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The Proposed Development of a Residential Estate and Associated Infrastructure on Erf 252 and Erf 298, Raithby, Stellenbosch Registration Division

## EXECUTIVE SUMMARY

of the

### Final Basic Assessment Report

Prepared for:

Annandale Road Properties (Pty) Ltd.

Prepared by:

Doug Jeffery Environmental Consultants (Pty) Ltd.

DJEC Ref: 2016/75

## EXECUTIVE SUMMARY

### INTRODUCTION

*Doug Jeffery Environmental Consultants* was appointed by the Applicant, *Annandale Road Properties (Pty) Ltd.*, as the independent Environmental Assessment Practitioner ("EAP") to apply for Environmental Authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended ("NEMA") and the Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) for the proposed development of a residential estate and associated infrastructure on Erf 252 and Erf 298, Raithby, Stellenbosch registration division.

The site, Erf 252 and Erf 298, is located within the urban edge and are part of the Raithby township. Refer to the Locality Map included under Appendix A1 of the Basic Assessment Report ("BAR").

### DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed development entails the rezoning and subdivision of Erf 252 and Erf 298, Raithby to allow for the development of a residential estate with ancillary infrastructure. The proposed development will be referred to as "Newlands Estate".

The proposed residential estate will consist of a variety of residential options (with a total of 116 residential opportunities), arranged around a large, central open space as well as other connected open spaces and landscaped areas. The proposed land uses, and layout are informed by inter alia planning policies and directives, the residential character of Raithby, the site's topographical characteristics and the surrounding rural environment.

Refer to Appendix B1 of the BAR for the Site Layout Plan.

#### Proposed Land Uses

##### a) Detached Dwellings (Group Housing)

The proposal makes provision for a total of 32 conventional detached dwellings in a group housing format with residential erven ranging from approximately 400m<sup>2</sup> to 1 080m<sup>2</sup> in extent (average extent of approximately 500m<sup>2</sup>). These erven will be zoned Multi-Unit Residential Zone (i.e. part of a group housing scheme).

Due consideration has been given to taking advantage of views and optimum orientation, with all erven fronting or backing onto open space or rural areas.

The detached dwellings, representing the lowest residential density type, purposefully forms the interface with rural and agricultural properties located towards the northwest, north and northeast. Further, four detached dwelling erven form the interface with Watson Way to reflect the conventional residential topology along Watson Way further to the east. Two existing dwellings are to be retained and accommodated on two of these erven.

##### b) Semi-Detached / Row Houses (Group Housing)

The proposal makes provision for a total of 30 semi-detached / row houses in a group housing format. These plots are approximately 170m<sup>2</sup> in extent. These plots will be zoned Multi-Unit Residential Zone (i.e. part of a group housing scheme).

The proposed semi-detached / row houses are positioned towards the south of the watershed, which portion of the property forms an interface with the existing urban development of Raithby.

c) Apartments / Flats

The proposal makes provision for a total of 54 apartments, spread over five detached, double storey buildings (ground + first floor). The portions of the site accommodating the apartments will be zoned Multi-Unit Residential Zone.

The proposed apartments are positioned in the southern portion of the site, i.e. south of the watershed and closest to existing properties and Watson Way.

Parking is provided as a combination of garages and parking bays. A 54-unit apartment component will need to provide a minimum of 108 parking/garaging opportunities (i.e. a parking ratio two bays per unit).

In the context of providing an apartment component that constitutes appropriate densification in terms of character and scale, the layout and design are directed at:

- Minimising potential massing of buildings – this is achieved by breaking the 54 apartments up into 5 detached buildings, interspersed with open space;
- Minimising potential height of the buildings – this is achieved by only providing double storey buildings, i.e. ground and first floor;
- Minimising the potential visual impact of buildings – this is achieved by minimizing the massing of buildings, minimizing their height, setting the buildings back from existing erven to the south, implementing appropriate architectural treatment (e.g. colour schemes, etc.) and providing screen planting;
- Integrating the buildings with its surrounds – this is achieved by minimizing the massing of buildings, minimizing their height, setting the buildings back from existing erven to the south, implementing appropriate architectural treatment (e.g. colour schemes, etc.) and providing appropriate landscaping and planting.

d) Clubhouse

The proposed clubhouse is located in a central position within the development, fronting onto the centrally located open space forming the 'village green'. The clubhouse will contain communal facilities for utilisation by residents of the development. The clubhouse purposefully forms a focal point at the end of the main internal access road.

e) Open Space

A large open space ('village green') is provided in the centre of the site. This open space is surrounded by conventional detached dwellings, semi-detached / row houses, and the proposed clubhouse, contributing to the creation of a sense of community, safety, and an attractive living environment.

Linkages to other open space areas are also provided. These linkages will facilitate an integrated footpath system. Two stormwater detention ponds are provided and form an integral design component within the open space system.

Development Density

The PSDF and Stellenbosch Municipal SDF promote higher densities and more compact settlement footprints. Large residential properties, as found in a number of locations within Raithby, are no longer regarded as sustainable for achieving growth management objectives.

The concept of the proposed Newlands Estate is directed at providing a mix of residential types (i.e. detached dwellings, semi-detached / row houses and apartments) resulting in a gross residential density of 22 du/ha for the site. However, the proposed layout and position of

development components represent a transition in terms of residential topology and density as one moves from the southeast to the northwest across the property.

### Architectural Design

The development proposal increases density through creating a self-contained arrangement of scaled housing opportunities linked to one another and sharing defined and contained open spaces to facilitate the creation of a community and identity. The proposal opens up visually to the surrounding agricultural environment and responds as a village, containing a variety of scales within the landscape, embracing the vistas and adjacent uses rather than as a walled encroachment of suburbia into the surrounding agricultural landscape. The proposed design guidelines, through control of the perimeter, walling heights and planting, reinforces this connection and creates an environment which, while controlled and self-contained, recognises and connects with the surrounding agricultural context.

Architectural design will be controlled in the general interest of the aesthetics of the development and the visual impact of the project as a whole. The proposed Architectural Design Guidelines for the detached dwellings are attached as Appendix L5.

### Landscaping

The overarching landscaping philosophy is one of reference to the rural context and agricultural planting patterns that characterise the farms, werfs and garden settings of the Cape Dutch homesteads of the Cape Winelands. The landscaping approach therefore incorporates elements of avenues, windbreaks, and orchard planting as screening mechanisms, with understory planting mimicking meadows and open spaces incorporating elements of formalised gardens within increasing formalisation focused on the central meeting place represented by the clubhouse.

In order to ensure the establishment of a quality environment, the management of the interface between the proposed development and existing development, between roads and development, between development and open spaces and between development and rural areas is essential.

Conceptual landscaping proposals include inter alia:

- Planting along the perimeter of the site to mitigate visual impact and manage the interface with the surrounding environment;
- Linear tree planting at strategic positions within the site to mitigate visual impact;
- Verge planting;
- Hedges and werf walls;
- Pergolas, benches and play equipment;
- Integrated footpath system.

Attention to hard and soft landscaping are provided in the Landscape Master Plan (Appendix B2 of the BAR).

The developer (initially) and thereafter the Homeowners Association, controlling architects and landscape architects will ensure that the guidelines are complied with during the design, construction and operational phases.

Refer to the Architectural Design Guidelines included under Appendix L5 of the BAR.

## Proposed Services

Refer to the Civil Services Report (Appendix L2 of the BAR) for a detailed description of the proposed services infrastructure. Capacity confirmation letters are included under Appendix E2 of the final BAR.

### a) Water

The total Annual Average Daily Water Demand (AADD) and instantaneous (peak) flow from the development were calculated as **58.5 kℓ/day with a peak demand of 8.13 ℓ/s.**

In terms of the report provided by GLS Consulting, the master planning indicates that this development should be accommodated in the Raithby reservoir water distribution zone. The existing Raithby reservoir currently has insufficient storage capacity (24 hours of the AADD of the reservoir supply zone) to supply Raithby and the proposed development. However, Stellenbosch Municipality has also acquired additional capacity from the Faure service reservoir from City of Cape Town, which will be sufficient to accommodate the proposed development along with other future developments within the settlement.

The only master plan item to be implemented by the developer is the installation of a new 128m pipeline of 110mm diameter to connect the supply point to the development.

Internally, the proposed development will be provided with 110mm diameter class 16 water mains. Dwelling erven will be provided with individual meters and a single bulk meter will be provided for the apartments/flats.

The development will be provided with water saving/reducing devices such as dual flush toilet cisterns, reduced toilet cistern volume and low flow showerheads.

External fire hydrants are expected to be provided in terms of **SANS 0400. Flow of 20ℓ/s at 3bar** pressure is required for the operation of these hydrants.

