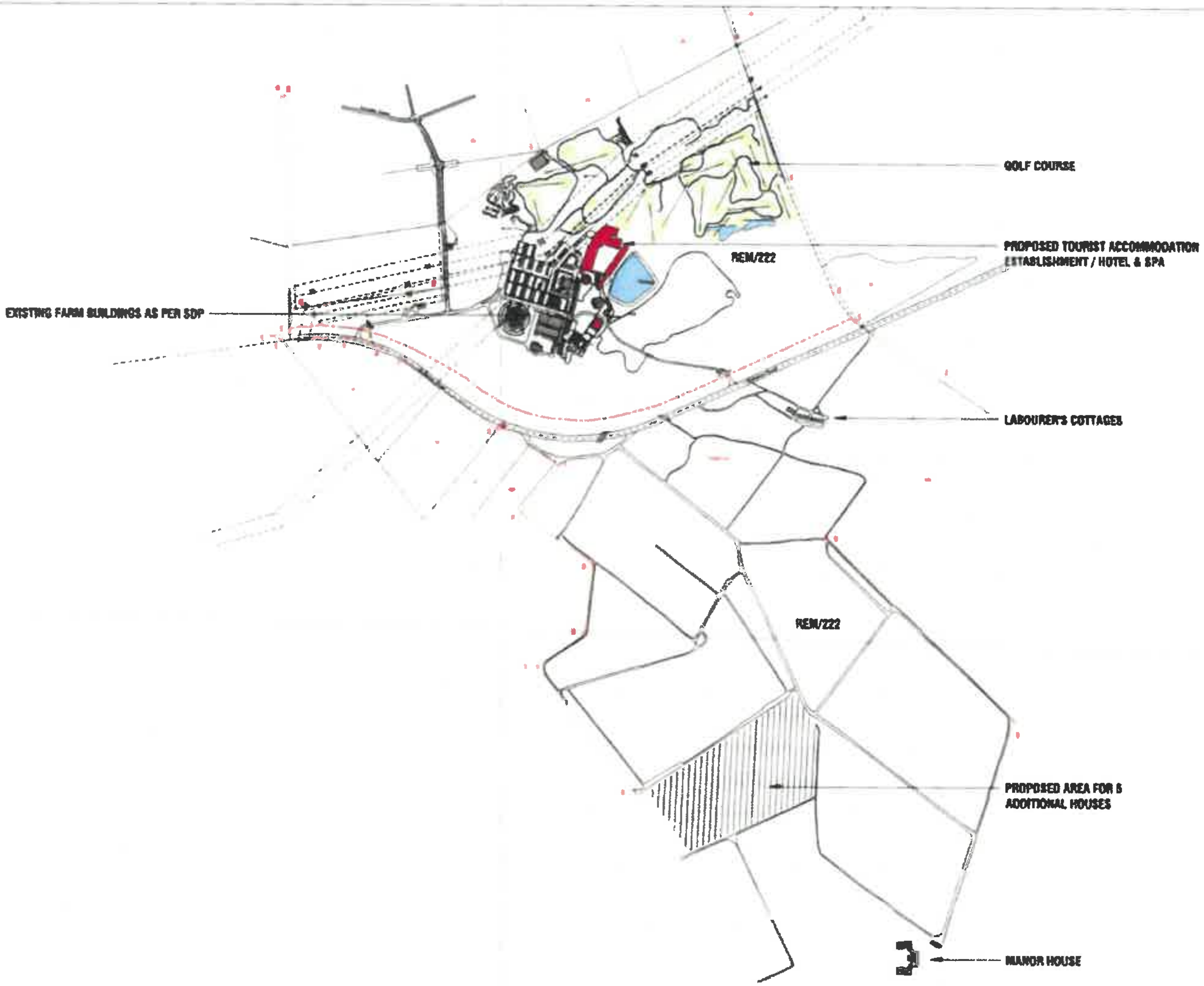
Scale: 1:45 211

Date created: March 18, 2021

Compiled with CapeFarmMapper

Western Cape Government

Agriculture



GENERAL

1. All work is to be done in accordance with the National Building Regulations.
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11. NOTE THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE BOOGERTMAN + PARTNERS ARCHITECTURAL SPECIFICATION DOCUMENT [illegible] ALL SECTIONS.

