LORNAY
ENVIRONMENTAL CONSULTING

ENVIRONMENTAL MANAGEMENT PROGRAMME

PROPOSED REZONING AND SUBDIVISION FOR MIXED USE DEVELOPMENT ON ERF 878, RIEBEEK KASTEEL, SWARTLAND

DEA&DP REF No.16/3/3/1/F5/20/2001/25

March 2025

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APPLICANT: Silver Solutions 3371 CC

TITLE: Proposed Rezoning and Subdivision for Mixed Use Development on Erf 878, Riebeek Kasteel, Swartland

REFERENCE: EMP/ERF-878

REPORT DATE: March 2025

STATEMENT OF INDEPENDENCE

Lornay Environmental Consultants nor any of the authors of this report have any material present or contingent interest in the outcome of this report, nor do they have any financial or other interest which may affect the independence of the author(s) or Lornay Environmental Consulting. The consultant fees paid to Lornay Environmental Consulting for the completion of this report is in line with standard professional fees and daily rates. The settling of the professional fee is not dependent on the outcome of the report.

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ACKNOWLEDGEMENT

The preparation of this Environmental Management Programme (EMPr) represents a collaborative endeavour built upon the contributions of the current and previously appointed professionals. Lornay Environmental Consulting (Pty) Ltd, as the current Environmental Assessment Practitioner (EAP), hereby acknowledges the foundational work conducted to date by the previously appointed EAP, Charel Bruwer of Enviro Africa. Charel provided the baseline information for this In-Process reporting phase which has been used to guide the finalisation of this project.

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KEY TERMS AND ABBREVIATIONS

BAR	Basic Assessment Report
CARA	Conservation of Agricultural Resources Act (Act No. 43 of 1983)
DEA&DP	Department of Environmental Affairs and Development Planning (Western Cape)
EA	Environmental Authorisation
ECA	Environment Conservation Act (Act No. 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM:BA	National Environmental Management Biodiversity Act (Act No. 10 of 2004)
NEM:WA	National Environmental Management Waste Act (Act No. 59 of 2008)
PPE	Personal Protective Equipment
SDS	Safety Data Sheets
SHE	Safety Health and Environmental

Basic Assessment - Process followed to receive Environmental Authorisation from the Competent Authority, necessitated by NEMA. The Basic Assessment Report (BAR) is drafted in line with the legislation.

Competent authority - The Department of Environmental Affairs and Development Planning (DEA&DP)

Contractor - the main or specialised contractors as appointed by the developer / applicant for the execution of the works, including all sub-contractors

Environmental Control Officer (ECO) - a suitably qualified person to be appointed by the Developer / Applicant, to oversee the implementation of the EMP and environmental agreement until the completion of works on the site

Environmental Management Plan / Programme (EMP/r) - this document, approved by the competent authority, to control the implementation of the works on the site in such a way as to ensure that they do not result in undue or reasonably adverse impacts on the environment.

General waste - Waste that does not pose an immediate hazard or threat to health or to the environment, and includes domestic waste, building and demolition waste, business waste and inert waste

Hazardous waste - Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.

Project manager - Overall responsible and accountable person for the site during the construction, operation and decommissioning of the facility.

Project Management team - The responsibility of the EMP implementation resides with this team. This team includes a Project Manager and appointed contractors and consultants.

Safety, Health and Environmental Officer (SHE Representative) – Applicant / developer will appoint one Safety Health and Environmental Officer, assisting the construction manager on Safety, Health and Environmental aspects of the project on the construction site.

Site Manager **–** the employee of the main contractor responsible for the day-to-day control of all activities and operation on site.

Sub-contractor and Contractor - Any provider of services, goods or people to the Applicant / Developer, for the construction, operation or decommissioning.

LEGISLATIVE REQUIREMENTS

A Basic Environmental Assessment process was applicable in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and the Environmental Impact Assessment (EIA) regulations (2014) (as amended). Appendix 4 of the NEMA EIA Regulations (GN. R982) sets out the minimum requirements for the drafting of an Environmental Management Plan (EMP). This EMP has been created in fulfilment of these prescribed requirements for the construction phase of the activity. The implementation of this EMP will be a condition of approval of the Environmental Authorisation (EA). Failure by the applicant, to comply with this EMP, will therefore constitute an offence, and the applicant and / or the appointed contractors can be held liable for penalties and / or legal action. It is therefore important that a copy of this EMP be issued to each contractor, preferably at the appointment stage, in order to allow for the costs of implementing the EMP, to be included in cost proposals. This will also ensure that the contractor is aware of his responsibilities prior to appointment and commencement. Each appointed contractor involved in the project, as well as the project manager (as applicable), will be required to sign for and thereby acknowledge contents of, the approved EMP and therefore abide by the specifications of the document and any amendments thereto.

Other applicable legislation

The Constitution of The Republic of South Africa (Act 108 of 1996)

The Constitution of the Republic of South Africa states that everyone has a right to a non-threatening environment and that reasonable measures are applied to protect the environment. This includes preventing pollution and promoting conservation and environmentally sustainable development, while promoting justifiable social and economic development.

National Environmental Management Act (Act 107 of 1998)

The National Environmental Management Act (NEMA), as amended, makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which require authorisation from the relevant competent authorities. NEMA is a National Act, which is enforced by the Department of Environmental Affairs (DEA). These powers are delegated in the Western Cape to the Department of Environmental Affairs and Development Planning (DEA&DP).

National Environmental Management: Biodiversity Act (Act 10 of 2004)

Chapter 4 of the National Environmental Management: Biodiversity Act, 2004 (NEMBA) deals with threatened and protected ecosystems and species. The need to protect listed ecosystems is addressed (Section 54). Section 73 deals with Duty of Care relating to invasive species, while Section 76(2) calls for development of invasive species monitoring, control and eradication plans by all organs of state in all spheres of government, as part of environmental management plans required in terms of Section 11 of NEMA.

National Environmental Management: Waste Act (Act No. 59 of 2008)

The National Environmental Management: Waste Act (NEM:WA) provides for specific waste management measures (disposal and storage) and the remediation of contaminated land.

National Environmental Management: Air Quality Act (Act No. 39 of 2004)

Section 32 provides provision for the control of dust, section 34 provides provision for the control of noise and section 35 provides provision for the control of offensive odours, all which may be experienced during the construction or operation of an applicable development.

Environment Conservation Act (Act No. 73 of 1989)

The Environment Conservation Act (ECA) provides provision for the prevention of littering by employees and subcontractors during construction and the maintenance phases of development.

Occupational Health and Safety Act (Act No. 85 of 1993)

Section 8 outlines the general duties of employers to their employees and section 9 outlines the general duties of employers and self-employed persons, to persons other than their employees.

Hazardous Substances Act (Act No. 5 of 1973)

This Act provides for the definition, classification, use, operation, modification, disposal or dumping of hazardous substances.

1. INTRODUCTION

Lornay Environmental Consulting (Pty) Ltd has been appointed by Silver Solutions 3371 CC ,the "applicant" to ensure compliance with the regulations set forth in the National Environmental Management Act (NEMA, Act 107 of 1998), as amended, along with the Environmental Impact Assessment Regulations of 2014, as amended. This appointment pertains to the proposed rezoning and subdivision for Mixed Use Development on Erf 878, Riebeek Kasteel.

This Environmental Management Programme (EMPr) forms part of the conditions as set out in the conditions and recommendations as detailed in the DEA&DP Environmental Authorisation. This EMPr binds all contractors, sub-contractors and other persons working on the site to adhere to the terms and conditions of the EMPr throughout the construction and operation of the development on Erf 878, Riebeek Kasteel. Any other site-specific additional activities decided and agreed upon at the "On Site Start-Up Meeting" (OSSM) must be included to form part of the EMPr as this is a "living document" that needs to be modified where necessary as the project progresses where it will lead to an improvement in the protection of the environment.

The Environmental Management Programme (EMPr) established herein is binding on the applicant and all successors in title or future developers, whether they assume ownership in whole or in part. This binding agreement covers the proposed development on the subject property as detailed in this application and any future amendments to the approved layout or development plan. Additionally, it extends to all property owners within the development.

Submission of this EMPr is in accordance with the requirements for a Basic Assessment as stipulated by NEMA. This Environmental Management Plan (EMP) serves as a guideline document for both the construction and post-construction phases of the project, specifically for roads, services, homes, and all proposed development infrastructure on the aforementioned property.

The EMP outlines mitigation measures and is prescriptive in nature, identifying specific individuals or organizations responsible for executing particular tasks during both construction and post-construction phases. The primary objective is to ensure that potential environmental impacts during construction and post-construction are minimized or entirely avoided. The EMP is a dynamic document that may require periodic updates to accommodate evolving site activities. Compiled as part of the Basic Assessment process, the EMP becomes legally binding once approved by the Competent Authority. It should be read in conjunction with the attached Architectural and Landscape Guideline Document.

Ensuring compliance with the Environmental Management Programme (EMPr) is essential during the construction phase, which involves vegetation clearing. A completion audit will likely be required at the end of the construction phase, including the installation of civil services, home building, and driveway construction, as stipulated by the Environmental Authorisation (EA).

This EMP has been drafted in accordance with the requirements outlined in Section 24N of the National Environmental Management Act (NEMA), Act 107 of 1998.

EMPr Circulation List

Full copies of this EMPr should be made available for the ECO, ESO, Site Engineer and/or Contractor. Appendices should also be made and circulated where relevant.

1.1. The affected environment

Erf 878 in Riebeek Kasteel is bordered by Kerkstraat on the west, Hoofstraat on the north, Fontein Street on the east and agricultural development to the south. The Erf is ~11 hectares in size and has no development infrastructure, services or structures at present. These services will all be supplied by the Swartland Municipality, subject to the services levies accruable to the municipality. The erf carries a zonation of Agriculture Zone 1 and has previously been subjected to extensive agricultural use covering the whole property.

Erf 878 has an elevated small hillock on the southern lower third of the property at a maximum height of 180 m AMSL. From this high point the topography slopes down to a height of 37 m to the lowest point in the north-western corner of the property at 143 m AMSL along the northern border of the property runs a drainage depression that drains extensive developed agricultural fields located on the lower mountain slopes to the west, consisting mostly of vineyards. Drainage from the mountain slopes has also created a small narrow storm water channel through the middle of the property that surfaces as a fountain that emerges above-ground in the middle of the property during the wet winter runoff months but otherwise dries up during the dry summer months. All water that drains from and across Erf 878 is transported by small stormwater channels located on the northern end of Erf 878 through a series of agricultural irrigation farm dams, via narrow drainage channels between the extensively developed surrounding agriculture to connect ultimately with the Berg River.

2. DEVELOPMENT PROPOSAL

The preferred development alternative entails the proposed establishment of a mixed development of single residential, town housing, retirement village and frail care, apartments, retail, internal roads and open spaces.