### b) Sewerage

The Peak Day Dry Weather Flow (PDDWF) for the proposed development was calculated as **41.0 kℓ/day.**

The development falls within the existing Raithby drainage area. The report from GLS Consulting indicates the proposed connection through Erf 255 on the south-western corner of the site, however EKCON Engineers propose to connect through Erf 252 to the sewer along Watson Way. The existing sewer network has sufficient capacity to accommodate the proposed development.

The internal sewer network will be a water borne gravity sanitation system. Main sewer lines will be 160mm diameter uPVC pipes (Class 34) with 110mm diameter building connections.

The municipality indicated that there might be capacity problems at the Raithby Waste Water Treatment Plant (the plant has an existing treatment capacity of 150kℓ per day) to accept the additional flow from the proposed development and that some upgrading might be required and could potentially be funded from development contributions.

EKCON Engineers have had extensive dealings with Stellenbosch Municipality and Becon Watertech (the installers of the existing plant) regarding the current capacity and proposed upgrade. The proposal is to expand the existing treatment plant with five additional rotating biological contactors, bringing the total treatment capacity at the plant to 300kℓ per day. An additional secondary settling chamber will also have to be provided and the last section of 150m pipe must be upgraded including the flow meter.

The anticipated daily sewerage flow of 41kℓ per day for the development is dealt with sufficiently with the additional capacity of 150kℓ per day generated by the proposed upgrade, with additional spare capacity provided.

c) Stormwater

The site is divided into two sub-catchments with a watershed running in an east-west direction through the property. For ease of reference, reference is made below to the 'northern' and 'southern' catchment.

Northern catchment

The northern catchment is approximately 17 350m<sup>2</sup> in extent. The pre- and post-development run-off is provided in Table A and Table B below.

*Table A: Northern catchment pre-development run-off.*

Return Period (Years), T	2	5	10	20	50	100
Peak Flow (m <sup>3</sup> /s), QT=CTITA/3.6	0,025	0,037	0,048	0,065	0,105	0,202

*Table B: Northern catchment post-development run-off.*

Return Period (Years), T	2	5	10	20	50	100
Peak Flow (m <sup>3</sup> /s), QT=CTITA/3.6	0,087	0,125	0,151	0,217	0,263	0,352

A stormwater attenuation pond is proposed at the approximate mid-point of the northern boundary to create a visual focal point for the development. The depth of the pond will be lowered sufficiently to accept water from the north-western corner of the site, which is the lowest point. A surface channel will be created along the inside of the boundary to direct the run-off from the most northern row of erven into the attenuation pond.

The attenuation pond will attenuate the peak flows to the pre-development run-off. The outlet structure of the pond will be designed such that this will mimic the pre-development flows. The attenuation volume required is 86m<sup>3</sup>. The top water level is estimated to be around 76.50m with a permanent water level (overflow level) of around 75.50m. The permanent water depth will be around 74.5m (minimum of 1m deep).

From the pond outlet structure an underground pipe will be laid to convey the stormwater towards the lower attenuation pond proposed at the entrance to the development in the southern catchment (storms in excess of a 1:50 year storm event).

Southern catchment

The southern catchment is approximately 33 440m<sup>2</sup> in extent. The pre- and post-development run-off is provided in Table C and Table D below.

*Table C: Southern catchment pre-development run-off.*

Return Period (Years), T	2	5	10	20	50	100
Peak Flow (m <sup>3</sup> /s), QT=CTITA/3.6	0,047	0,070	0,092	0,117	0,172	0,236

*Table D: Southern catchment post-development run-off.*

Return Period (Years), T	2	5	10	20	50	100
Peak Flow (m <sup>3</sup> /s), QT=CTITA/3.6	0,251	0,324	0,387	0,430	0,512	0,580

A stormwater attenuation pond is proposed next to the main entrance to the development. All stormwater will be directed and discharged into the pond by means of underground pipes (minor system) and overland via road surfaces (major system).

The attenuation pond will attenuate the peak flows to the pre-development run-off. The outlet structure of the pond will be designed such that this will mimic the pre-development flows. From the pond outlet structure an underground pipe will be laid to connect to the

existing stormwater pipe along Watson Way. The municipal system discharges into a natural stream located just south of Watson Way.

The pre-development flow from the northern catchment will be discharged, and flow through the main attenuation pond. The total attenuation volume required is 285m<sup>3</sup>.

The attenuation pond is proposed as a dry pond with a top water level of around 71.25m (1:50 year recurrence interval level) and invert level of 69.0m.

The pond will be provided with an emergency spill way, which will discharge onto the road surface into Watson Way in a major storm event in excess of the 1:50 year recurrence interval or in the unlikely event that the stormwater outlet pipe gets blocked.

#### d) Solid Waste

A refuse room is proposed at the main access before the access control is reached, with accompanying embayment along the northern side of Watson Way (outbound leg of the access intersection) with direct access to the refuse room.

#### e) Electrical Engineering

An assessment of electrical services has been carried out by De Villiers & Moore - refer to the Electrical Services Report included under Appendix L4 of the BAR.

Eskom is the supply authority in the area and the existing 11kV overhead lines belong to Eskom. The after diversity maximum demand of the proposed development has been estimated to be 482kVA.

The existing 11kV overhead lines in the immediate vicinity of the development will not be able to be used due to the fact that the tying in onto the overhead lines will require traversing private property as well as wetlands. The routes also have extensive trees along the way.

In order to supply the proposed development, the following bulk service upgrading will be required:

##### 11kV Distribution Cabling

- A new 11kV cable (approximately 700m in length) will have to be installed from an existing transformer (at point F48A7174) along the road reserve to the proposed development. In this way the proposed development will be integrated into the existing network in the area.
- The pole mounted transformer (at point F48A7174) will be replaced with a new mini substation.
- The existing overhead line currently feeding transformer (at point F48A7174) will be removed once the necessary infrastructure is in place – refer to the Electrical Services Report (Appendix L3 of the BAR).
- The development's internal ring feed will be a 11kV XLPE cable to match the incomer and will supply mini substations situated at identified load centres within the development.

All the above-mentioned electrical infrastructure will be constructed as part of the proposed development.

### Metering

Metering will be done on a per erf basis.

The Developer will be liable for the payment of a Development Contribution (as calculated by Stellenbosch Municipality) for bulk water and sewer infrastructure as per Council Policy.

## POLICY AND LEGISLATIVE CONTEXT

The legislation that is relevant to this study is briefly outlined below. These environmental requirements are not intended to be definitive or exhaustive but serve to highlight key environmental legislation and responsibilities only.

There are several Acts which form part of a suite of legislation called Specific Environmental Management Acts (SEMAs) that fall under NEMA. The following SEMAs are also relevant to this application and will regulate the proposed development:

- The Constitution of South Africa Act, 1996 (Act No. 108 of 1996)
- The National Environmental Management Act, 1998 (Act No. 107 of 1998)
- The Environmental Impact Assessment Regulations, 2014 (as amended)
- The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
- The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
- The National Heritage Resources Act, 1999 (Act No. 25 of 1999), and
- The National Water Act, 1998 (Act No. 36 of 1998).

### 1. Other Applicable Legislation

#### Subdivision of Agricultural Land Act, 1970 (Act No. 70 of 1970)

The subdivision of agricultural land requires approval in terms of the provisions of the Subdivision of Agricultural Land Act, 1970 (Act No. 70 of 1970) from the National Department of Agriculture, Land Reform and Rural Development.

Although Erf 252 and Erf 298 ("the site") is located within the urban edge and makes part of the Raithby township, the site is zoned Agriculture and Rural Zone, the provisions of Subdivision of Agricultural Land Act, 1970 (Act No. 70 of 1970) therefore applies.

An application in terms of the provisions of the Subdivision of Agricultural Land Act, 1970 (Act No. 70 of 1970) was submitted to the Department of Agriculture, Forestry and Fisheries (Director: Land Use and Soil Management) – refer to Appendix E3 of the BAR.

On 17 May 2021, the Department of Agriculture, Land Reform and Rural Development issued a letter stating that the Department has no objection against the proposed rezoning of Erf 298 and Erf 252 Raithby from an agricultural point of view. Refer to the Department of Agriculture, Land Reform and Rural Development's letter included under Appendix E3 of the BAR.

#### Stellenbosch Municipality Land Use Planning By-Law, 2015

In terms of the Stellenbosch Municipality Land Use Planning By-Law, 2015 approval is required for the rezoning and subdivision of the site. The required composite application has been submitted to the Stellenbosch Municipality (Application No. LU/10035) – refer to Appendix L4 of the BAR.