REVISION

REV	DATE	DRAWN	DESCRIPTION
J	2021.03.16	STB	ISSUED FOR INFORMATION

Boogertman + Partners

PROJECT

HAZENDAL WINE ESTATE

FARM 222

STELLENBOSCH

TITLE

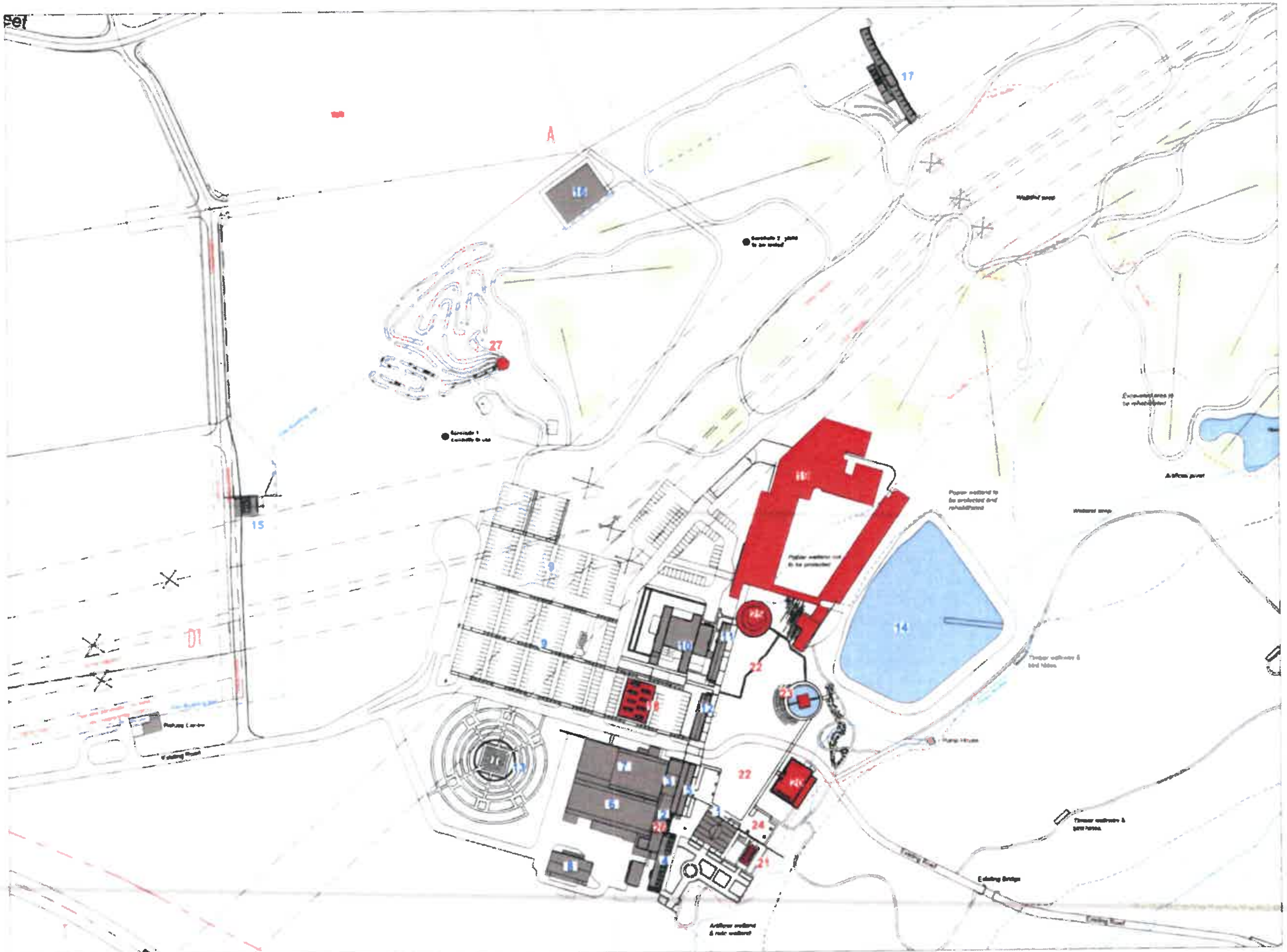
FARM DEVELOPMENT PLAN

NOT TO SCALE / A3

PROJECT	PHASE	DISCIPLINE	SERIES/SKETCH	REV
ABQD	1	UD	1000	J

DRAWN BY: STB

CHECKED BY: WR



LEGEND

Existing Uses

1 - Old Homestead
2 - Entry lobby, ablutions and restaurant
3 - Restaurant
4 - Admin building
5 - Wine tasting and restaurant entrance
6 - Conference Center
7 - Cellar
8 - Shed
9 - Parking
10 - Wonderdal play venue
11 - Babushka Deli
12 - Jonkerhuis
13 - Herb & Vegetable Garden
14 - Irrigation dam
15 - Ronelle street entrance gate
16 - Golf maintenance building
17 - Driving range building

New Uses

18 - Car Pavilion venue
100 people

19 - Tourist Accommodation establishment
Hotel & Spa
Restaurant (60 people)
Events Venue (200 people)
Bar (60 people)