The proposed development components include:

Internal Road Network

The two primary access points which will allow access to the proposed development are from Church Street (R311) to the west, just above Erf 57 and from Fontein Street in the east just below Erf 25. A direct entrance to the business is provided off Church Street (R311) by a proposed left in slip lane. An emergency exit is provided in the south-eastern corner of the application area which flows into Fontein street.

The two primary access points from the R311 to the west and Fontein Street to the east are linked by a proposed internal 13m main collector public road, providing direct access to the proposed shopping centre, the retirement village, the parks and the townhouse complex as well as linking up with proposed internal 10m private roads providing access to the single residential erven.

Retirement Village

A retirement village is proposed in the north-east section of the application area on subdivided Erven 1-27, providing convenient and walkable access for the elderly residents to the adjacent central business district to the east as well as the adjacent park to the south-west of the retirement village.

The total extent of the area covered by the retirement village amounts to 18 297m^2. The retirement village consists of an internal 10m road on Erf 27 with an extent of 3224m^2 which provides access to all proposed retirement village housing units on Erven 2-24. The erven ranging between 295m^2 and 491m^2 with a total extent of 7691m^2. Erf 26 has an extent of

2509m^2 intended to accommodate a frail care facility. The retirement village is proposed to ensure a secure complex with controlled access.

The applicable zoning for the retirement village is General Residential Zone 2 for the single-title town-houses, General Residential Zone 3 for the flats, Community Zone 3 for the frail-care centre and Transport Zone 2 for the internal road.
The Open Space Zone 2 erf accommodates the stormwater servitude adjacent to the retirement village.

One controlled access point to the retirement village will be provided with a parking area for the frail-care facility and a visitors parking area for the apartments both situated on opposite sides at the main entrance to the retirement village. The access point is from the proposed internal main public road to the south of the retirement village which joins up with Fontein Street to the east and Church Street to the west of the application area.

Riebeek Kasteel currently offers no other retirement / frail care facilities and will contribute to attract more elderly people to the town. This also serves in compliance of the SDF's requirements in inter alia providing a variety of housing types. According to the SDF, 2023-2027, Riebeek Kasteel presents the potential to serve as a haven for retirees as a result of the tranquil, rural and scenic landscape, which in turn would contribute to the stimulation and growth of the local economy of this town.

A frail-care facility is proposed to be available as part of the retirement village. This proposal is foreseen to attract retirees, trigger the establishment of medical facilities in town, provide extra buying power and constitute a stimulus for further business opportunities in the area.

Business Zone 1 (General Business): Erven 28 & 29: Retail

The proposed retail is located on the R311 Church Street in the north-west section of the proposed development adjacent to the retirement village which is to the east thereof and the park to the south thereof. The following sketches show potential typologies of the proposed shopping centre.

Retail is proposed on both Erven 28 and 29. Erf 28 will gain access via a right of way servitude registered over Erf 29. The motivation for the proposed business is that it caters for residents mainly within the proposed development, outside of the development within Riebeek Kasteel and for through-traffic outside of the Riebeek Kasteel area and could thus be considered to be primary and secondary business facilities. This erf is also adjacent to the existing CBD to the east of the application area with Business Zone 1 zonings.

For vehicles travelling in a southerly direction, access to the business component is from the regional R311 road Church Street to the west of the application area with a left in slip lane and which exits on the proposed internal main road south of the business component joining up again with the R311 Church Street, just above Erf 57.

For traffic travelling in a northerly direction, access is gained from the proposed internal main road, which can be accessed from the R311 Church Street just above Erf 37.

The location of the proposed business component directly adjacent to the R311 Church Street is highly strategic and accessible.

A traffic impact assessment has been performed by professional traffic engineers to determine the required traffic parameters to service the proposed retain centre and to remain within the traffic and design requirements of the local municipality.

The proposed business erven are foreseen to complement the existing businesses in the town as well as to through-traffic and thereby stimulating the local economy and create employment opportunities for the local community. Furthermore, the strategic location presents a marketing opportunity for Riebeek Kasteel.

Erf 30, 56 & 57: Communal Parks

A park/ square is proposed around the existing fountain and stream and is located more or less central to the proposed higher density residential uses, namely the retirement village, the business premises along the R311 Church Street as well as the proposed town-house complex.

The three primary parks are on Erven 30, 56 & 57. The total area of these open space erven is 11 818m^2 and will be rezoned to Open Space Zone 2: Private Open Space to accommodate a square and other parks.

The park on Erf 30 with an extent of 4 945m^2 which will incorporate the existing natural water feature as an historic focal point/ landmark, will provide recreation and relaxation opportunities and form part of a green belt together with the other parks within the proposed development, which will support the rural/ relaxed character of the area.

Access to the park is provided from the proposed internal main road between the park and the town-housing complex which connects the R311 Church Street to the west and Fontein Street to the east.

The proposed park will provide the opportunity to accommodate markets and other activities within a controlled and managed environment ensuring the maintenance of this community facility.

The parks on Erven 67 & 57 have a total extent of 6873m^2. Erven 67 & 57 provides an open space corridor from east to west and allows for unobstructed sight lines from Church Street to the existing historical town landmark church steeple in compliance of the visual impact consultant and will also contribute to the rural feel of the area.

Private open space areas are also provided within the gated retirement village and single residential component and is addressed in the mentioned sections.

Town Housing Accommodation

A town house complex is proposed consisting of approximately 24 erven. The erf sizes vary between 198m^2 and 296m^2 and covers a total extent of 7315m^2.

The town housing erven are proposed to be zoned General Residential 2 to accommodate sectional title duplex townhouses within a secure complex.

Controlled gate access to the complexes is proposed.

The proposed townhouses
within a gated security complex provides an alternative form of housing, to the conventional single residential dwellings on larger individual erven, with benefits including higher security, a “lock-up and go” situation and lower maintenance costs.

Single residential dwellings

The single residential component is proposed along the higher slopes of the hill providing views of the town and are laid out in conjunction with the topography / contours of the application area and forms a half circle with along the hill

contours as well as a grid pattern comprising of roads and open space. The road towards Fontein Street will be gated but serve as an emergency exit.

This component consists of Single Residential erven with extents of between 600m^2 and 1759m^2 located along the slopes.

Erf sizes are mostly consistent with the existing surrounding single residential erf extents.

The single residential component includes four narrow private open space erven, Erven 113-116 to provide walkable access through the single residential component of the development, it will provide sufficient space for the planting trees and simultaneously serve as a stormwater corridor.

From a visual impact point of view, it is proposed to provide landscaping and restrict the heights of the dwellings along the streets to soften the visual impact of the area. Also refer to the Architectural Design Parameters as reflected in the photomontage corridor view towards the church steeple and Riebeek Hill respectively:

Refuse areas

Refuse areas will be provided at the entrance to each of the development components at the access point to allow for safe and convenient refuse removal and will adhere to town planning and building parameters in terms of size, location, distance and construction.

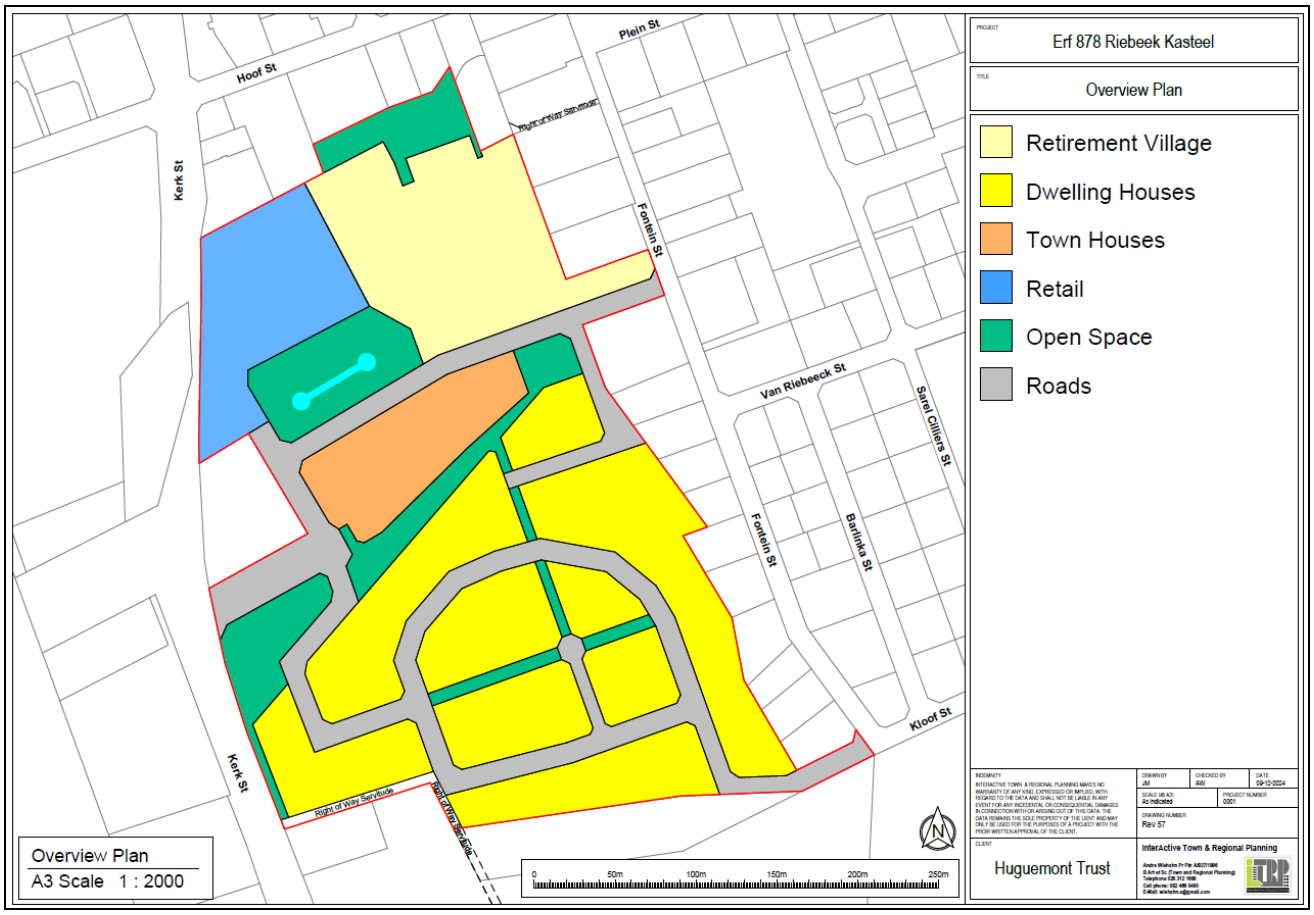
The proposed 13m streets within the single residential neighbourhood will provide sufficient and convenient access for refuse removal vehicles to manoeuvre.