## 2. Policies

### [Western Cape Provincial Spatial Development Framework \(2014\)](#)

The principles of the Western Cape Provincial Spatial Development Framework (PSDF) were considered and taken into consideration during the design of the proposed development.

### [Stellenbosch Municipal Spatial Development Framework \(November 2019\)](#)

The principles of the Stellenbosch Municipal SDF were considered and taken into consideration during the design of the proposed development.

More detail on the above is provided in Section E of the BAR.

## 3. Guidelines

### [Circular Eadp 0028/2014: One Environmental Management System](#)

This circular was considered while undertaking this Basic Assessment (BA) process.

### [Environmental Impact Assessment \(EIA\) Guideline and Information Document Series, 2013](#)

All guidelines were considered while undertaking this BA process.

### [Guideline for Environmental Management Plans, June 2005](#)

The Environmental Management Programme (EMPr) was compiled in terms of these Guidelines, as well as Best Practise Principles and NEMA's General Duty of Care Section 28.

### [Guideline for the Review of Specialist Input in the EIA Process \(2005\)](#)

This guideline was considered while undertaking this BA process.

### [Guideline on Alternatives, 2013](#)

This guideline was consulted and adhered to while undertaking this BA process.

### [Guideline on Need and Desirability, 2013](#)

This guideline was consulted and adhered to while undertaking this BA process.

### [Public Participation Guideline, 2017](#)

The Public Participation Process (PPP) was undertaken as per the requirements laid out in this guideline.

## 4. Protocols

The Screening Report (dated 03 February 2020, see Appendix I of the BAR) has identified a number of specialist studies to be conducted. However, since the specialist studies in the BAR were conducted prior to 9 May 2020, the Protocols will not be applicable in this regard.

## LISTED ACTIVITIES TRIGGERED AND APPLIED FOR

List of activities in terms of the NEMA EIA Regulations, 2014 (as amended) that are applicable to the proposed development includes –

### Listing Notice 1 (GN R. 327 of 2017)

Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for-

- (i) the undertaking of a linear activity; or
- (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

*The proposed development will entail the clearance of an area of approximately 5.2 hectares, but less than 20 hectares, containing indigenous vegetation.*

Activity 28: Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:

- (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or
- (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;

excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.

*The proposed development involves the rezoning and subdivision of agricultural land to establish a residential estate. The proposed development site is located outside an urban area (but inside the urban Edge according to the Stellenbosch Municipal Spatial Development Framework (MSDF) of November 2019) and the total land to be developed is approximately 5.2 hectares.*

### Listing Notice 3 (GN R. 324 of 2017)

Activity 4: The development of a road wider than 4 metres with a reserve less than 13,5 metres.

#### i. Western Cape

- i. Areas zoned for use as public open space or equivalent zoning;
- ii. Areas outside urban areas:
  - (aa) Areas containing indigenous vegetation;
  - (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or
- iii. Inside urban areas:
  - (aa) Areas zoned for conservation use; or
  - (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.

*The proposed development entails the development of internal roads wider than 4 metres with reserve less than 13.5 metres within an area outside of urban areas, containing indigenous vegetation.*

Activity 12: The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.

i. Western Cape

- i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;
- ii. Within critical biodiversity areas identified in bioregional plans;
- iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;
- iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or
- v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.

*The proposed development would entail the clearance of an area of approximately 5.2 hectares, but less than 20 hectares, containing indigenous vegetation in an ecosystem (Swartland Granite Renosterveld) that is listed as CRITICALLY ENDANGERED in terms of section 52 of the NEMBA.*

## PLANNING CONTEXT AND NEED AND DESIRABILITY

This section must be read together with the Planning Report included under Appendix L4 of the BAR. The preferred alternative can be described as a residential estate containing a variety of residential options (with a total of 116 residential opportunities), arranged around a large, central open space as well as other connected open spaces and landscaped areas. The proposed land uses, and layout are informed by inter alia planning policies and directives, the residential character of Raithby, the site's topographical characteristics and the surrounding rural environment. The proposal is aimed at:

- Realising the development potential of this portion of Raithby as reflected in planning directives and policy;
- Efficient utilisation of land, resources and services;
- Providing greater spatial compactness;
- Establishing a safe, efficient and attractive residential environment;
- Providing a mix of residential types;
- Diversifying the market segments that the proposed development will be able to serve;
- Creating an effective relationship between appropriate density, building height and landscaping to respond to the character of a 'rural town' and achieve a positive visual absorption rating;
- Providing a 'transition' in terms of residential topology and density between conventional residential neighbourhoods to the east and south and rural land towards the north;
- Creating a sense of community by providing a centrally located open space, circular access road and clubhouse;
- Providing suitable open space areas and linkages that may accommodate active (e.g. integrated footpath system) and passive functions;
- Utilising views towards rural and agricultural landscapes.

The demand for housing within the Stellenbosch Municipal area is increasing faster than housing provision. The Stellenbosch municipal area has an estimated shortage of around 25 000 housing units. This need includes all socio-economic groups. The current housing stock in the municipal area would need to be doubled to meet this demand. Raithby has a modest, but valuable local role to play in addressing this need.

Erven 252 and 298 were included in the Raithby Local Area through proclamation and are part of the Raithby township.

The PSDF and Stellenbosch Municipal SDF promotes densification and more efficient use of resources and land. The applicable planning policy directs that development should be spatially compact, efficient and resource frugal. The approved Stellenbosch Municipal SDF indicates that Erven 252 and 298 are located within the urban edge of Raithby. The approved Stellenbosch Municipal SDF also indicates Erf 252 as forming part of the existing cadastral fabric of Raithby and Erf 298 is specifically demarcated as "Mixed Use Community and Residential Infill".

Erven 252 and 298 are not part of the "Urban Agricultural Areas Retained", the "Critical Biodiversity Areas" or "Green Areas Retained".

Erven 252 and 298 are located outside of the "Existing and Proposed Urban Character Areas".

The development proposal for the site of a mixed residential development is consistent with the guiding principles as contained in the PSDF.

The proposed development of the property for mixed residential purposes addresses a number of issues identified in the Stellenbosch Municipal SDF. The proposal is regarded as consistent with the directives of the Stellenbosch Municipal SDF.

No agriculture activities have taken place on the property within the past 26 years. Medium low to low potential soils are prevalent across the property. The Agricultural Land Capability Study (included under Appendix G1 of the BAR) has confirmed that Erf 298 does not constitute a sustainable agricultural, nor an economically viable agricultural unit.

On 17 May 2021, the Department of Agriculture, Land Reform and Rural Development issued a letter stating that the Department has no objection against the proposed rezoning of Erf 298 and Erf 252 Raithby from an agricultural point of view. Refer to the Department of Agriculture, Land Reform and Rural Development's letter included under Appendix E3 of the BAR.

From a botanical perspective, the property is entirely transformed and although now lying fallow is not showing any signs of reverting to a natural condition. The development of the property would not negatively impact any conservation worthy vegetation or eco-system. Refer to the Botanical Statement included under Appendix G2 of the BAR.

The property is largely vacant and underutilised and is currently not making a productive contribution to the economy and wellbeing of Raithby nor the larger Stellenbosch area.

Considering all mitigation measures recommended in the Visual Impact Assessment (Appendix G3 of the BAR) are implemented the residual impact would be of a residential development set into an existing landscape with effective visual, physical and spatial links to the surrounding land uses. The proposed development would have carefully resolved edge treatments which would create a successful interface between the proposed and existing uses. The extent of the visual impact would not reduce or expand, but the absorption capacity and the compatibility ratings would increase. The local visual landscape quality would not be negatively impacted upon.

The overall impact upon heritage resources will be visually acceptable and Moderate-Low considering that all recommended mitigation measures are implemented. This may reduce to Low when the trees are established – refer to the HIA included under Appendix G4 of the BAR.

The proposed development can be adequately serviced with civil services – refer to the Civil Services Report (Appendix L2 of the BAR).

The proposed development can be adequately serviced with electrical services – refer to the Electrical Services Report (Appendix L3 of the BAR).

The Traffic Impact Statement (TIS) is in support of the development proposal – refer to the Traffic Impact Statement (TIS) included under Appendix G5 of the BAR.

A need for residential development has been identified and the desirability of such residential development in the specific location has been indicated.

## 1. Land Use Zoning

Although the site is located within the urban edge and are part of the Raithby township, the erven are still zoned Agriculture and Rural Zone in accordance with the provisions of the Stellenbosch Municipality: Zoning Scheme By-Law, 2019. The site would therefore need to be rezoned to an appropriate zoning before it may be utilised for township development purposes. The required composite application has been submitted to the Stellenbosch Municipality (Application No. LU/10035) – refer to Appendix L4 of the BAR.