20 - Kraal Restaurant
120 people

21 - Greenhouse Venue
100 people

22 - Werf lawn area
300 people

23 - Werf Pavilion
24 people

24 - Russian tea garden
60 people

25 - Threshing circle
(Babushka deli outside seating)
90 people

26 - Wine library (basement)
22 people

27 - Putt-Putt course

GENERAL

REVISION

REV	DATE	DRAWN	DESCRIPTION
J	2021.03.16	STB	ISSUED FOR INFORMATION

Boogertman + Partners

PROJECT

HAZENDAL WINE ESTATE

FARM 222

STELLENBOSCH

TITLE

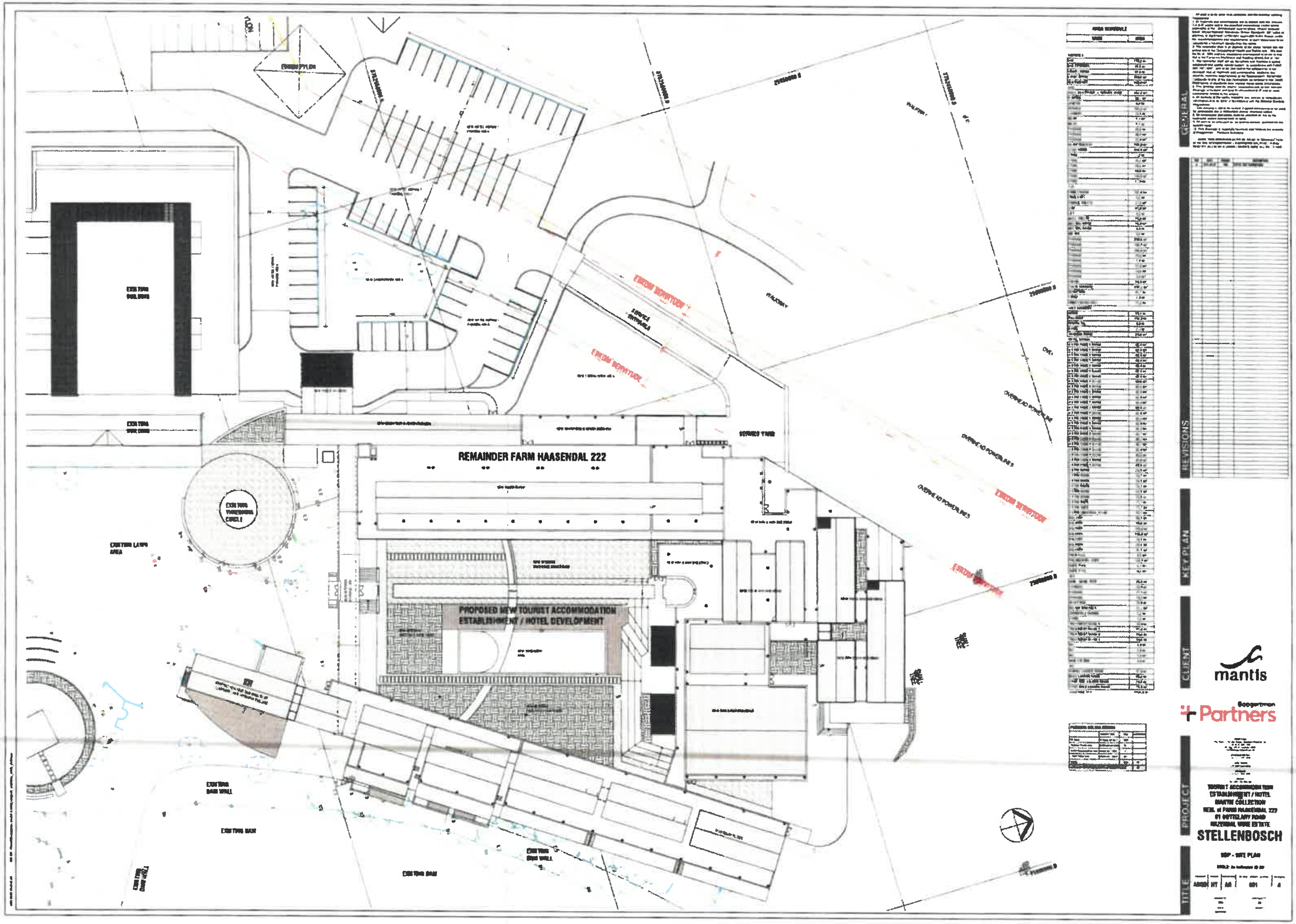
MASTER SITE DEVELOPMENT PLAN

NOT TO SCALE / A3

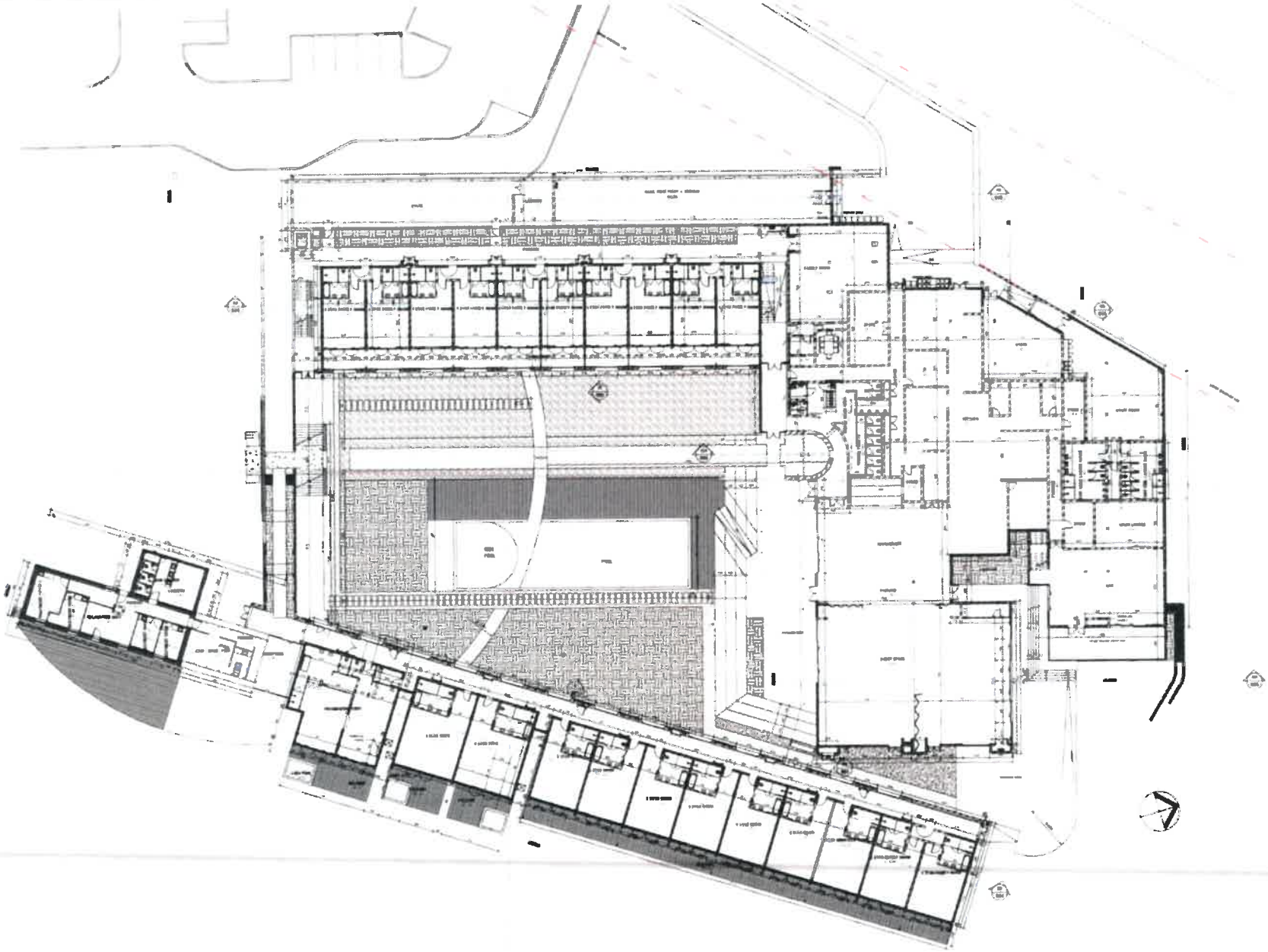
PROJECT	PHASE	DISCIPLINE	SERIES/SKETCH	REV
ABOD	1	UD	1000	J

DRAWN BY STB

CHECKED BY WR



REMAINDER FARM HAASENDAL 222
PROPOSED NEW TOURIST ACCOMMODATION
ESTABLISHMENT / HOTEL DEVELOPMENT
GENERAL
REVISIONS
KEY PLAN
CLIENT
mantis
Partners
PROJECT
STELLENBOSCH
TITLE