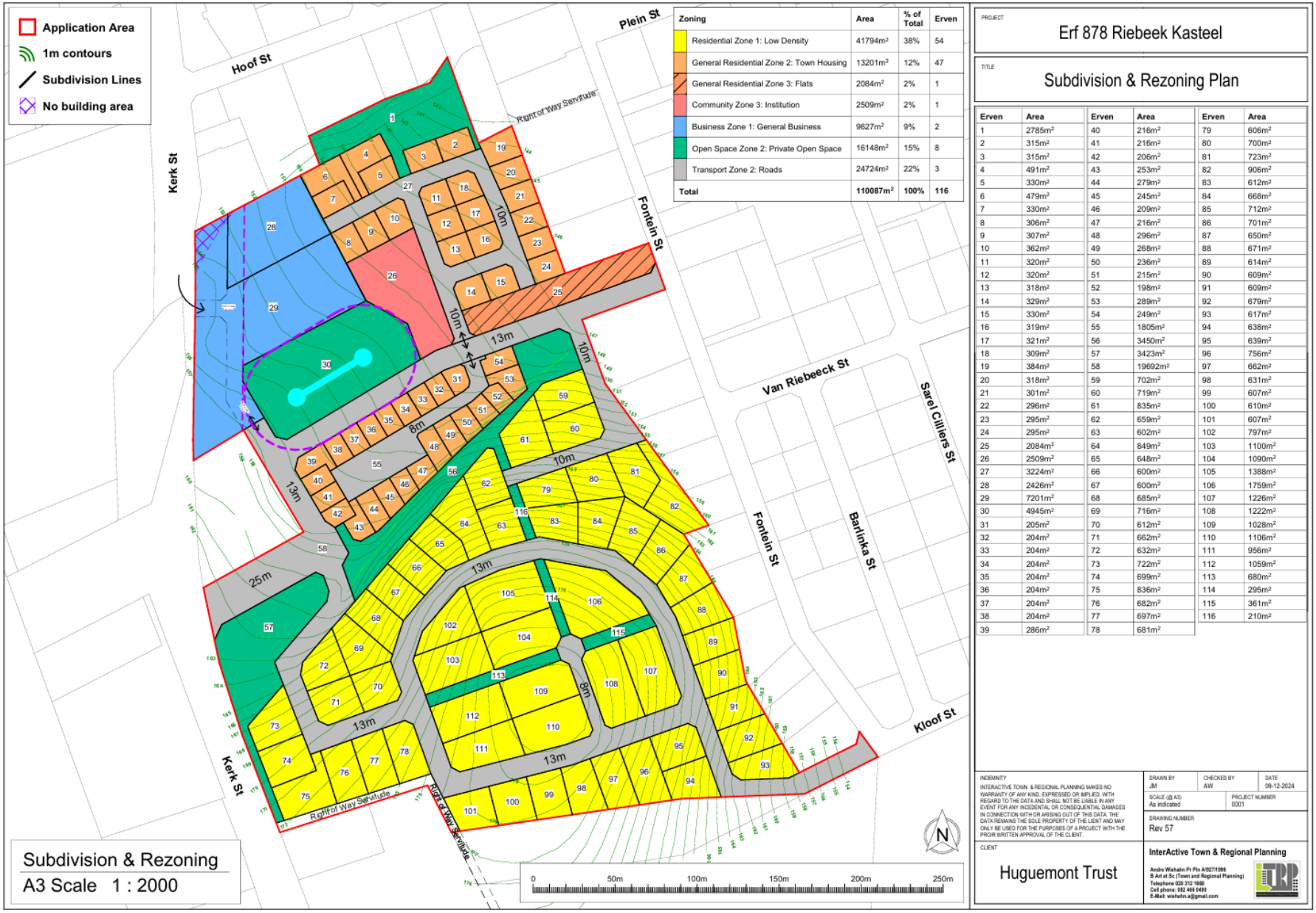
Home-Owners' Association

A Master Home-Owners' Association will be established with a Constitution and Design Guidelines. The constitution and design guidelines are attached as part of the Architectural Design Parameters document.

Engineering Services:

Sufficient water, sewer and solid waste service capacity is available for the proposed development.


Erf 878 Riebeek Kasteel
Overview Plan
Retirement Village
Dwelling Houses
Town Houses
Retail
Open Space
Roads
Plein St
Hoof St
Kerk St
Right of Way Servitude
Fontein St
Van Riebeeck St
Sarel Cilliers St
Barlinka St
Kloof St
Right of Way Servitude
0
50m
100m
150m
200m
250m
Overview Plan
A3 Scale 1 : 2000
Huguemont Trust
InterActive Town & Regional Planning



Zoning	Area	% of Total	Erven
Residential Zone 1: Low Density	41794m²	38%	54
General Residential Zone 2: Town Housing	13201m²	12%	47
General Residential Zone 3: Flats	2084m²	2%	1
Community Zone 3: Institution	2509m²	2%	1
Business Zone 1: General Business	9627m²	9%	2
Open Space Zone 2: Private Open Space	16148m²	15%	8
Transport Zone 2: Roads	24724m²	22%	3
Total	110087m²	100%	116

PROJECT

Erf 878 Riebeek Kasteel

TITLE

Subdivision & Rezoning Plan

Erven	Area	Erven	Area	Erven	Area
1	2785m²	40	216m²	79	606m²
2	315m²	41	216m²	80	700m²
3	315m²	42	206m²	81	723m²
4	491m²	43	253m²	82	906m²
5	330m²	44	279m²	83	612m²
6	479m²	45	245m²	84	668m²
7	330m²	46	209m²	85	712m²
8	306m²	47	216m²	86	701m²
9	307m²	48	296m²	87	650m²
10	362m²	49	268m²	88	671m²
11	320m²	50	236m²	89	614m²
12	320m²	51	215m²	90	609m²
13	318m²	52	198m²	91	609m²
14	329m²	53	289m²	92	679m²
15	330m²	54	249m²	93	617m²
16	319m²	55	1805m²	94	638m²
17	321m²	56	3450m²	95	639m²
18	309m²	57	3423m²	96	756m²
19	384m²	58	19692m²	97	662m²
20	318m²	59	702m²	98	631m²
21	301m²	60	719m²	99	607m²
22	296m²	61	835m²	100	610m²
23	295m²	62	659m²	101	607m²
24	295m²	63	602m²	102	797m²
25	2084m²	64	849m²	103	1100m²
26	2509m²	65	648m²	104	1090m²
27	3224m²	66	600m²	105	1388m²
28	2426m²	67	600m²	106	1759m²
29	7201m²	68	685m²	107	1226m²
30	4945m²	69	716m²	108	1222m²
31	205m²	70	612m²	109	1028m²
32	204m²	71	662m²	110	1106m²
33	204m²	72	632m²	111	956m²
34	204m²	73	722m²	112	1059m²
35	204m²	74	699m²	113	680m²
36	204m²	75	836m²	114	295m²
37	204m²	76	682m²	115	361m²
38	204m²	77	697m²	116	210m²
39	286m²	78	681m²		

DRAWN BY	CHECKED BY	DATE
JM	AW	09-12-2024

SCALE (@ A3): As indicated
PROJECT NUMBER: 0001
DRAWING NUMBER: Rev 57

CLIENT

Huguemont Trust

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3. TERMS OF REFERENCE

The primary objective of this Environmental Management Programme (EMPr) is to identify, manage, and mitigate any potential negative environmental impacts that may arise during the construction and subsequent operation of the proposed development of Erf 878 Riebeek Kasteel. The EMPr serves as a guiding document to ensure that the construction and post-construction phases of the development are carried out in an environmentally responsible manner, in compliance with relevant legislation and best practices.

3.1. Scope of the Report

→ This EMPr applies to all construction and post-construction / operational activities associated with the proposed development, including site preparation, building construction, driveways, and any associated infrastructure.
→ It must be made available to all contractors, subcontractors, and relevant stakeholders involved in the project, ensuring that it forms an integral part of all tender documentation and contracts.

3.2. Binding Requirements

→ The provisions of this EMPr are binding on the applicant/owner, all contractors, subcontractors, and any third parties acting on their behalf.
→ The applicant/owner is responsible for ensuring that all contractors and subcontractors are fully informed of the environmental requirements contained within this document.
→ Failure to comply with the EMPr's requirements by any party involved in the construction will result in appropriate penalties, and the contractor will be obligated to remedy any environmental damage caused by their actions or the actions of their subcontractors.

3.3. Responsibilities and Accountability

→ The contractor is accountable for the environmental performance of the site and must ensure that all activities are conducted in accordance with the environmental standards and guidelines set out in the EMPr.
→ The contractor must also take proactive steps to prevent environmental damage and address any environmental issues that may arise during construction.
→ In the event of environmental harm or non-compliance, the contractor will be required to restore the affected areas and bear any costs associated with remediation or penalties imposed.

3.4. Implementation and Compliance Monitoring

→ Regular site inspections and audits will be conducted to monitor compliance with the EMPr. Any non-compliance will be recorded, and corrective actions will be mandated to mitigate environmental risks.
→ Contractors and subcontractors are required to cooperate fully during audits and inspections, and all personnel must receive appropriate environmental training to ensure adherence to the EMPr's guidelines.

4. ENVIRONMENTAL CONTROL ON SITE

4.1. Approach

The Table below illustrates the various approaches to be undertaken to manage potential scenarios as a result of the activity on site:

Table 1: Impact management

Avoidance	Avoiding activities that could result in adverse impacts and/or resources or areas considered sensitive.
Prevention	Preventing the occurrence of negative environmental impacts and/or preventing such an occurrence having negative impacts.
Preservation	Preventing any future actions that might adversely affect an environmental resource.
Minimisation	Limiting or reducing the degree, extent, magnitude or duration of adverse impacts through scaling down, relocating, redesigning and/or realigning elements of the project.
Mitigation	Measures taken to minimise adverse impacts on the environment.
Enhancement	Magnifying and/or improving the positive effects or benefits of a project.
Rehabilitation	Repairing affected resources, such as natural habitats or water resources.
Restoration	Restoring affected resources to an earlier (possibly more stable and productive) state, typically, 'background' or 'pristine' condition. These resources may include soils and biodiversity
Compensation	Compensating for lost resources, and where possible, the creation, enhancement or protection of the same type of resource at another suitable and acceptable location.

4.2. Organisational Structure and Responsibilities

The Applicant and their appointed contractors will be responsible for the construction phase of each house, internal and access roads and associated infrastructure. All construction related staff are to be briefed on the requirements of the EA and EMP and copies of these documents are to be kept on site during all phases of construction.

Environmental Control Officer

Due to the sensitivity of the site, it is recommended that an ECO be appointed for the construction phase of the development. ECO site visits should take place for the duration of the construction phase as per the conditions of the Environmental Authorisation. This will ensure that the additional conditions contained in the EA, EMP and BAR are implemented.