## 2. The Provincial Spatial Development Framework

The guiding principle of the Western Cape PSDF is sustainable development. Accepted international consensus is that sustainability consists of three pillars, often referred to as the “triple bottom line”, namely “economic efficiency / prosperity”, “ecological integrity” and “social equity”. The triple bottom line propagates a holistic approach.

The overall policy objective of the PSDF is therefore to secure environmentally sustainable development and the use of natural resources while promoting socio-economic development of the Western Cape Province. The aim of the PSDF is to:

- Give spatial expression to the National Development Plan and provincial (i.e. OneCape 2040) development agendas;
- Serve as basis for co-ordinating, integrating and aligning ‘on the ground’ delivery of national and provincial departmental programmes;
- Support municipalities to fulfil their municipal planning mandate in line with the national and provincial agendas;
- Communicate government’s spatial development intentions to the private sector and civil society.

The PSDF is based on a number of guiding principles that are relevant to the proposed development namely:

- Spatial justice;
- Sustainability and resilience;
- Spatial efficiency;
- Accessibility;
- Quality and liveability.

a) Spatial justice

A socially just society is based on the principles of equality, solidarity and inclusion. While equal opportunity targets everyone in the community, social justice targets the marginalised and disadvantaged groups in society. Past spatial and other development imbalances should be redressed through improved access to and use of land by disadvantaged communities.

The proposed development does not specifically address spatial justice through, e.g. the provision of low-cost housing. It should however be noted that the proposed development will diversify the residential mix and products offered by the site and the wider Raithby town. This will assist in diversifying the market segments that the proposed development will be able to serve.

It is likely that the proposed development will be beneficial to the surrounding properties as it will contribute to the value of surrounding properties, a large proportion held by previously disadvantaged individuals, with the associated economic benefits of better returns and improved access to capital.

b) Sustainability and resilience

Land development should be spatially compact, resource-frugal, compatible with cultural and scenic landscapes and should not involve the conversion of high potential agricultural land or compromise eco-systems. Resilience is about the capacity to withstand shocks and disturbances such as climate change or economic crises, and to use such events to catalyse renewal, novelty and innovation. The focus should be on creating complex, diverse and resilient spatial systems that are sustainable in all contexts.

It should be noted that the proposed development –

- Is spatially compact (taking the property's surrounding context into account);
- Falls within the urban edge;
- Does not compromise eco-systems;
- Does not compromise viable agricultural land.

c) Spatial efficiency

Efficiency relates to the form of settlements and use of resources - compaction as opposed to sprawl and mixed-use as opposed to mono-functional land uses. When a settlement is compact, higher densities provide thresholds to reduce overall energy and resource use and lower user costs.

The proposed development –

- Is spatially efficient;
- Diversifies the residential options offered by the site and the larger Raithby town.

d) Accessibility

Improving access to services, facilities, employment and recreation, including improving the choice of safe and efficient living environments is essential to achieving the stated settlement transitions of the National Development Plan (NDP) and OneCape 2040.

e) Quality and liveability

The quality of an environment directly contributes to its liveability. A good environment is one that is legible, diverse, varied and unique. The legibility of a space is contributed to the existence of landmarks such as notable buildings and landscaping or well-defined public space, as well as the legibility and structure of its street networks. Diverse environments provide

a variety of opportunities, experiences and choice. The more varied a place, the more valued because of the individual qualities that make it distinctive from other places.

Liveable settlements feature a balance between individual and community, of logic and feeling, of order and random incident. In many cases, a development or town's public realm provides coherence and order, while private ventures introduce variety and interest. One condition benefit from the other. The quality of space can define the liveability of a place. They need to be safe and attractive.

The proposed development has been designed to provide a legible, quality environment for its future inhabitants and the wider Raithby town.

The PDSF states that in order to secure a more sustainable future for the Province, it is important that settlement planning and infrastructure investment achieve inter alia:

- Higher densities;
- A shift from a suburban to urban development model;
- More compact settlement footprints to minimise environmental impacts, reduce the costs and time impacts of travel and enhance provincial and municipal financial sustainability in relation to the provision and maintenance of infrastructure, facilities and services.

### 3. Municipal Spatial Development Framework

The Stellenbosch Municipal Spatial Development Framework (SDF) was approved by the Stellenbosch Council on 11 November 2019. The Stellenbosch Municipal SDF forms part of the approved Stellenbosch Integrated Development Plan (IDP) and constitutes the spatial development framework for the Stellenbosch municipal area in terms of the provisions of the Municipal Systems Act, 2000 (MSA), Spatial Planning and Land Use Management Act, 2013 (SPLUMA), the Western Cape Land Use Planning Act (LUPA) and the Stellenbosch Municipality Land Use Planning By-Law, 2015.

The 'Guiding Concept' (October 2018) underpinning the Stellenbosch Municipal SDF notes inter alia the following:

- Poverty has deepened and key sectors, which traditionally accommodated unskilled workers, show slow growth;
- Infrastructure backlogs exist;
- The need for housing and shelter, both for the lower income groups and those with employment, has not been adequately met;
- The Municipality does not have the resources to fundamentally reverse backlogs or negative trends in shelter or infrastructure needs;
- Although Stellenbosch has grown, it has been unsuccessful in addressing current and future housing needs. The demand for housing is increasing faster than housing provision.

The Stellenbosch municipal area has a current housing need of more than 25 000 housing units [Stellenbosch Municipal SDF status quo (2018)]. This need includes all socio-economic groups. To put this into perspective, the current housing stock in the municipal area would need to be doubled to meet this demand. Raithby has a modest, but valuable role to play in addressing this need.

The Stellenbosch Municipal SDF promotes higher densities as it enables inter alia efficiency in resource utilisation (e.g. land), efficiency in infrastructure provision and the thresholds for entrepreneurship development.

In relation to Raithby, the Stellenbosch Municipal SDF states that areas for residential densification and infill should focus on undeveloped land within the urban edge. The site represents such an opportunity.

The spatial plan for Raithby indicates inter alia the following:

- Erven 252 and 298 are both located within the urban edge of Raithby;
- Erf 252 is indicated as forming part of the existing cadastral fabric of Raithby and Erf 298 is specifically demarcated as "Mixed Use Community and Residential Infill";
- Watson Way is indicated as a "Main / Secondary Road";
- A "New Road Linkage" to Erf 298 is indicated at its south-eastern boundary;
- Erven 252 and 298 are not part of the "Urban Agricultural Areas Retained", the "Critical Biodiversity Areas" or "Green Areas Retained";
- Erven 252 and 298 are located outside of the "Existing and Proposed Urban Character Areas".

The proposed development of a mixed residential development and associated infrastructure is consistent with the directives of the Stellenbosch Municipal SDF.

#### 4. Environmental Management Framework

According to the screening report, the site does not intersect with any EMF areas.

##### Stellenbosch Environmental Management Framework (September 2018)

The Stellenbosch Environmental Management Framework (September 2018) recognises that, from an ecological perspective, sustainable development amounts to living equal to or below the carrying capacity of the land – that is, not taking resources from the environment faster than they can be replenished.

The site contains no areas categorised as CBAs or ESAs and it is also not located inside any areas that are recognized as being ecologically significant.

The EAP is of the opinion that the approval of this application will not compromise the integrity of the existing environmental management priorities for the area.

#### 5. Western Cape Biodiversity Spatial Plan

The site is transformed and although now lying fallow is not showing any signs of reverting to a natural condition. The site contains no areas identified as critical biodiversity areas or ecological support areas and there are no watercourses present on site. Refer to Section G4 of the BAR for a more detailed description of the site biodiversity.

### DESCRIPTION OF ENVIRONMENTAL ATTRIBUTES

#### 1. Ground water

According to the Department of Water and Sanitation (DWS) data available on Cape Farm Mapper, the proposed development will be located above a minor aquifer. The proposed development is not expected to impact on any groundwater resources.

Furthermore, the groundwater level is deeper than 8 metres below ground level. The proposed development is not expected to impact on any groundwater resources.

## 2. Surface water

No watercourses are present on the site.

According to GIS data from Chief Directorate: National Geo-spatial Information (NGI) and the Department of Water and Sanitation (DWS), obtained from Cape Farm Mapper, there are non-perennial rivers located north-west and south-east of the site.

The watercourse south-east is less than 100m from the site however it is located on the opposite side of Watson Way road.

North-west of the site are a few dams linked to a non-perennial river. These dams have been identified as artificial and natural channelled valley-bottom wetlands in terms of the NFEPA Wetlands data.

The proposed development is not expected to affect any of the watercourses within the vicinity of this site.