1 | 002 - SDP LOWER GROUND FLOOR PLAN
1 : 150

GENERAL

REVISIONS

KEY PLAN

CLIENT

mantis

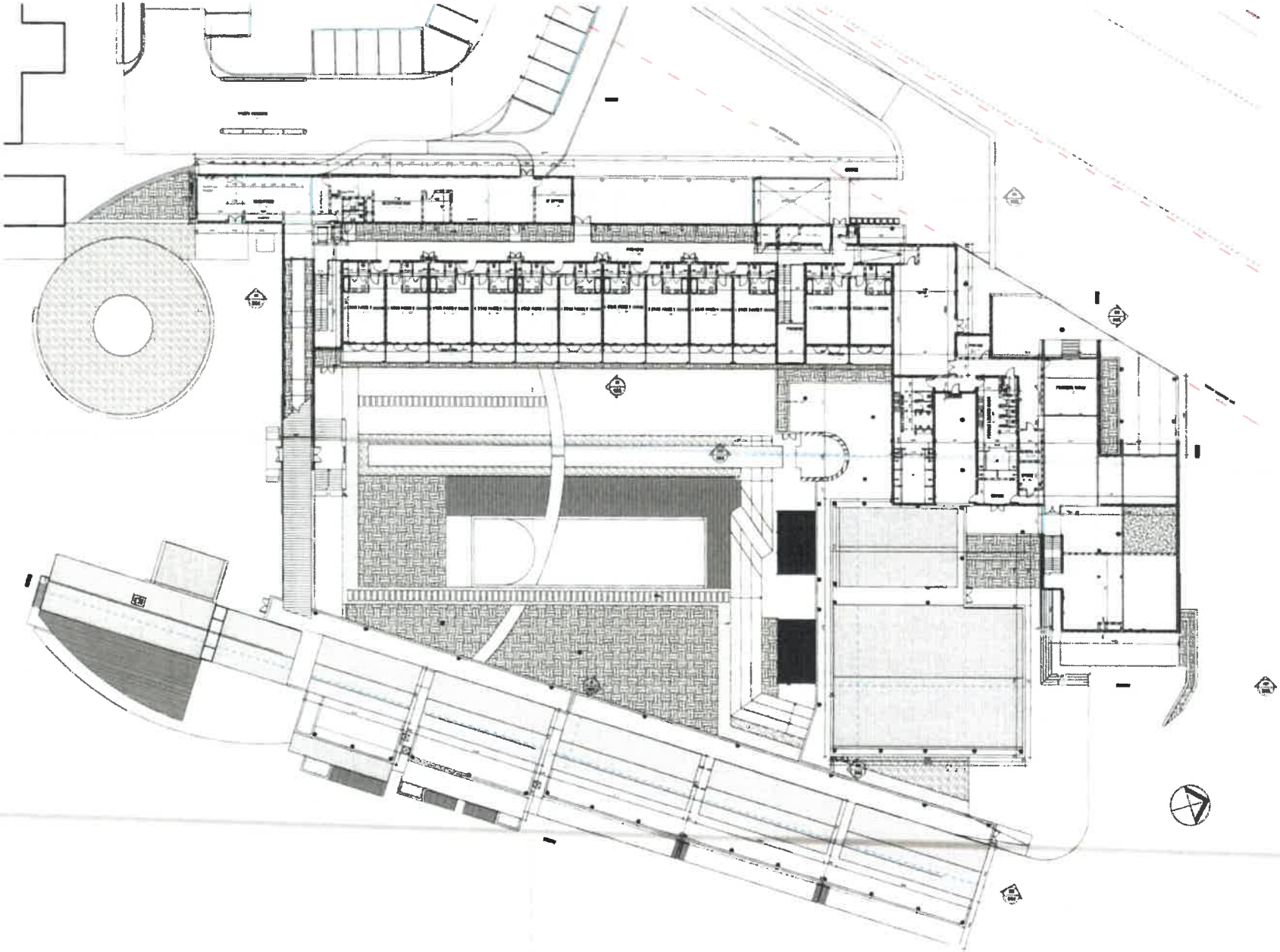
Partners

PROJECT

STELLENBOSCH

TITLE

SDP - LOWER FLOOR PLAN



1 | 003 - SDP GROUND FLOOR PLAN
1 : 150

GENERAL

REVISIONS

KEY PLAN

CLIENT

mantis

Boogertman + Partners

PROJECT

TOURIST ACCOMMODATION ESTABLISHMENT / HOTEL
MANTIS COLLECTION
REM. of FARM KRANSHOEK 222
21 BOTTELARY ROAD
NATIONAL WINE ESTATE
STELLENBOSCH