The responsibilities of the ECO during the construction phase of the project, will include, but not be limited to, the following:

→ To environmentally educate and raise the awareness of the Contractors and their staff and to target responsible individuals as key players for environmental education and to facilitate the spread of the correct environmental attitude during the contract work
→ To review method statements and to determine the most environmentally sensitive options
→ To oversee the implementation of environmental procedures set out in this document
→ To attend site contractor's meetings, as required and report on environmental issues
→ To receive notices and minutes of all site meetings
→ To maintain an open and direct channel of communication with the construction team and site manager
→ To take immediate action on site where clearly defined no-go areas are violated, or in danger of being violated, and to inform the site manager immediately, of the documents and the action taken
→ To keep an up-to-date record of works on site, as they relate to environmental issues in the site diary.
→ To be contactable by the public regarding matters of environmental concern during the construction phase.

Project Manager

In addition to the ECO, the Project Manager will be responsible for the following:

→ All activities relating to the construction phase
→ Delegate activities in accordance with the EMP
→ Communicate design changes and technical issues to the team timeously
→ Ensure that all contractors are managing their team adequately and abiding by the conditions of the EMP and EA
→ Ensuring that the Contractors are aware of the conditions of the EMP and EA

Contractor

The Contractor (including sub-contractors) will be responsible for:

→ Familiarising themselves with the EIA and EMP
→ Complying with the EMP and EA commitments and any other legislative requirements as applicable
→ Adhering to any instructions issued by the Project Manager or the Safety, Health and Environmental (SHE) Officer, if applicable
→ Submitting an environmental report at designated site meetings on the environmental incidents that have occurred, if applicable
→ Arranging that all employees and those of the subcontractors receive appropriate training prior to the commencement of construction, taking cognisance of this EMP and EA

4.3. Site documentation and reporting

Site logbook

A logbook should be kept on a construction site for the purposes of recording on-site instructions and as a general record of environmental issues. The logbook should be kept for a minimum of two years after the activity is completed for the relevant authority to review if deemed necessary. A photographic record of before and after construction should also be kept for visual reference purposes. The logbook should also contain the following sections:

Environmental Site Instruction

The Environmental Site Instruction section will be used for the recording of general site instructions relating to the protection of environmentally sensitive or potentially impacted areas or features on the site as applicable, by the ECO / site manager / construction team.

Site Diary

The purpose of this section will be to record the comments of the ECO / site manager / contractor etc., as they relate to activities on the site. The diary should also hold the complaints register, received from onsite personnel and the general public, Environmental Incident Register, disposal certificates for waste and sewage, non-conformance information, and written corrective active instructions.

Monitoring Section

The purpose of this section will be to record the comments of the ECO / site manager / contractor, during construction, relating to the implementation of the mitigation measures as well as waste, recycling, landscaping and renewable energy measures used during the construction. The findings of all inspections and internal audits should be structured into instructive reporting, providing information to all responsible personnel. Corrective actions must be clearly defined where required. Within the reporting function a structured review component will be enforced. This review function will assist in prescribing necessary corrective actions. During construction, the ECO / Project management team, will be responsible for onsite monitoring to ensure that the contractor abides by the conditions of the EA and EMP.

The Environmental Authorisation (EA) as well as a copy of the approved Environmental Management Plan (EMP) for Construction, should also be accessible on site at all times.

5. ENVIRONMENTAL AWARENESS

It is important to ensure that the contractors and employees associated with the proposed activity receive the appropriate level of training and awareness to ensure that continual environmental due diligence and conservation is applied at all levels of work carried out on site. Employees, contractors and sub-contractors must be made aware of their responsibilities in terms of relevant legislation, guidelines, as well as this EMP and EA.

The environmental conditions should be included in the contracts issued to the contractors, making them aware of the potential environmental impacts and risks associated with the proposed development as well as what measures are expected of them whilst conducting work on site. The importance of implementing the conditions in the EMP and the necessity of good housekeeping practices, will be made known to the contractors and employees.

5.1. Aim of the Environmental Awareness Plan

→ Promote environmental education and conservation on site.
→ Inform employees and contractors on the applicable environmental procedures and plans.

5.2. Environmental Awareness Training and content

→ All personnel should undergo induction, which as a minimum should include Safety, Health and Environmental awareness.
→ All attendees should sign an acknowledgement register upon receiving and understanding the induction
→ Construction and operational staff should be trained on the implementation of emergency procedures where applicable
→ Definitions as used in this EMP should be provided
→ How and why environmental protection is necessary, should be explained
→ Management measures required to prevent environmental impacts should be outlined
→ Emergency and spills response procedures should be outlined

Environmental conditions in the induction should focus on the following:

→ Good house-keeping practices
→ Air quality (Dust)
→ Waste Management
→ Odour/vermin Control
→ Proper use of sanitation facilities; and
→ Chemicals and materials storage, use and handling.

Environmental training should be implemented at the onset of the construction and can be done verbally or in written format. Proof of training should be kept on record.

6. COMMENCEMENT OF WORKS

The site project contractors must receive the EMPr as well as any other further additional information that pertains to site conditions and / or amendments or deviations from original site plan at the tender stage as far as possible in order for the service provider to cost the implications of the EMPr and EA conditions into their tender. This EMPr must form part of the Contractors Contract. A copy of the EMPr must be on site at all times and available for presentation to any authority requesting to see such document. No work on site may take place until the following has been complied with. Work also refers to camp establishment, earthmoving activities and any preliminary construction activities until:

- → EMPR has been approved by the relevant authorities, if this is a condition set in the Environmental Authorization.
- → On-Site Start-Up Meeting has been held
- → Site and No-Go areas have been demarcated
- → Contractors are in possession of the EMPR and other relevant documentation
- → Contractors signed the Declaration Of Understanding
- → All mandatory site equipment is in place
- → On Site Environmental Education & Awareness training session has taken place with all relevant construction personnel present.

7. CONDITIONS OF AUTHORISATION

The Environmental Authorisation (EA), once issued, will be included here and will be mandatory for all contractors, sub-contractors, agents, consultants, and construction personnel working on the property.

8. COMMENCEMENT / SITE START UP

The mandatory on-site start-up meeting that is conducted should preferably take place 14 days but not less than 5 working days prior to commencement of any site/camp establishment, earthworks and/or construction activities. This meeting may also relate to additional discussed information that must be complied with during the entire construction phase.

A Start-Up Meeting Report must be generated and must include all site-specific issues and arrangements as discussed and agreed on at the On-Site Start-Up Meeting.

The On-Site Start-Up Meeting additional information pertains to specific site construction agreements that was discussed on site by all the relevant parties and agreed upon and must be included in the On Site Start-Up Meeting Report. (The arrangements and agreements must fall within the conditions as set out in the Relevant DEA&DP Environmental Authorisation

At the on-site start-up meeting (OSSM) the following issues must be addressed:

- → The EMP & other relevant site documents
- → Project to be discussed and all uncertainties are cleared
- → Method statement/s to be discussed
- → Power line installation access routes (if applicable)
- → Road and construction area to be demarcated
- → Materials stockpile and lay down areas to be demarcated

- → Method of stockpiling to be discussed
- → Fire fighting procedures
- → Mandatory fire fighting equipment & fire preventative measures
- → Integrated waste management approach and intentions
- → Placement, type and service of toilets to be agreed upon
- → Placement and type of rubbish bins and removal of rubbish to be agreed upon
- → Labour overnight camp to be demarcated and services agreed upon (if applicable)
- → Environmental Education and awareness training session to all contractors & onsite staff/labour

The following people must attend the On-Site Start-Up Meeting:

- → Main contractor's representative.
- → Site supervisor/foreman
- → Appointed Environmental Control Officer (ECO)
- → Contractor's Environmental site officer (ESO)

Minutes of the OSSM will be condensed to a report format and circulated to all attendees of the above-named meeting for their perusal and comments if needed. A non-response is deemed to be an acceptance of the contents and agreements of the Report.

9. METHOD STATEMENTS

Method Statement(s) must be submitted to the ECO by the appointed contractors during all phases of development. The Method Statement must be provided to the ECO prior to commencement of any construction activities. Any amendments to the Method Statement must be lodged with and approved by the ECO. The method statements must include the following information:

- → Construction procedures and location of the construction site including description of the work to be undertaken; sketch maps can be used
- → Start date and duration of the procedure
- → Materials, equipment and labour to be used
- → How materials, equipment and labour would be moved to and from the site as well as on site during construction
- → Storage, removal and subsequent handling of all materials, excess materials and waste materials of the procedure
- → Emergency procedures in case of any potential accident / incident which could occur during the procedure
- → Mitigation measures that will be employed
- → Compliance / non-compliance with the EMP Specification and motivation if non-compliant

It is the contractor's responsibility to ensure that Method Statements are submitted 7 working days prior to commencement.

9.1. Method statements required

Based on the specifications in this EMPr and the activities approved in the EA, the following method statements (MS) are required, as a minimum. Note that additional method statements may be requested as and when required by the ECO

Method Statement 1: Site layout and establishment

A layout plan indicating works required and the location of the construction camp, i.e. all offices, accommodation facilities, batching areas, storage and stockpiling areas, workshops and all other areas / facilities required for the undertaking of activities required for completion of the project / phase of construction. The plan must include the location and layout of waste storage, ablution facilities, stockpiling and spoil areas and hazardous material storage areas. Details on dune and beach works must be included if applicable to the phase of construction. The decommissioning and removal of these facilities on completion of construction works must also be detailed.

Method Statement 2: Site and vegetation clearing

The Contractor must submit a site clearing method statement for all areas where the Contractor is required to, or intends to, clear vegetation within the development footprint. The method statement must clearly indicate what is to be cleared and how this will be done and where and how cleared material will be stored or disposed of. This method statement will also detail the setting aside of topsoil for rehabilitation / landscaping.

Method Statement 3: Materials batching and storage

The Contractor is to submit a method statement detailing the concrete batching areas and cement storage, methods of transport, and disposal after use including packaging products as applicable. other materials required should also be detailed.

Method Statement 4: Traffic control

The Contractor is to submit a method statement detailing how and where vehicles will move across the site during a particular phase of construction. This is particularly relevant to sensitive sites such as the dunes and beach. Cognisance must be taken of any no-go areas.

Method Statement 5: Solid waste / waste management

The Contractor is to submit a method statement containing details regarding solid waste control including storage, type and quantity of onsite bins, bin clean-out schedule, rubble disposal or reuse, rubble removal and frequency and other waste management requirements.

Method Statement 6: Wastewater

The Contractor is to submit a method statement detailing how wastewater will be collected from all wastewater generating areas, as well as storage and disposal methods, as applicable. If the Contractor intends to carry out any on-site wastewater treatment, this must also be included.

Method Statement 7: Dust

The Contractor is to submit a method statement which outlines how potential dust and windblown sand will be monitored and addressed on site. The contractor must consider the recommendations herein.