## 3. Biodiversity

The Vegetation Map of South Africa, Lesotho and Swaziland (2018) was used to determine the overall vegetation type of the area that the site is located in. According to the VegMap (2018) the original vegetation that would have occurred on site is Swartland Granite Renosterveld.

According to the Botanist, Dr Dave McDonald, the site was historically cultivated and the remains of exotic fodder lupins (*Lupinus* sp.) as well as many other exotic weeds now inhabit the site. Kikuyu grass (*Pennisetum clandestinum*), an invasive grass, is widespread throughout the property. Two indigenous species namely *Stoebe plumosa* (slangbos) and *Helichrysum pandurifolium* (ear-leaf strawflower) are present on site. These species colonize disturbed sites as pioneer species in secondary regrowth after disturbance and are therefore good indicators of previous disturbance. Stands of woody alien invasive *Acacia saligna* (Port Jackson Willow) occur with scattered individuals of *Acacia mearnsii* (black wattle) also present. A stand of exotic Napier Fodder (*Pennisetum purpureum*) is located approximately in the centre of the property. This also indicates prior agricultural use of the land.

Dr McDonald is of the opinion that the site is entirely transformed and although now lying fallow is not showing any signs of reverting to a natural condition. It is doubtful that natural Swartland Granite Renosterveld would ever return unaided.

The site also contains no areas identified as critical biodiversity areas or ecological support areas.

As stated earlier, there are no watercourses present on site.

## 4. Heritage Resources

On 20 November 2017, Heritage Western Cape (HWC) issued a response to the NID (Appendix E1), requiring a HIA which is to address the requirements of section 38(3) of the NHRA with specific reference to the following:

- A visual impact study;
- A landscaping plan;
- Suggested alternatives.

An HIA (Appendix G4 of the BAR) was undertaken in adherence to the requirements of HWC.

a) Heritage Resources Identified

*i. The site*

The site straddles an area not deemed conservation worthy and is included in the Urban Edge. The site has no intrinsic significance nor historical associations and has not formed part of the Raithby historical settlement. It has limited visual value.

The development site is located close to the western edge of the village, but there is no sense of a 'gateway' where 'arrival' could be experienced.

However, by virtue of its rural character and its elevation, and with a ridgeline crossing the site, it forms both a contextual backdrop to Raithby and separates it from the rural area behind and to the north of the village. Grade III C is suggested.

*ii. Raithby historic area*

The Raithby village retains distinct and legible elements of its mission town layout, especially in its garden plots and linear development. However, more importantly it has significant social/historical associations with slavery.

*iii. The surrounding landscape*

The surrounding landscape is a largely unspoilt, relatively isolated rural area, although not, it is argued by this author, especially vivid or significant in visual or cultural landscape aspects. The visual significance of much of the local area is somewhat constrained by folds in the landscape and the trees.

b) Heritage Indicators

Heritage indicators which should guide development of the site are as follows:

- Inclusivity: Mission towns in SA are of great historical social significance, providing shelter and viable land for subsistence agriculture at a time when land was almost entirely alienated for white usufruct. Residence on mission land was not however without complication. It is important that development in Raithby does not compound historical inequalities, respects the local community and does not exclude.
- Protection of existing mission settlement morphology: The clear structure, pattern and context of the historical settlement should not be eroded. In particular, the garden plots and links to residences, and the core civic area must be retained as an essential feature of the settlement and as indicative of its historical origins as a mission settlement.
- Limiting intrusion in the agricultural landscape: Development of the site must be understood in terms of its relationship to the broader context, wherein the dominance of the surrounding rural landscape is a key consideration. The visually clear rise of the hills and cultivated slopes north and south of the village provide visual containment and an agricultural context to Raithby.

Given the elevation of the site, development of the site could intrude upon the scenic qualities of near and far views towards Raithby and these should not be compromised. Mitigation measures should make the development as visually unobtrusive as possible (through planting, restriction of height, and building massing and layout).

- Retention of rural village qualities: Although the site is situated within the Urban Edge, the setting is rural village rather than urban and the proposed development needs to

recognise this rural sense of place in the design, density and layout of the proposed use.

A compact development footprint, with well-defined edges must be retained to avoid visually cluttering and eroding the agricultural landscape. Particular attention must be paid to sensitive edge treatment where the property borders agricultural land. Hard boundary treatment, over-scaled and architecturally inappropriate entrances, road engineering interventions that undermine the rural/village qualities of the route and visual clutter caused by a proliferation of signage must be avoided.

Development patterns, density, scale and building typologies should respond to the rural settlement patterns of Raithby and avoid urban and suburban development patterns.

Traditional planting patterns should be maintained, reinforced or, if necessary, replaced, with linear tree planting at the property boundaries and clumps of mature trees within the site.

#### c) Historical and Cultural Aspects

According to the visual specialist, Karen Hansen, Raithby is a Mission village and is mainly, but not exclusively, single storey residential with some new residential and some commercial and institutional uses. The local landscape setting is agricultural and quite well treed. The development site is gently sloping and visible to some receptors living in the village, as well as local farmhouses and transport corridors. No protected landscapes are inter-visible with the site.

The visual impacts associated with the proposed development was assessed in the Visual Impact Assessment (VIA) included under Appendix G3 of the BAR. Also refer to Section G8 point 8.4 of the BAR for a more detail on the potential visual impact.

#### 5. Socio/Economic Aspects

Raithby is located in Stellenbosch local municipality, within the province of Western Cape.

##### a) Demographics

According to Statistics South Africa (Stats SA), the population of Raithby was estimated at 908 and the number of households at 217 in 2011. The average household size is 4 people with 30.7% being female headed.

##### b) Living conditions

Overall Raithby consist of urban settlements. Access to refuse removal and electricity are significantly high at 93.1% and 95.9% respectively while household access to water and sanitation was at 88%.

##### c) Education

31.9% of the population of Raithby (aged 20+) has matric with 33.7% having some secondary qualification.

##### d) Economy

According to Stats SA (2011), the majority of the average household income in Raithby is between R 76 401 – R 153 800.

As mentioned earlier, the demand for housing within the Stellenbosch Municipal area is increasing faster than housing provision. The Stellenbosch municipal area has an estimated

shortage of around 25 000 housing units. This need includes all socio-economic groups. The current housing stock in the municipal area would need to be doubled to meet this demand. Raithby has a modest, but valuable local role to play in addressing this need.

The proposed development would contribute to the local community by providing housing, employment and business opportunities during both the development and operation phase of the development.

## PUBLIC PARTICIPATION PROCESS

Section F of the BAR outlines the various tasks to be undertaken as part of the PPP as per Regulation 41 of the NEMA EIA Regulations, 2014 (as amended), and DEA&DP's Guideline and Information Document Series [Guideline on Public Participation].

Two rounds of public consultation and authority review will be undertaken (i.e. on the pre-application BAR (done) and the draft BAR). The PPP will be undertaken as described in the Public Participation Plan included under Appendix F2 of the BAR.

Potential Interested and Affected Parties ("I&APs") and organs of state will be identified throughout the process. An PPP register will be opened, maintained, and made available to any person requesting access to the register in writing. The PPP Register is included under Appendix F1 of the BAR.

### 1. Pre-Application PPP (Completed)

The pre-application BAR was made available for a 30-day commenting period to potential I&APs, state departments and authorities with jurisdiction in the area.

To ensure that reasonable opportunity was provided for public participation during the current COVID-19 pandemic the following methods to give notice to potential I&APs were followed as part of this BA process.

The intention was to notify all potential I&APs, owners, and occupiers of land adjacent to the site. Notifications were sent to all potential I&APs via email or post to those with email or postal addresses.

Written notifications were sent via email to the owner or person in control of the land, and the occupiers of the site.

Written notifications were sent via email to the municipal ward councillor and any organisation of ratepayers that represent the community in the area.

The Stellenbosch Local Municipality, any organ of state having jurisdiction in respect of any aspect of the activity, and any other party as required by the competent authority, DEA&DP, were notified via email of the proposed development and the availability of the pre-application BAR for their comment.

Refer to the proof of written notifications sent is included under Appendix F3 of the BAR.

An advertisement of the proposed development was placed in the Distrikspost newspaper. Refer to the proof included under Appendix F4 of the BAR.

A notification board was fixed on the fence of the site. Refer to the proof included under Appendix F5 of the BAR.

An additional notice board was fixed at a shop called Raithby Stores (13 Watson Way, Raithby, 7130). Refer to the proof included under Appendix F5 of the BAR.

The pre-application BAR was made available on Doug Jeffery Environmental Consultants' company website ([www.dougjeff.co.za](http://www.dougjeff.co.za)).