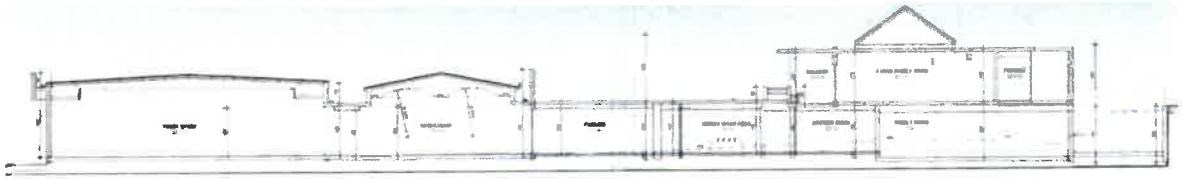
TITLE

SDP - UPPER FLOOR PLAN

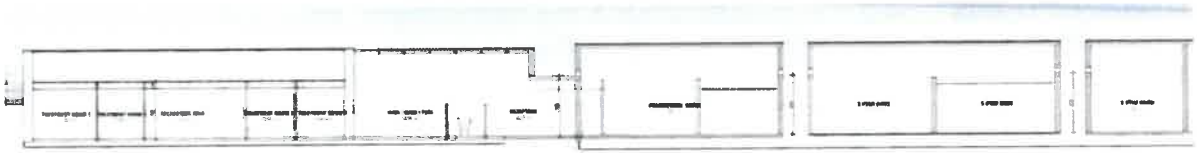
SCALE 1 : 150 @ A1

ARCH	INT	AR	003	A

AA | SDP - SECTION AA
1 : 100



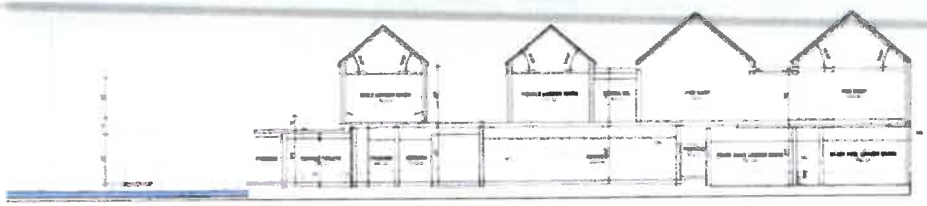
BB | SDP - SECTION BB
1 : 100



CC | SDP - SECTION CC
1 : 100

DD | SDP - SECTION DD
1 : 100

EE1 | SDP - SECTION EE1
1 : 100



EE2 | SDP - SECTION EE2
1 : 100

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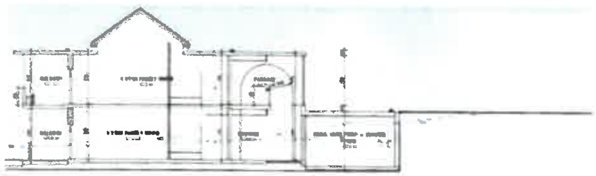
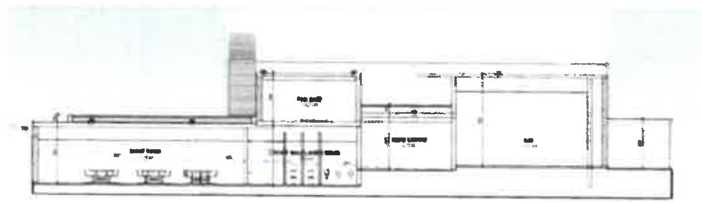
SDP - SECTIONS 1