Method Statement 8: Landscaping / Rehabilitation

Should the contractor be responsible for any landscaping and rehabilitation of construction areas, the methods need to be detailed and submitted to the ECO for approval. This is particularly relevant to works in the dune and coastal areas.

It must be noted that additional Method Statements will be required and can be requested by the ECO as the need arises.

Table 2. Example of Method Statement and content. Contractor may have their own Method Statement template.

PROJECT: _____		
Method Statement title:		
Date:		
Description of activities:	*Brief description of work to be undertaken*	
Frequency / duration:	*How often will the works be required*	
Commencement date:	*When*	
Location on site:	*Where*	
Required materials, machinery and equipment:	*What*	
Details of how actions will be carried out:	*Detailed description of the activities, step by step detail, methods*	
Storage of materials:	*Description of materials required and how and where they will be stored*	
Storage and disposal of waste:	*Description of materials required and how and where they will be stored*	
Contractor Details:		
APPROVAL		
	ECO	**CONTRACTOR**
Signature:		
Date:		

10. CONSTRUCTION AND POST-CONSTRUCTION IMPACTS AND MITIGATIONS

10.1. Botanical Assessment findings

The Botanical Assessment conducted for the proposed development on Erf 878 (<11.1 ha), located within the urban edge of Riebeek Kasteel, provides a detailed evaluation of the site's vegetation and ecological context.
Key findings of the assessment include:

Vegetation Type and Conservation Status

- → The site is situated within Swartland Shale Renosterveld, a critically endangered vegetation type identified by the SA Vegetation Mapping (2018). Approximately 90% of this vegetation type has been transformed, against a conservation target of 26%, rendering these targets unachievable.
- → The site itself is entirely degraded due to historical and ongoing agricultural activities, primarily dryland cultivation of commercial crops spanning over a century. Although cultivation ceased 10–15 years ago (or longer), the land has been used for grazing by small antelope (e.g., springbok), with some hardy pioneer species re-establishing in previously disturbed areas.

Site Condition and Development Footprint

- → The proposed development will result in the transformation of approximately 11.1 ha of degraded natural veld into urban erven, with the footprint confined almost exclusively to already transformed areas which were found to exhibit little potential for rehabilitation.
- → No unique habitats (e.g., heuweltjies) or protected/endangered plant species were observed. The most notable botanical feature is the presence of a few young *Olea europaea* (wild olive) trees at the foot of a small hill.

Critical Biodiversity Areas (CBA) and Ecological Support Areas (ESA)

- → According to the Western Cape Biodiversity Spatial Plan (WCBSP), a small area on the hilltop is designated as a CBA, and the Krom River, bordering the site to the north, is identified as an ESA. However, site inspections confirmed that both the CBA and ESA are degraded, with no undisturbed natural veld remaining.
- → The Krom River, while compromised by surrounding urban and agricultural impacts, represents the only potential ecological corridor. Google imagery suggests that the section adjacent to Erf 878 is relatively better preserved compared to other nearby stretches, though still degraded.

Alien Vegetation

Alien invasive species, including *Acacia mearnsii* (black wattle), *Melia azedarach* (syringa), and *Populus alba* (white poplar), were observed. The white poplar, located near the Krom River, poses a significant risk due to its potential to form dense stands via root suckers, which could obstruct water channels, increase siltation, and reduce stream flow.

Impact Assessment

- → The proposed footprint will be relatively small (<12 ha) within the urban edge and impacting only on transformed natural veld.
- → The No-Go option is not likely to result in a "no-impact" scenario, for it will have a negative socio-economic impact (and slow degradation may still continue).

- → Without mitigation, the development's cumulative impact is rated as Medium-Low, primarily due to potential effects on the Krom River, CBA, and ESA. With appropriate mitigation, this can be reduced to Very-Low.
- → The "No-Go" option would not result in a "no-impact" scenario, as it would entail negative socio-economic consequences while degradation of the site may persist.

Impact management and mitigation measures:

- → All construction must be done in accordance with an approved construction and operational phase Environmental Management Plan (EMP), which must include the recommendations made in this report.
- → A suitably qualified Environmental Control Officer must be appointed to monitor the construction phase in terms of the EMP and any other conditions pertaining to specialist studies.
- → The layout of the development footprint should take the sensitivity of the Krom River into account and should aim to establish a suitable corridor along this river system in order to allow for potential rehabilitation of this ecosystem.
- → The olive trees identified on site, should be considered for replanting into green belts or gardens.
- → All listed alien invasive tree species must be removed from the site, while special care must be taken with the removal of white poplar (in order to ensure it does not enter the river system.
- → Lay-down areas or construction sites must be located at least 30m away from the Krom River corridor;
- → An integrated waste management approach must be implemented during construction.
    - Construction related general and hazardous waste may only be disposed of at suitably approved waste disposal sites.

10.2. Aquatic Biodiversity Assessment Findings

The assessment highlights the presence of a fountain located on site, and desktop resources also indicate that a portion of the Krom River runs along the northern boundary. During site investigation, it was identified by the specialist that the Krom river was confirmed to intersect the northern boundary of the development site. Additionally, two seep wetlands were also identified onsite, both of which are sustained by groundwater emergence in the form of springs. The assessment notes that the seep wetland 1 historically would have extended to the east, downslope of the site, but the development of the roads and residential areas resulted in the canalization of this flow.

Several patches of artificial seepage dominated by *Pennisetum clandestinum* (kikuyu grass) were observed, primarily along the western boundary. The artificial nature and negligible ecological importance / sensitivity of these features resulted in their exclusion from the assessment.

Anticipated impacts

The proposed development will result in the loss of two largely modified seep wetlands.

Impact mitigation measures identified:

- → The loss of the seriously degraded Seep Wetland 2, along with the loss of portions of Seep Wetland 1, should be compensated for by rehabilitating the Remnant Seep Wetland 1.
- → No untreated stormwater should enter the Remnant Seep Wetland 1 or "Offset" wetland area.
- → Avoid encroachment into the remnant Seep Wetland 1 and the Krom River during construction and operational phases. These two areas should be set aside as a No Go for construction and operational phases.

- → A 20 m buffer area should be implemented around the remnant Seep Wetland 1; and a 10 m buffer around the Krom River (aboveground). The portions of the buffer areas that are located outside of the demarcated construction footprint should be designated as a No-Go area.
- → Tie into mainline sewage if possible or use fully contained conservancy tanks serviced by truck. No sewage treatment, irrigation or soak-aways should be contemplated.
- → Allowance must be made for stormwater to be treated in a vegetated detention pond and/or a substantial vegetated swale before release into the Krom River or Remnant Seep Wetland 1.
- → Municipal water supply should be used if possible.

A Water Use License Application (WULA) will be required for this project due to the encroachment of the development into the onsite seep wetland areas. This must be completed as a condition of EA.

10.3. Heritage Impact Assessment Findings

10.3.1. Archaeological Findings

A field study conducted revealed:

- → A small number of Early Stone Age (ESA) and Middle Stone Age (MSA) flakes and chunks in a degraded and disturbed context, either embedded in gravel or on the surface of a gravel road circling the site.
- → A few isolated stone pieces were identified in the strips of land that have been Brush cut near a small stream/wetland.
- → No formally retouched tools (e.g., bifaces, points) or evidence of early human occupation/settlement.
- → A fragment of a late 19th/early 20th-century blue and white willow pattern glazed floor tile found among rubble in the northeastern site portion (Point 029).
- → Grading: Archaeological remains are deemed Not Conservation Worthy due to their small number, isolation, and disturbed context.
- → Graves: No graves were identified during the assessment.

Anticipated Impact

The site has been heavily transformed by historical agriculture, and the anticipated impact on tangible archaeological heritage resources is expected to be very low.

Impact Management Measures

Given the low significance and degraded context of the findings:

- → No specific conservation or mitigation measures are recommended for the archaeological remains identified during the site visit.
- → The lack of graves or significant occupation evidence eliminates the need for further protective actions in those respects.

10.3.2. Visual Impact Assessment

Key Issues

1. The site lies on the R311 and is best seen from this major route

2. The site is not easily seen from the town of Riebeek-Kasteel

3. The site is split between a lower/northern portion and an upper/southern portion

4. The historical grid of Riebeek-Kasteel remains intact

5. Ridgelines constrain views of the site from the south and north

6. Land use constrains views of the site from the east/town as does the grid.

Impact Assessment

The revised layout and landscaping with careful consideration has created a scheme that blends well into the old village as it connects onto the prominent R311 cultural route. Sometimes the white/light-coloured walls seem a bit bright and could be toned down to a greener option that will blend in better with the lush vegetation and general leafiness of the landscape.

Mitigation Recommendations

- → Site Development Plan: Ways to better fit the town grid and the site contours into the design should be considered (as per Alternative 3 preferred). The retention of Riebeek Hill as significant Open Space should be considered.
- → Architecture: The design of buildings needs to incorporate traditional typologies and details that will make a better fit with this historic town and prevent a modernist intrusion on a heritage landscape.
- → Landscape Plan: A Landscape Plan has already been prepared and a reference to traditional tree and shrub species is desirable e.g. Oak and Gum trees.
- → Tree Plan: Trees both on-site and adjacent need to be mapped to ensure their conservation and incorporation into the development, including both traditional heritage tree species like oaks, gums and poplars, and indigenous/endemic species like Wild Olive.
- → Planting: There is no need to rigidly adhere to any “indigenous-only” kind of botanical extremism in an urban setting, especially one with strong historic connections.
- → Fencing: Is always a key feature of Architectural/Landscape detailing as it strongly affects the edge condition. Subtle, well-detailed, traditional fencing options and colours are preferred. ClearVu fencing is not desirable especially along the R311.
- → Colouration: Colouration is a key tool to fitting any development into the landscape. There is a strong tendency for monotonous charcoal/grey estate colourations today and black fencing ClearVu fencing. These are not traditional colours in the Cape and detract from both contemporary and historic environments. A subtle combination of scheme colours needs to be developed that will avoid a mass approach to colouration with a high visual impact.
- → Maintenance: Landscape Maintenance, both private and public, including streetscapes, needs to be integrated into the scheme.
- → Damage Control: All parties must make every effort to control the destruction of soils and vegetation on site, especially any remnants of natural vegetation. These must not be damaged under any circumstances.
- → Pollution: Chemical damage by cement mixing directly on the ground and by diesel, etc spills must also be prevented at all costs, as should vandalism of the plants and accidental damage to limbs by workers and machinery. Fires must be prevented also at all costs in all areas. Penalties and incentives should be implemented as can fencing off areas.
- → Monitoring: Monitoring of the landscape, soils and vegetation during construction is very important and must be attended to regularly. Damage to some is all too inevitable and often irreversible. Adequate indigenous (preferably endemic) vegetation must be planted.

- → Lighting: Lighting should be minimised and carefully controlled as part of the project's management plan. The use of green energy fittings and concepts should be encouraged and lighting developed with sensitivity to the rural landscape.
- → Landscape Maintenance: must be carried out at all times in line with these recommendations to help keep the scheme green and encouraging local biodiversity.