The pre-application BAR was provided to relevant State Departments and Organs of State. Their comment was requested in terms of Section 24O of NEMA. Refer to the proof included under Appendix F3 of the BAR.

All comments received from I&APs, state departments and organs of state on the pre-application BAR are included under Appendix F6 of the BAR.

All comments received during this commenting period were responded to in the comments and response (C&R) report that is included under Appendix F7 of the BAR.

The draft BAR will be circulated to registered I&APs, Organs of State and State Departments for a further 30-day commenting period in the statutory process.

## 2. Statutory PPP

After submission of the application for EA, registered I&APs and authorities had the opportunity to comment on the draft BAR. No extensions were allowed during the commenting period as a result of these strict timeframes. Below is a brief summary of the PPP undertaken as part of the statutory process.

This draft BAR was made available for another 30-day commenting period to registered I&APs, state departments and authorities with jurisdiction in the area.

Registered I&APs, state departments and authorities with jurisdiction in the area, were notified in writing of the availability of the draft BAR.

All comments received during the 30-day comment period are included under Appendix F6 of the final BAR. All comments received were responded to in the C&R report - see Appendix F7 of the final BAR.

The final BAR is being submitted to the DEA&DP, with all comments received and the responses thereto, for their consideration and decision-making process.

## POTENTIAL IMPACT AND RISK IDENTIFIED

The following tables provides a summary of the positive and negative impacts and risks that the proposed development will have on the environment and community.

Refer to the Impact Assessment Tables included under Appendix J of the BAR for a detailed assessment of the potential impacts and risks identified.

The potential impacts and risks identified for both Layout Alternatives (i.e. Alternative 1 and Alternative 2 - the preferred option) are similar. These potential impacts and risks are described below.

1. Planning, Design and Development Phase

Activities	Description	Aspects	Potential impacts
Geographical, geological and physical aspects			
Establishment of the residential estate	The establishment of a residential estate on Erf 298 requires the rezoning of Erf 298, Stellenbosch from its current zoning of Agricultural Zone 1 to an appropriate zoning. The proposed rezoning means a loss of agricultural land for farming purposes.	Change of land use	Loss of agricultural land
The use of construction vehicles and other construction machinery	Ad hoc spillages or leakages from construction vehicles during construction could result in the contamination of soil and groundwater.	Spillages or leakages	Soil and groundwater contamination
Establishment of the residential estate	The building of hard surfaces necessitates the control of stormwater runoff to avoid potential erosion and loss of topsoil.	Stormwater management	Erosion and loss of topsoil
Ecological aspects			
Site clearance	The proposed development entails the clearance of an area of more than 300m <sup>2</sup> but less than 20 hectares of critically endangered vegetation.	Clearance of indigenous vegetation	Loss of critically endangered vegetation
Social and Economic aspects			
Establishment of the proposed development	The proposed development has the potential to provide business and employment opportunities during the construction phase of the development.	Business and employment opportunities	Positive impact on employment and the local economy
Development of the proposed estate	Visual intrusion of construction vehicles and activities on site, locally including lighting; disturbance to adjacent residential areas.	Change in character of the site	Visual intrusion
Nuisance factor			
The use of construction vehicles and	The use of construction vehicles and other construction machinery will increase the	Increased noise levels	Noise nuisance

Activities	Description	Aspects	Potential impacts
other construction machinery	noise levels during working hours. Increased noise levels may be a nuisance factor to neighbouring land occupiers.		
Clearance of the site, earthworks, use of construction vehicles and other construction machinery	Dust generation as a result of earthworks and construction activities during the development phase. The potential dust impact will be low as long as the recommended management and mitigation measures are implemented.	Increased dust levels	Dust nuisance
Transport, Traffic and Access			
Construction of the proposed development	Additional traffic during the construction of the proposed development.	Increased movement of construction workers and vehicles	Traffic impact

## 2. Operational Phase

Activity	Description	Aspect	Potential impacts
Social and Economic aspects			
Operation of the residential estate	The proposed development has the potential to provide business and employment opportunities during the operation phase of the development.	Business and employment opportunities	Positive impact on employment and on the local economy
Operation of the residential estate	Indirect exclusion of local residents by virtue of pricing (intangible) – from a heritage perspective.	Social cohesion	Loss of social cohesion in ex-mission town
Heritage and Cultural aspects			
Presence of a residential estate	The site is peripheral in character can be seen from parts of the village; visual signposts to signal its exact location are few, but local trees assist with placing the site in the landscape. Its significance can be measured by its spatial relationship with the village and its degree of visual exposure. The significance of	Change in character of the site	Impact upon core historical area

Activity	Description	Aspect	Potential impacts
	much of the local area is somewhat constrained by folds in the landscape and the trees.		
Operation of the residential estate	The proposed land uses, the scale, density, and the finishes of the proposed built form affect visibility.	Change in land use	Impact on character of the site
Presence of a residential estate	Relatively large-scale suburban/urban development in very small village will disrupt rural qualities.	Development scale	Impact on sense of place
Transport, Traffic and Access			
Operation of the residential estate	Additional traffic resulting from the new estate development.	Increased traffic volumes	Traffic impact

No further impacts or risks have been identified.

## ALTERNATIVES

### 1. Property and site alternatives

No site alternatives were considered as part of this application since the proposed development entails the establishment of a residential estate on Erf 252 and 298, Raithby.

The proposed development is specific to the site as the proposed land uses and layout are informed by inter alia planning policies and directives, the residential character of Raithby, the site's topographical characteristics and the surrounding rural environment.

### 2. Activity alternatives

No activity alternatives were considered as part of this application since the proposed development entails the rezoning and subdivision of the site to allow for the establishment of the Newlands Estate. The proposed development is informed by inter alia planning policies and directives, the residential character of Raithby, the site's topographical characteristics and the surrounding rural environment.

### 3. Design or layout alternatives

#### a) Initial Development Concept

An initial development proposal was formulated. This initial proposal extends the existing conventional detached residential development format in Raithby, albeit on smaller cadastral properties. The proposal was generated with limited site survey information being available and before scoping was undertaken with the Stellenbosch Municipality. At this stage, Erf 252 did not form part of the site.

The main components of this concept consist of the following:

- A total of 62 conventional detached dwellings (erven  $\pm$  500m<sup>2</sup> in extent);
- A clubhouse in close proximity to the entrance;
- Centrally located open space forming a 'village green';
- Access via existing road reserves that connect to Watson Way to the southeast;
- Circular internal access road.

A sense of community is pursued by the centrally located open space, circular access road and clubhouse.

b) Alternative 1

As more information became available (e.g. detailed site survey, visual baseline study, heritage baseline study, etc.) and initial scoping with authorities took place, the development concept was amended to constitute the following:

- A total of 107 residential units;
- 30 conventional detached dwellings (properties  $\pm$  400m<sup>2</sup> - 500m<sup>2</sup> in extent);
- 27 town housing erven/units, semi-detached / row houses (properties  $\pm$  170m<sup>2</sup> in extent);
- 50 apartment units, spread over 5 detached, double storey buildings (ground + first floor);
- A clubhouse located in a central position;
- Centrally located open space forming a 'village green', connected to other open space areas;
- Integrated footpath system;
- Access via existing road reserves that connect to Watson Way to the southeast;
- Internal access roads;
- One internal electrical substation site;
- Provision for centralised refuse collection.

Alternative 1 differs from the initial concept as follows:

- The types of residential erven and units offered were diversified. This assisted in diversifying the market segments that the proposed development will be able to serve;
- The total number of residential units could be increased, thereby promoting densification and more efficient use of resources and land as promoted by the PSDF and Stellenbosch Municipal SDF;
- Stormwater would be retained on site; which stormwater management will form part of an integrated open space system;
- More space for tree planting along the ridgeline / watershed could be created to break up the scale of the built form;
- The inclusion of dedicated planting along the perimeter of the site to mitigate visual impact and manage the interface with the surrounding environment;
- Provision of an integrated footpath system;
- Traffic calming measures (i.e. median islands) were introduced in the two longer, southeast-northwest stretching roads at its highest geographical position (watershed). It was also proposed to introduce tree planting in the centre medians to break the linear form of the roads and soften the skyline.

At this stage, Erf 252 did not form part of the site.