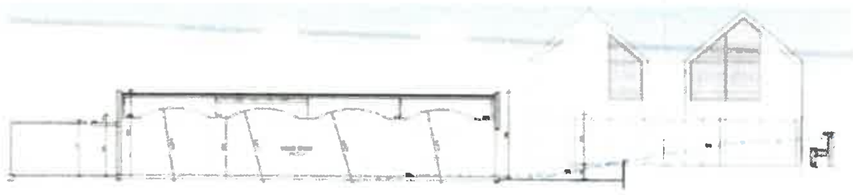
TITLE



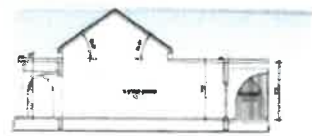
FF | SDP - SECTION FF
1 : 100



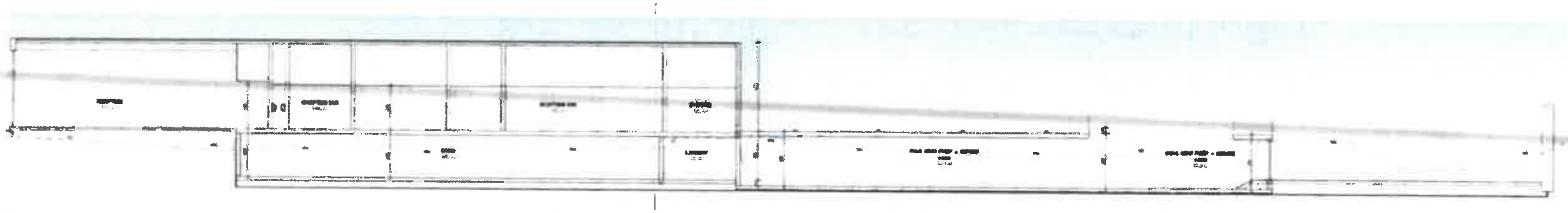
GG | SDP - SECTION GG
1 : 100



HH | SDP - SECTION HH
1 : 100



JJ | SDP - SECTION JJ
1 : 100



KK | SDP - SECTION KK
1 : 100

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TOURIST ACCOMMODATION ESTABLISHMENT / HOTEL
MANTIS COLLECTION
REM. of FARM HAASENDAL 227
R1 BOTTELARY ROAD
HAZENDAL WINE ESTATE
STELLENBOSCH

TITLE

SDP - SECTIONS 2

1 | SDP - NORTH FACADE ELEVATION
1 : 100

2 | SDP - EAST FACADE ELEVATION
1 : 100

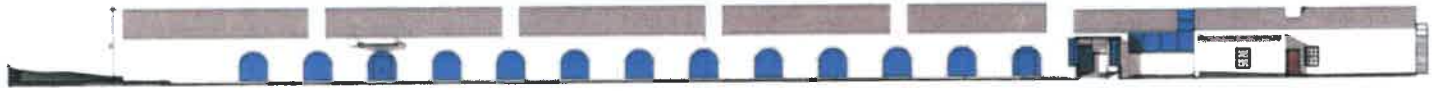
3 | SDP - SOUTH FACADE ELEVATION
1 : 100

4 | SDP - WEST FACADE ELEVATION
1 : 100

6 | SDP - NORTH INTERNAL COURTYARD ELEVATION
1 : 100

7 | SDP - SOUTH INTERNAL COURTYWARD ELEVATION
1 : 100

8 | SDP - WEST INTERNAL COURTYARD ELEVATION
1 : 100



5 | SDP - EAST INTERNAL COURTYARD ELEVATION
1 : 100

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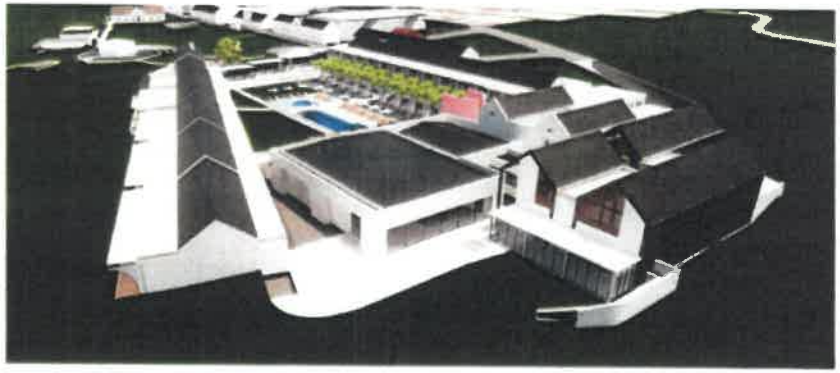
SDP - ELEVATIONS

ARCH NT | AR 007 A



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