10.4. Traffic Impact Assessment Findings

It can be concluded that the proposed subdivision and rezoning of Erf 878, Riebeeck Kasteel will have a moderate traffic impact. Other findings are summarised as follows:

- → The application is for the subdivision and rezoning of Erf 878 to include a residential component entailing single residential, town housing and apartments. A retail component and frail care centre are also proposed;
- → The development will have the potential to generate a total of 206 trips (90 in; 116 out) during the AM peak hour and 589 trips (264 in; 325 out) during the PM peak hour;
- → The development will obtain access off Church Rd via an unsignalised full intersection approximately 690 m north of the R46 / Church Rd intersection, a left-in-only access off Church Rd approximately 100 m south of the Church Rd / Main St intersection and an unsignalised full intersection on Fontein St approximately 150 m south of the Fontein St / Plein St intersection
- → Newly formed intersections will operate at good levels of service during the AM and PM peak hours;
- → The retail component of the development will attract public transport trips;
- → The Class 5 Local Street (13 m reserve) through the development and up to the commercial premises is expected to be the primary pedestrian route through the development.

Mitigation measures

- → The proposed access off Church Rd should be designed according to the local and provincial guidelines. Attention should be given to sight distances from access along Church Road
- → The proposed access on Fontein Street should be designed according to local guidelines
- → The route through the development connecting Church Road in the west with Fontein Street in the east should have a blacktop width of at least 6,0 m. Other internal access roads should have minimum blacktop widths of 5,5 m and bell-mouth radii of 6,0m (minimum 5,0m)
- → Off-street parking should be provided as per the Swartland Municipality Land Use Planning By-law document
- → It is proposed that adequate public transport facilities be provided at the filling station and adjacent retail premises
- → It is furthermore proposed that a surfaced sidewalk be provided along at least one side of the Class 5 Local Street (13 m reserve) through the development and up to the filling station premises.

10.5. Clearing of Vegetation, Stripping & Conservation of Topsoil

A Method Statement will be required which details the methods to be used for vegetation clearing. All cleared areas must be stabilised as soon as possible. Burning of cleared vegetation on site is prohibited. The burying of cleared vegetation or use as part of backfill or landscape shaping is prohibited unless written approval is obtained from the ECO.

Cleared vegetation may be used for mulch or slope stabilisation on the Site. Should bulk vegetation be removed from the designated working areas (footprint area) then tall vegetation shall first be removed through brush cutting and chipping of larger shrub material; this may be added to the topsoil material stockpiles as mulch. Unless otherwise agreed upon, only indigenous plant material shall be used for this purpose.

Prior to any activities within the demarcated work areas, topsoil material shall be removed to a depth of 150-300mm or deeper if specified by the engineer in consultation with the ECO and stockpiled in a designated area for use in rehabilitation of the site post construction. Any area where the topsoil will be impacted by construction activities, including the construction offices and storage areas, must have the topsoil stripped and removed and covered with herbaceous vegetation (other than alien species), overlying grass and other fine organic matter and stockpiled for subsequent use in rehabilitation.

Topsoil storage areas must be convex and should not exceed 2m in height. The Contractor must ensure that the material does not blow or wash away. Topsoil must be treated with care, must not be buried or in any other way be rendered unsuitable for further use (e.g. by mixing with spoil) and precautions must be taken to prevent unnecessary handling and compaction. In particular, topsoil must not be subject to compaction greater than 1 500 kg/m² and must not be pushed by a bulldozer for more than 50 m. Trucks may not be driven over the stockpiles.

Topsoil from different soil types must be stockpiled separately and replaced in the same areas from which they were taken if this proves to be the case. Specific attention should be given to the areas that may house rare and threatened species. Topsoil areas must be demarcated in order to ensure the safekeeping of topsoil and to separate different stockpile types.

10.6. Appropriate use of Machinery

Contractor must at all times carefully consider what machinery is appropriate to the task while minimizing the extent of environmental damage. The contractor may not operate any machinery including a fuel driven compressor outside the demarcated area. Where practical, all maintenance of plant and machinery on site must be performed in workshops. If it is necessary to do maintenance outside of a workshop area, the Contractor must obtain the approval of the Engineer and the ECO prior to commencing activities.

All vehicles and equipment must be routinely inspected for fuel and oil leaks and kept in good working order and serviced regularly. Leaking equipment must be repaired immediately or removed from the Site. When servicing equipment, drip trays must be used to collect the waste oil and other lubricants. Drip trays must also be provided in construction areas for stationary plant (such as compressors) and for "parked" plant (such as scrapers, loaders, vehicles). Drip trays should be kept free of water that will float the oil to overspill. All drip trays/bunds to attain a 120% capacity of the plant fuel/oil capacity.

Appropriate 2.5kg (minimum requirement) dry powder SABS approved and service certified fire fighting extinguishers must be easily available at strategic points on the site such as the site office, fuel stores, etc.

10.7. Demarcation and fencing

Final site demarcation must be carried out with all relevant parties (who will be responsible) present for the day-to-day activities on the site and may include;

- → The Client or his delegated Representative
- → Environmental Consultant
- → Main Contractor or his delegated Representative
- → Sub-contractor
- → Environmental Control Officer
- → Environmental Site Officer (if applicable)

The proposed site will be demarcated prior to the commencement of any construction or earth-moving activities and this includes site establishment, the moving of construction material or any other items onto the site, etc. The site will be demarcated with appropriate strong steel dropper poles. A single strand of orange baler twine or danger tape wound around wire is to be attached to the dropper poles to indicate boundaries and no-go areas for site personnel and vehicular movement. Orange plastic square mesh must fence off all excavations deeper than one metre. Alternative fencing may be decided upon dependent on site requirements.

The construction area i.e. road, stockpile areas and development footprint etc. must be demarcated and fenced off with steel dropper poles and orange baler twine approximately 1m high is considered adequate. The demarcation will be agreed on during the start-up meeting. All fencing and fence placement/positioning must be approved by the ECO on site. Work areas and access routes must be clearly demarcated to minimise environmental impact. Steel dropper poles and orange baler twine has proven to be the most environmentally friendly means of on site demarcation.

In the event that sensitive features are threatened by construction activities, temporary fencing off of these areas (for individual areas such as trees or rocks) or the construction area (when working in a mainly natural environment) is recommended.

The Contractor must maintain in good order all demarcation, fencing and barriers for the duration of construction activities, or as otherwise instructed. Any temporary fencing removed for the execution of any portion of the works is to be reinstated by the Contractor as soon as practicable. The Contractor at the end of the contract must remove all demarcation, fencing or barriers not forming part of the final works on Site. Once in place the demarcation barriers must be maintained and may not be moved or altered without consultation with the site ESO and the main contractor.

10.8. "NO-GO" Areas

''No-go" areas, if so, designated by the EMPr, Environmental Authorisation or other, are certain pre-determined areas that must be demarcated and avoided by machinery and personnel. The contractor is responsible to ensure that no person, machinery, equipment enter the "No-Go" areas at any time during the contract period.

Areas of special importance will be decided upon between the Engineer, Contractor and the ECO and demarcated as "No go" areas on a site plan and fenced off. Such areas are out of bounds to the Contractor and his staff, sub-contractors and their staff or suppliers and their staff and to any other person involved in the construction, without the written permission specified by the ECO.

The No Go areas can be declared at any point, as required.

10.9. Water, Storm water, Erosion & Sedimentation Control

The Contractor must take appropriate and active measures to prevent erosion resulting from his own construction activities and operations as well as storm water control measures to the satisfaction of the ECO. During construction the Contractor must protect areas susceptible to erosion by installing all the necessary temporary and permanent drainage works as soon as possible

Occupants on site must have access to safe drinking water. Water to be supplied by the contractor shall be from a legal source and comply with recognised standards for potable and other uses. It is the responsibility of the Contractor to meter his water use on site by means of appropriate measurement.

It is illegal to discharge water into a public stream if the quality does not conform to the required health or water standards. Other measures as may be necessary must be taken to prevent the surface water from being concentrated in streams and from scouring the slopes, banks or other areas. All potential hazardous fluids/materials must be protected

from the rain to prevent them being washed into storm water channels. All such measures must be discussed with and approved by the ECO.

10.10. Fuel, Tar Compounds and Oil

Preferably no fuels and flammable materials are to be stored on the site. If fuels and flammable materials are to be stored on site, the following Basic Guidelines will be applicable:

- → These areas must comply with general fire safety requirements.
- → All vehicles, equipment, fuel and petroleum services and containers must be maintained in a good condition that prevents leakage and possible contamination of soil or water supplies. Drip trays are to be used in these storage areas to prevent contamination of the ground in the event of spillages or leaks
- → All plants/fuel tanks must have a bund or drip tray present (whichever is applicable) to use in the event off accidental spillage of oils and fuels and must contain a capacity level of 120% of the capacity of the plant fuel and oil tanks.
- → A suitable leak proof container for the storage of oiled equipment (filters, drip tray contents and oil changes etc.) must be established.
- → Fuels and oils must be safely located in a designated area out of harms way from the elements and safety and fire prevention must be strictly adhered to.
- → All spills are to be recorded in the ESO diary.

Fuel Storage proposals must be cleared by the ECO before any storage or stockpiling takes place.

10.11. Hazardous Substances

If potentially hazardous substances are to be stored on site, the Contractor must provide a Method Statement detailing the substances/materials to be used, together with the storage, handling and disposal procedures of the materials to the Engineer and the ECO.

Paints

No paint products may be disposed of on Site and brush/roller wash facilities must be established to the satisfaction of the Engineer and the ECO. Oil based paints and chemical additives and cleaners such as thinners and turpentine must be strictly controlled. A Method Statement detailing the paint management procedures is required.

Hazardous building materials

Hazardous building materials (e.g. asbestos, fibre claddings, refrigerants, coolants, sub-station cooling oils, etc) must be identified and dealt with in accordance with the relevant safety and health legislation. All such material must be separated on Site and disposed of at appropriate licensed disposal sites. The Contractor must supply the ECO with a certificate of disposal. Hazardous materials should be stored under lock and key in designated areas with properly displayed and visible warning signs.

10.12. Concrete Works

The Engineer (in collaboration with the ECO) must indicate the permitted location of batching plants (including the location of cement stores and sand and aggregate stockpiles), if these are to be present on Site, on a site plan. A Method Statement indicating the layout and preparation of such facilities may have to be submitted.

Cleaning of equipment and flushing of mixers must not result in pollution of the surrounding environment. All wastewater resulting from batching of concrete must be disposed of via the contaminated water management procedure. Used cement bags must be stored in weatherproof containers to prevent wind dispersion and water contamination. Used cement bags must be disposed of on a weekly basis via the solid waste management system and must not be used for any other purpose. Cement bags may not be disposed of on-site but must be removed on a weekly basis to an approved dumpsite.