Refer to the Site Layout Plan for Alternative 1 included under Appendix B1 of the BAR.

c) Alternative 2 - The Preferred Alternative

The preferred layout alternative (Alternative 2) comprises the following (see Figure A):

- A total of 116 residential units;
- 32 conventional detached dwellings (erven  $\pm$  400m<sup>2</sup> to 1 080m<sup>2</sup> in extent, average extent of  $\pm$  500m<sup>2</sup>);
- 30 semi-detached / row houses (properties  $\pm$  170m<sup>2</sup> in extent);
- 54 apartment units, spread over 5 detached, double storey buildings (ground + first floor);
- A clubhouse located in a central position;
- Centrally located open space forming a 'village green', connected to other open space areas;
- Integrated footpath system;
- Main access via Watson Way and a secondary, emergency access / exit provided via Erf 290 (portion of road) and Wagner Street;
- Internal access roads;
- One internal electrical substation site;
- Provision for refuse collection along Watson Way.

The preferred development, Alternative 2, differs from Alternative 1 as follows:

- Main access obtained directly via Watson Way and a centrally located main, internal access road;
- Improved legibility of the road network;
- Improved layout and urban design;
- Previous main access point is now a second, emergency access / exit;
- An increase in the total number of residential units (an increase of 9 units);
- Apartment component now fragmented into two sections (western and eastern);
- Simplification of stormwater management within the site and the eventual connection to the existing system along Watson Way.

The acquisition of Erf 252 provided an opportunity to provide access to the proposed development directly from Watson Way and increasing the area available for residential development.

Alternative 2 is the preferred alternative for the following reasons:

- The approved Stellenbosch Municipal SDF indicates that Erven 252 and 298 are located within the urban edge of Raithby;
- The approved Stellenbosch Municipal SDF indicates Erf 252 as forming part of the existing cadastral fabric of Raithby and Erf 298 is specifically demarcated as "Mixed Use Community and Residential Infill";
- The proposal for the establishment of a mixed residential development is consistent with the guiding principles as contained in the PSDF and Stellenbosch Municipal SDF.



Figure A: Layout of the Preferred Alternative (Alternative 2).

Refer to the Site Layout Plan for the Preferred Alternative included under Appendix B1 of the BAR.

#### 4. Technology alternatives

No technology alternatives were considered as part of this application since the proposed development entails the rezoning and subdivision of the site to allow for the establishment of the Newlands Estate.

#### 5. Operational alternatives

No operational alternatives were considered as part of this application since the proposed development entails the rezoning and subdivision of the site to allow for the establishment of the Newlands Estate.

#### 6. **'No-Go' Option**

The option of not implementing the proposed activities will result in the status quo of the property being maintained. This would mean that the proposed development will not take place on this site, and no disturbance will be caused to any environmental aspects on site.

This option will also result in social and economic benefits to be forfeited. The property is likely to remain in its current undeveloped state without contributing towards improving the local scenario. The multiplier effects of development will also be forfeited.

The site is located within the urban edge; and it is earmarked for the purposes of "Mixed Use Community and Residential Infill". The alternative of not implementing the proposed development will not be in agreement with the Stellenbosch Municipal SDF.

#### 7. **"No-Go" areas**

No "no-go" areas have been identified on site.

### FINDINGS OF THE IMPACT ASSESSMENT

#### 1. Findings of The Land Capability Study

Medium low to low potential soils are prevalent across Erf 298 in Raithby, Stellenbosch. A dense clay-rich saprolite layer which occurs at depths of 40-60cm from the soil surface will restrict root penetration and water infiltration and thereby limit the effective useable soil depth. In addition, excessive signs of soil wetness occur throughout the area eluding to the occurrence of waterlogged soil conditions during wetter periods of the year. Acidic soil conditions were also detected from the chemical soil analyses.

Although the initial investigation indicates that the soils are marginally suited to the cultivation of perennial crops, appropriate soil preparation and amelioration techniques (e.g. deep soil tillage, ridging, drainage, liming) can serve to significantly approve the soils ability to sustain perennial crop production. In the area adjacent to Erf 298, vines are being actively cultivated as evidence thereof.

From the evaluated climatic data, it is evident that the climatic conditions important for perennial crop production at Erf 298 does not adversely differ from five of the major fruit and vine producing areas in the Western Cape. As a result, climate cannot be seen as a direct constraint for crop production in this area. What is however important and something that significantly reduces the sustainability of the site as a productive agricultural unit, is the fact that no additional water is allocated to the property. Although the annual total rainfall in the area is close to adequate to support vine requirements, the distribution of the rainfall implies that supplementary irrigation would need to be provided during certain stages of the growing season. In the case of vines, the predicted amount is around 250-300mm per year. Although this is a relatively low water requirement that can be applied by means of a dragline irrigation

system, the fact that no water can be stored on or actively pumped to the property means that no irrigated agriculture can take place.

In conclusion, the soil and climatic features recorded at Erf 298 in Raithby are suited to support perennial crop production. However, the size of the area together with the fact that no additional irrigation water is allocated to the property implies that Erf 298 cannot be seen as a sustainable and economically viable agricultural unit.

It must be noted that the Department of Agriculture, Land Reform and Rural Development issued a letter on 17 May 2021 stating that the Department has no objection against the proposed rezoning of Erf 298 and Erf 252 Raithby from an agricultural point of view. Refer to the Department of Agriculture, Land Reform and Rural Development's letter included under Appendix E3 of the BAR.

Refer to the Agricultural Land Capability Study included under Appendix G1 of the BAR.

## 2. Findings of The Botanical Statement

Based on the field observations it is concluded that the property is entirely transformed and although now lying fallow is not showing any signs of reverting to a natural condition. It is doubtful that natural Swartland Granite Renosterveld would ever return unaided.

It is therefore the botanist's opinion that development of the property would not negatively impact any natural plant community.

Refer to the Botanical Statement included under Appendix G2 of the BAR.

## 3. Findings of The Heritage Impact Assessment

### a) Heritage resources identified

- i. The site: The site has no intrinsic significance nor historical associations and has not formed part of the Raithby historical settlement. It has limited visual value. However, by virtue of its rural character and its elevation, and with a ridgeline crossing the site, it forms both a contextual backdrop to Raithby and separates it from the rural area behind and to the north of the village.
- ii. Raithby historic area: The Raithby village retains distinct and legible elements of its mission town layout, especially in its garden plots and linear development. However, more importantly it has significant social/historical associations with slavery.
- iii. The surrounding landscape: The landscape of the surrounding environment is a largely unspoilt, relatively isolated rural area, although not, it is argued, especially vivid or significant in visual or cultural landscape aspects.

### b) Anticipated impacts on heritage resources

The site is located within the Urban Edge. Erf 252 is already developed with three modern residential dwellings and forms part of the existing cadastral fabric of Raithby and Erf 298 is specifically demarcated as "Mixed Use Community and Residential Infill". Erf 298 has not been farmed in decades. The Land Capability Study notes that the size of the property, together with the fact that no irrigation water is allocated to the property means that Erf 298 cannot be seen as a sustainable and economically viable agricultural unit.

The Heritage specialist is of the opinion that there is a reasonable expectation that residential development could be considered on the site as a whole. This support is given on the understanding that the new development is executed in a controlled manner sensitive to the historic character of the town.

With mitigation, the development is found to be generally acceptable with moderate-low impacts. There may be sustainable, long term positive benefits for the local economy, which outweigh any negative impacts upon heritage resources.

#### c) Recommendations

On the basis of this assessment, it is recommended that, in terms of section 38(8) of the NHRA, HWC support the proposed development and allow the development to proceed to the next phase, provided:

The development is substantially in accordance with the layout described in the BAR as the Preferred Alternative; and the associated Landscape Master Plan (Appendix B2 of the BAR); and Architectural Design Guidelines (Appendix L5 of the BAR).

The mitigation measures described in the HIA are implemented in full in all important respects.

Refer to the HIA included under Appendix G3 of the BAR.

### 4. Findings of The Visual Impact Assessment

#### a) The Site and the Proposed Land Uses

Raithby is a Mission village and is mainly, but not exclusively, single storey residential with some new residential and some commercial and institutional uses. The local landscape setting is agricultural and quite well treed. The development site is gently sloping and visible to some receptors living in the village, as well as local farmhouses and transport corridors. No protected landscapes are inter-visible with the site.

#### b) Visual Sensitivity

Local residents in the village and on farms, and the village townscape, are considered sensitive receptors. The local site character of Erf 298 would change from agriculture to a residential development; it would also change from an open, uncluttered and calm setting for adjacent users, to a cluttered, busy peri-urban setting. The character of Erf 252 would not change.

The character of the local landscape and townscape is deemed to be able to accommodate this change which is the extension of residential built form.

#### c) Visual Statement

The preferred and the Alternative 1 layouts scored similarly in their degree of impact as the salient features, (mainly the range of residential typologies), of the proposed layouts are similar. However, the use of Erf 252 to increase the area originally proposed, which was only Erf 298, has not only provided for some more dwelling units, but has also enabled an extended site to provide more space for retention ponds and tree planting. The preferred layout is assessed as integrating well into a village character due to the shared boundary with Watson Way, while the alternative layout would utilise only Wagner Road.