All visible remains of excess concrete must be physically removed and disposed of on completion of cement work. Washing the remains into the ground is not acceptable. All excess aggregate must also be removed.

The following recommendations must be implemented to minimise impact.

- → The concrete mixing must take place on top of boarding and/or sheeting so as to protect the ground. This board and or sheeting must be removed from the site once the mixing is complete.
- → Concrete batching to take place at identified areas only in consultation with the ECO.
- → Cement contaminated water may not enter a natural or man-made water system e.g. trench, channel or dam. Preventative measures include establishing sumps from where contaminated water can be either treated in situ or removed to an appropriate waste site.
- → Dry mixing batching areas to be carefully placed in consultation with the ECO.
- → If possible appropriate ready-mix concrete must be used.
- → Cement bags are to be stored securely out of harm's way from the elements (wind and rain). Bags must be covered and placed on plastic sheeting.
- → Sand and stone to be stored on plastic if it is stored outside the future fenced off site.
- → Excess or spilled concrete must be confined within the works area and then removed to a waste site.
- → Wash-down areas must be confined to within the concrete batching area only.

In the event of Ready-Mix concrete deliveries taking place on site the site foreman must ensure that no wash-down of ready-mix trucks takes place on or around the site, or, as a last resort, at the concrete batching area where concrete wastewater may be contained into the existing bunding pit. Any alternative method of disposal must be approved based on Method Statement to be submitted for the approval of the ECO via the ESO.

10.13. Fires and smoking

No fires are allowed on site. If smoking is to be allowed on site, then arrangements must be made for disposal of cigarette butts. No smoking will be allowed outside the agreed upon areas. Adequate firefighting equipment according to the fire hazard during the construction period must be available on site and in good working order (at least one type ABC (all purpose) 10 kg extinguisher and two fire beaters per working area). The persons on site must be trained in the use of such equipment.

The main contractor must provide a list of all authorities involved in firefighting in the region. This list must include emergency contact numbers and must be visible from outside at the site office. It is required that contractors have available [if there is cell phone reception] the emergency telephone numbers of the nearest local Fire Fighting Station and that an emergency firefighting re-action plan has been drawn up with onsite workers and the resident landowner.

Welding, gas cutting or cutting of metal will only be permitted inside the working areas. The Contractor must pay the costs incurred to organizations called to put out any fires started by personnel under his control. The Contractor must also pay any costs incurred to reinstate burnt areas as deemed necessary by The Client.

10.14. Emergency Procedures

It is the responsibility of the contractor to assess the potential risks to the environment because of the project. As such, the contractor must have the necessary standard emergency operating procedures in place to deal with any potential emergency such as oil spills or fire.

All staff should be made aware of the necessary basic emergency procedures in the event of an emergency including injuries to staff. The appropriate equipment and identified personnel to deal with such basic emergencies should be available on site.

Fire: The Contractor must advise the relevant authority of a fire as soon as one starts and must not wait until he can no longer control it. The Contractor must ensure that his employees are aware of the procedure to be followed in the event of a fire.
Spills: The Contractor must ensure that his employees are aware of the procedure to be followed for dealing with spills and leaks, which must include notifying the Engineer, the ECO and the relevant authorities. Treatment and remediation of the spill areas must be undertaken to the reasonable satisfaction of the ECO and Local Authority.

10.15. Dust Control

The Contractor must take all reasonable measures to minimize the generation of dust as a result of construction activities (including dust generated on haul roads) to the satisfaction of the ECO and Local Authority.

10.16. Solid Waste Management

No on-site burying or dumping of any waste materials, vegetation, litter or refuse must occur. The Contractor must provide problem animal and-weather proof bins with lids of sufficient number and capacity to store the solid waste produced on a weekly basis. The lids must be kept firmly on the bins at all times. Bins must not be allowed to become overfull and must be emptied at least once a week. Waste from bins may be temporarily stored on Site in a central waste area that is weatherproof and scavenger-proof and which the Engineer and the ECO has approved.
All solid waste must be disposed of off-site at an approved landfill site in terms of the National Environmental Management: Waste Act (Act No. 59 of 2008). The Contractor must supply the ECO with a certificate of disposal. All hazardous waste must be disposed of at a licensed hazardous waste site.

The Contractor must be responsible for the establishment of a refuse control system that is acceptable to the ECO. Disposal arrangements must be made in advance and cleared with the ECO before construction starts. The Contractor must make provision for workers to clean up the Contractor's camp and working areas on a daily basis so that no litter is left lying around and so that the site is in a neat and tidy state. The Contractor must remove from site the refuse collected at least once a week. This requirement must be strictly enforced and special note taken of the penalties applicable in the case of non-compliance.

10.17. Toilets & Ablution Facilities

The Contractor must provide suitable sanitary arrangements near the construction site for all site employees. A minimum of one toilet must be provided per 15 persons at each working area (station) or as stipulated and approved in the Method Statement. The toilet must be within easy reach (max 300m) of the working area and be in good working condition and cleaned on a daily basis. Toilet paper must be provided and emptied on a weekly basis or when full or when instructed by the ECO on site, whichever is the appropriate action.

Disposal arrangements must be made in advance and cleared with the ECO before construction starts. Sanitation provision and servicing must be to the satisfaction of the ECO. The Contractor must ensure that toilets are emptied prior to any builders' holidays, and/or weekends. Toilets must be of a neat construction and must be provided with doors and locks and must be secured to prevent them blowing over.

No burying of any waste material on or near the construction site nor anywhere on the surrounding property is permitted.

10.18. Stockpiling

Any stockpiling of gravel, cut, fill or any other material including spoil must only be allowed in degraded areas or areas below the future cover of buildings and tar or paved parking surface. The Contractor must indicate the proposed areas for such operations and method of undertaking such operations in a Method Statement to be submitted to the ECO for approval before any such activity begins. Any area used for stockpiling and not covered by building development must be returned to at least the state they were in before stockpiling and it must be ensured that the erosion potential of these areas is not increased.

The Contractor must ensure that the material does not blow or wash away or mix with each other. If the stockpiled material is in danger of being washed or blown away, the Contractor must cover it with a suitable material, such as hessian, netting or plastic.

10.19. Preparation of Building Material

The Contractor must ensure that any delivery drivers are informed of all procedures and restrictions (including "no go" areas) required to comply with the Specifications. The Contractor must ensure that these delivery drivers are supervised during off-loading, by someone with an adequate understanding of the requirements of the Specifications

All manufactured and/or imported material must be stored within the demarcated area, and, if so required, out of the rain. All lay down areas outside of the construction camp must be subject to the Engineer and the ECO's approval in such a way as not to cause a nuisance or environmental damage. All building materials are to be prepared at the batching plant, to enable the effects of cement and other substances, and the resulting effluent to be more easily managed.

It is essential that any imported material i.e. base material for road works, building sand, bedding base sand for pipe / cable lines etc. must be screened and of which the origins must be identified prior to arriving at the receiving environment, this must be approved by the Engineer / ECO.

10.20. Discharge of construction water

Potential pollutants of any kind and in any form must be kept, stored, and used in such a manner that any escape can be contained and the water table not endangered. This particularly applies to water emanating from runoff from fuel depots/workshops/truck washing areas. Wash down areas must be placed and constructed in such a manner so as to ensure that the surrounding areas are not polluted.

Contaminated water includes water that is carrying excess sediment due to construction activities. The contractor, being responsible for the construction and effective containment and maintenance of settlement ponds must ensure that the surrounding environment is not adversely affected because of construction activities. Contaminated water storage facilities must not be allowed to overflow and appropriate protection from rain and flooding must be implemented. Contaminated water that is removed from site must be disposed of at a facility approved by the ECO and Local Authority.

No contaminated water that does not meet the water quality standards and criteria under the National Water Act may be released into a natural system, whether it is to surface or groundwater

All cement effluent from mixer washings, and run-off from batching areas and other work areas must be contained in suitable sedimentation ponds. Sedimentation ponds must be allowed to dry out on a regular basis to allow for solid material to be removed. This material must be disposed of in a suitable manner, depending on the nature of the material, and to the discretion of the ECO.

10.21. Contractors Temporary Camping Site & Eating Areas (Site camp in our report)

The Contractor must designate eating areas for the approval of the ECO, which must be clearly demarcated. No eating of meals must take place outside these designated areas without the approval of the Contractor/ECO. No washing in dams or streams are allowed. The feeding or leaving of food for animals is strictly prohibited. Sufficient waste bins must be present in this area and emptied regularly, at least weekly. Waste bins are to be provided with lids that are wind proof.

The contractor must supply cooking facilities that are suitable for the environment and are not liable to cause the outbreak of fires. No overnight camping/staying on site is allowed. If overnighting is necessary for security purposes, then it must be cleared with the Engineer and ECO on site.

10.22. Traffic, Access Routes & Haul Roads

The Contractor must control the movement of all vehicles and plant including that of his suppliers so that they remain on designated routes. In addition, such vehicles and plant must be so routed and operated as to minimise disruption to regular users of the routes not on the Site. On gravel or earth roads on Site, the vehicles of the Contractor and his suppliers must not exceed a speed of 25 km/h. On public roads adjacent to the site vehicles will adhere to municipal and provincial traffic regulations.

As far as possible any access routes/haul roads must utilise existing roads or tracks. Any new access roads/haul roads must be designed to minimise erosion and must run across slopes and not directly up-hill. All temporary access routes must be rehabilitated at the end of the contract to the satisfaction of the ECO. Method Statements for any new access/ haul roads must be submitted.

10.23. Site Clean Up and Rehabilitation

The Contractor must ensure that all structures, equipment, materials and facilities used or created on site for or during construction activities are removed once the project has been completed. The construction site must be cleared and cleaned to the satisfaction of the ECO. Immediately after the demolition of the camp site, the contractor shall restore the site to its original state, if required, paying particular attention to it's appearance relative to the general landscape. If the site is to be utilised as part of the approved development, the Contractor will restore the site to the specification approved by the Client, ECO and Engineer.

This shall include but not be limited to:

- → Earthworks to reinstate the physical characteristics of the site. Here attention to the natural vertical and lateral heterogeneity in landform shall guide the reinstatement of natural areas.
- → Replacement of topsoil material – care shall be taken to ensure that the same material that was removed from each area is replaced in the same or similar area, since this will carry the seed complement appropriate for re-establishment of each plant community type.
- → Final landscaping by machine, but landscaping by hand may be required in many areas under rehabilitation.

- → Re-seeding and/or replanting of rehabilitated areas, depending on the Specification.
- → The Contractor shall not be permitted to use fertilisers or pesticides unless cleared in a Method Statement and approved by the ECO.

It is imperative that any potential erosion problems are addressed. This may require subsequent site visits to monitor the efficacy of erosion control measures.