The visual envelope is limited within the village due to the clutter of built form but opens out in agricultural areas; tree groups play a significant role in channelling the vistas from some locations.

#### d) Visual Impact Rating

The visual impact has been initially rated as moderate eventually reducing to low when mitigation measures would be established; this is due to the location and the nature of the proposed development. The impact would be expected to reduce further when the trees establish.

e) Conclusion

The proposed development would not in visual terms, detract from the visual qualities of the local landscape and townscape character, either quantitatively or qualitatively.

Note is taken of the visual implications of the proposed rezoning to Sub-divisional area to facilitate the proposed development.

f) Recommendation

It is the finding of this assessment that the preferred layout, which is a combination of units not exceeding two stories in height, along with open spaces, tree planting, and a physical and spatial connection to Watson Way, would be visually acceptable and could proceed, if mitigation measures would be undertaken. These measures are desirable as they improve the acceptability of the development, and they should be included as conditions of authorisation.

Refer to the VIA included under Appendix G3 of the BAR.

5. Findings of The Traffic Impact Statement

The TIS is in support of the proposed development.

The proposed development access will be obtained from Watson Way, and emergency access via Wagner Street. The proposed development has the potential to generate 108 peak hour trips. Traffic calming exists along Watson Way in the form of speed humps in the vicinity of the subject property.

Based on the traffic analyses, dedicated turning lanes are not required along Watson Way at the access-intersection, but a dedicated right-turn lane might be required along Watson Way at the said intersection. It is however the opinion of the Traffic Engineer that a dedicated right-turn lane rather be provided along Winery Road at the eastern access to Raithby and that the said upgrade be implemented by way of DC's payable and/or additional funding by the roads authorities.

The proposed security controlled access will consist of two lanes in and one lane out which will be able to accommodate emergency vehicles as well, and that available stacking between the proposed security controls and the edge of Watson Way is  $\pm 27$  metres, which is considered sufficient for the proposed development.

The internal streets consist of minimum 5.5 metre surfaced widths and minimum 5.0 metre radii, which should be sufficient for the proposed development.

A raised pedestrian crossing in line with the open spaces (towards the clubhouse) could be considered to provide traffic calming along the internal streets.

A refuse room is provided at the access, with accompanying embayment for refuse vehicles along Watson Way (outbound leg at the access-intersection).

Sufficient parking will be provided in line with the Stellenbosch Zoning Scheme Regulations, with additional parking bays to the outside of the security-controlled access, and that dimensions of parking provided are considered sufficient.

No additional formal public- or non-motorised transport facilities will be required.

Refer to the TIS included under Appendix G5 of the BAR.

a) Concluding Statement of Findings

The preferred alternative (Alternative 2) entails the development of a residential estate, containing a variety of residential options (total of 116 residential units), arranged around a large, central open space as well as other connected open spaces and landscaped areas.

From a visual perspective the impact significance of both layout alternatives is similar as the salient features of the proposed layouts differed only in their internal design, but the preferred layout is one which would integrate more easily into a village character due to the mix of house types and use of open spaces. Its layout would be in accord with 'local idiom' as identified in the locality.

The proposed development would not in visual terms, detract from the visual qualities of the local landscape and townscape character, either quantitatively or qualitatively.

The Visual Impact Assessment (Appendix G3 of the BAR) concluded that the preferred layout, which is a combination of units not exceeding two stories in height, along with open space and tree planting, would be visually acceptable and could proceed, if the proposed mitigation measures are undertaken. These measures are desirable as they improve the acceptability of the development.

From a heritage perspective the preferred alternative the overall impact will be visually acceptable and moderate-low. This may reduce to low when the trees are established. Refer to the HIA included under Appendix G4 of the BAR.

## ENVIRONMENTAL IMPACT STATEMENT

After considering and assessing the potential environmental impacts associated with the proposed development, it was found that the proposed development will not have any significant or detrimental impacts on any environmental aspects that could result in any fatal flaws. All impacts identified can be mitigated to acceptable levels of significance.

The impacts of the proposed activities associated with the construction phase would largely be associated with medium-low negative to negligible significance, assuming full mitigation measures are implemented. These impacts are readily and practically mitigable.

The proposed development will have a positive socio-economic impact since it will be providing additional housing, employment and business opportunities. Employment opportunities will be created during the development phase and thereafter.

From an agricultural perspective, Erf 298 cannot be seen as a sustainable and economically viable agricultural unit.

From a heritage and visual perspective, the preferred layout is acceptable and could proceed, if mitigation measures would be undertaken.

The development is unlikely to have cumulative effects on any environmental aspects.

The proposed development aligns with most of the Stellenbosch Municipality's policies and guidelines. The Stellenbosch Municipal SDF has placed an emphasis on the protection of the natural environment, agricultural land and heritage resources.

The following table summarizes the potential positive and negative impact and risks associated with the proposed development.

Potential impacts	Alternative 1		Alternative 2 - preferred option		No-go option	
	Significance ratings					
	Without mitigation	With mitigation	Without mitigation	With mitigation	Without mitigation	With mitigation
<b>PLANNING, DESIGN AND DEVELOPMENT PHASE</b>						
Loss of agricultural land	Low negative	N/A	Low negative	N/A	N/A	N/A
Soil and groundwater contamination	Low negative	Negligible	Low negative	Negligible	N/A	N/A
Erosion and loss of topsoil	Low negative	Negligible	Low negative	Negligible	N/A	N/A
Loss of critically endangered vegetation	No impact	N/A	No impact	N/A	N/A	N/A
Positive impact on employment and on the local economy	Low positive	Low positive	Low positive	Low positive	N/A	N/A
Visual intrusion	Low negative	Very low negative	Low negative	Very low negative	N/A	N/A
Noise nuisance	Low negative	Negligible	Low negative	Negligible	N/A	N/A
Dust nuisance	Low negative	Negligible	Low negative	Negligible	N/A	N/A
Traffic impact	Low negative	Low negative	Low negative	Low negative	N/A	N/A
<b>OPERATIONAL PHASE</b>						
Potential positive impact on employment and the local economy	Low positive	N/A	Low positive	N/A	N/A	N/A
Impact upon core historical area	Low negative	N/A	Low negative	N/A	N/A	N/A
Impact on character of the site	Medium negative	Medium to low negative	Medium negative	Medium to low negative	No impact	N/A
Impact on sense of place	Medium to high negative	Medium to low negative	Medium to high negative	Medium to low negative	No impact	N/A
Visual impact on local receptors	Medium negative	Medium-low negative	Medium negative	Medium-low negative	N/A	N/A
Traffic impact	Low negative	Low negative	Low negative	Negligible	N/A	N/A

## CONCLUSIONS AND RECOMMENDATIONS

After considering and assessing the potential environmental impacts associated with the proposed development, it can be concluded that the proposed development is not expected to have any significant detrimental impacts on any environmental aspects that could result in any fatal flaws. All impacts identified can be mitigated to acceptable levels of significance.

The proposed development aligns with most of the Stellenbosch Municipality's policies and guidelines. The Stellenbosch Municipality's SDF has placed an emphasis on the protection of the natural environment, agricultural land and heritage resources. In this regard:

- No agriculture activities have taken place on the property within the past 26 years;
- From a botanical perspective, the property is entirely transformed and although now lying fallow is not showing any signs of reverting to a natural condition;
- The development of the property would not negatively impact any conservation worthy vegetation or eco-system;
- Medium low to low potential soils are prevalent across the property;
- The limited size of the property, together with the fact that no additional irrigation water is allocated to the property, imply that Erven 298 and 252 cannot be seen as a sustainable and economically viable agricultural unit;
- From a visual impact standpoint, the property can be considered for residential purposes;
- From a heritage impact standpoint, the property can be considered for residential purposes;
- Not utilising Erven 298 and 252 to its full potential for township purposes will displace development pressure on other properties, which properties may be sensitive from a natural, agricultural, visual and heritage perspective;
- The property is vacant and underutilised, and is currently not making a productive contribution to the economy and wellbeing of Raithby nor the larger Stellenbosch area;
- A need for residential development has been identified and the desirability of such residential development at the property has been indicated.

As stated previously, it must be noted that the Department of Agriculture, Land Reform and Rural Development stated that the Department has no objection against the proposed rezoning of Erf 298 and Erf 252 Raithby from an agricultural point of view. Refer to the Department of Agriculture, Land Reform and Rural Development's letter included under Appendix E3 of the BAR.

*It is therefore recommended that Alternative 2 be approved, with adherence to the mitigation measures recommended by specialist and as provided in the BAR.*