10.24. Land Management

Vehicles accessing the construction site must be made aware of driving in hazardous road conditions, sharp bends, narrow roads, bad weather, on or near children or domestic animals along the road if this is applicable. Vehicle movements should be kept to a minimum during rain to avoid damage to access roads and oil erosion must be always prevented along the access roads and around construction areas.

No fences or gates on the relevant construction property must be damaged. A decision on the open or closed status of all access gates to the property (construction site) must be taken with a view to manage the movement of domestic and/or wild animals on the site. Access by unauthorised personnel should also be controlled.

10.25. Building Plan Approval Process

- → The registered owner will be required to submit final building plans / any future alteration plans to the Riebeeck Hill Homeowners Association and Design Review Committee (DRC) for scrutiny prior to the construction of any building on the property. The plans shall be in accordance with the requirements of the local authority, National Building Regulations (SANS 10400), as well as the requirements prescribed within this document
- → It is encouraged that concept plans be submitted prior to finalization for initial comment and advisement by the RHHOA & DRC
- → Design review shall be a digital process, subject to final approval by the RHHOA & DRC
- → A fee for design review shall be determined by the RHHOA – and paid prior to scrutiny by the DRC.
- → Following design approval by the RHHOA / DRC, plans shall be digitally endorsed by the controlling authority, and only then can plans be formally submitted to the Swartland Municipal Council
- → Following Municipal Approval, a digital copy of the Approved Building Plan shall be provided to the RHHOA / DRC for record
- → A mandatory site commencement meeting shall be convened by the owner & DRC prior to commencement of construction

11. DESIGN CONSIDERATIONS

11.1. Architectural Guidelines

Introduction

- → The guidelines, as set out in this document, are binding upon all residents, tenants and property owners in Riebeeck Hill Estate.
- → The document outlines procedural, planning and aesthetic considerations for any design related to this development.
- → The objective of these guidelines will be to promote a design philosophy with a considerate and harmonious architectural aesthetic.

- → Flexibility and Interpretation within these guidelines is encouraged to allow for a sense of variety
- → It is critical that development is managed to retain the special quality of the environmentally- and culturally rich landscape
- → The intention should, throughout decision making, remain to respect the Riebeeck Kasteel context, and to contribute towards the established sense of place.
- → The decision of the RHHOA (Riebeeck Hill Homeowners Association), along with the appointed Controlling Architect for aesthetic control will be final and binding, subject to the approval of the Swartland Municipal Council.
- → The Homeowner's Association, in collaboration with the controlling Architect, reserves the right to make additions or alterations to these guidelines, as it deems necessary.
- → The guidelines are supplementary & not in contradiction to the National Building Regulations, SANS 10400 and the requirements of the Local Authority.

Building Plan Approval Process

- → The registered owner will be required to submit final building plans / any future alteration plans to the Riebeek Hill Homeowners Association and Design Review Committee (DRC) for scrutiny prior to the construction of any building on the property. The plans shall be in accordance with the requirements of the local authority, National Building Regulations (SANS 10400), as well as the requirements prescribed within this document.
- → It is encouraged that concept plans be submitted prior to finalization for initial comment and advisement by the RHHOA & DRC
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- → Following design approval by the RHHOA / DRC, plans shall be digitally endorsed by the controlling authority, and only then can plans be formally submitted to the Swartland Municipal Council.
- → Following Municipal Approval, a digital copy of the Approved Building Plan shall be provided to the RHHOA / DRC for record.
- → A mandatory site commencement meeting shall be convened by the owner & DRC prior to commencement of construction.

Checklist to Architect/s for submission to RHHOA / DRC

- Full drawing set in accordance with these guidelines, and also in accordance with Local Authority By-laws.
- Proof of Registration with SACAP
- Professional Indemnity Insurance
- Proof of Payment of Builder's Deposit
- Proof of Payment of Plan Assessment Fee
- Land Surveyor's plan with 500mm contours and benchmark
- All Building Lines, servitudes and setbacks
- Site Area Calculations
- Coverage Calculation/s
- 1:100 Plans of all levels / storeys
- Elevations / Sections indicating NGL and height restriction line
- North Point
- Roof Plan
- Drainage, including stormwater drainage
- Schedule of finishes for all materials visible externally
- Land Surveyor's Certificate
- Landscaping Plan (Architect / Landscape Arch or Horticulturalist)

The Design Philosophy:

The quaint and culturally rich town of Riebeek Kasteel is a canvas of historical architecture, picturesque landscapes, and rural charm. As new developments emerge, it's imperative to ensure that these structures seamlessly integrate into the fabric of this unique setting, honouring the town's heritage and the hinterland's cultural richness. The following broad principles are offered in respect of the developer's vision for place-making, architectural character, boundary considerations, surface aesthetics, and landscaping for a harmonious evolution within Riebeek Kasteel.

Place-Making Principles and Siting of Structures:

The ethos guiding the development aligns with an appreciation for the existing farmsteads, rural precincts and historic town / town centre. Encouraging smaller footprint development clusters over spread out and linear arrangements sets the tone for cohesive integration into the landscape. The sensitivity to scenic route interfaces is pivotal, demanding a careful placement and setback of new structures to maintain the visual integrity of these routes. Sloping sites require a delicate balance between development and landscape integration. Respectful adherence to ground contours and constraints on structures above specific contour levels are vital to prevent visual disruptions. Moreover, strict controls on the extent of cut and fill ensure that building platforms maintain the site's natural topography. The guidelines emphasize

adherence to established development parameters regarding zoning, building lines, coverage, and floor factor. Any deviation from these norms must be justified through thoughtful motivation, ensuring a balanced approach to new construction. Careful consideration of orientation, proximity to scenic routes, neighbouring properties, and the site's topography serves as the guiding principle in the placement of proposed structure.

The concept of "genius loci" underlines the guidelines, emphasizing design homogeneity that respects the rich cultural heritage of the hinterland. Striking this balance is key to ensuring that the new developments blend seamlessly into the existing landscape, maintaining the unique character of Riebeek Kasteel. It should be noted that it is not the intention of this development to be implemented as a plot and plan type approach. Each component of the development should be carefully designed and considered, based on the merits of the site specific opportunities.

Architectural Character, Materials, and Finishes:

The architectural character proposed is one of subtlety and neutrality, drawing from vernacular architectural traditions without replicating historical styles such as Cape Dutch or Victorian. The preference for natural materials and plastered, white or earth-toned walls sets the tone for unobtrusive background buildings. Roofs with medium to dark, recessive colours and limited to specific types of sheeting maintain the visual neutrality of the structures. Embracing low building heights, simple footprints, and 'alphabet' type plans aligned with dominant erf geometry contributes to the unobtrusive nature of the development. Large buildings should be visually broken down into smaller components, and the design should incorporate energy-saving mechanisms, aligning with modern sustainability standards.

Boundary Elements, Surfaces, Signage, and Lighting:

Visual neutrality and permeability are essential in boundary elements. Avoiding high, solid walls or precast panel fencing, and using low walling, when necessary, help maintain the aesthetic harmony. Security fencing, if required, should be screened with trees or hedging. Information signage and new lighting should be discrete, keeping the impact on scenic routes in mind. Uniformity in surfacing, landscaping, and indigenous planting further supports the rural context and reduces visual impacts.

Landscaping:

Landscaping strategies should accentuate the rural context, focusing on place-making and reducing visual impacts. Concealing visible parking areas from scenic routes and encouraging indigenous planting in consultation with a landscape architect contribute to a cohesive visual narrative within the development. The application of these comprehensive principles not only promotes the harmonious integration of new developments within Riebeek Kasteel but also ensures the preservation of its cultural heritage and rural charm. It is through a thoughtful and respectful approach that the proposed development will seamlessly weave into the fabric of this historic town, respecting its unique identity and enriching its legacy for future generations. Landscaping plays a pivotal role at site level as a continuation of the established town grid pattern.

Site & Development Specific Mitigation Measures:

The following site model demonstrates visual impact mitigation measures and responses to visual indicators. These principles are to be considered at design level for all development components. Note that controls have been carefully considered, and additional limitations have been placed on visually sensitive localities within the development.

Planning Controls - Density / Height / Coverage / Building Lines

Residential Zone 1: Low Density -The Hill Village
Coverage: 50%
Floor Factor: 3
Height: 4.5m (5.5 for double) measured parallel from the grade line to the wall plate & 7.5m measured from the grade line to the highest point of the roof in the case of pitched roofs. Buildings are limited to either single storey with roof space accommodation (limit applies to wallplate), and double storey in the lower reaches of the precinct (refer to key plan later). Cut & Fill limited to a maximum height of 1.2m above NGL. In special circumstances, increased cut & fill will be considered with motivation by the applicant.)
Street Building Line: 3.0m
Side Building Line: 2.5m
Rear Building Line: 2.5m

Vision and Specific Visual Controls (to be read with Urban Design Indicator - Annexure B and Landscape Masterplan - Annexure A):

- → Buildings must consist of a plinth, a body and roof (variation in roof profile and colour is promoted)
- → Buildings must be expressed as a series of primary volumes and envelopes, with both vertical and horizontal expression of character.
- → It is desirable to express structures as a darker recessive plinth, with a lighter first storey volume to facilitate the recessive intent of the architectural envelope.
- → Landscaping in both common areas (street verges), and also on residential erven is strongly promoted to establish tree clusters, which contribute to the intended reinforcement of the town grid and stitching of the urban fabric with the historical town.
- → Buildings above the 170m contour are limited to single storey structures, to be designed sensitively in respect of the steep slopes that prevail on the prominent hill. Tree clusters and grid reinforcement through landscaping assist with integration of the urban fabric.
- → Variety and dynamic expression in Architectural Design is promoted, while maintaining a recessive and varied architectural envelope treatment, with specific focus on the following key imperatives
- → Buildings are to be expressed as a series of vertical and horizontal volumes with punctured openings with screens / shutters or stoeps as contributors to thresholds.
- → Standing Roofs with gables and/or hipped roofs are promoted, while variation in roofscapes is welcomed.
- → Where gables are utilized, a symmetrical and / or balanced architectural articulation thereof is desirable (a varied expression including fireplace chimneys and windows as punctures to the solid facade is promoted).

The vision for this development component can be summarized as an extension of the existing urban residential fabric with a specific focus and respect to larger historical homesteads of Riebeek Kasteel. The dwellings form part of a layered landscape (landscaping as primary focal point, buildings as scattered recessive volumes set against the slopes of Riebeek Hill).

Area Specific Design Controls (Precinct related) and Planning Controls must be read with the Standard Architectural Guidelines to follow (refer to **Architectural Guideline document**).

Residential Zone 2: Town Housing – The Valley Village and The Retirement Village

Coverage: 60%
Height: 3.0m measured parallel from the grade line to the wall plate 5.5m measured from the grade line to the highest point of the roof in the case of pitched roofs (5.6m wallplate from FFL & 7.0m to highest point of roof for double storey units in Valley Village)
Street Building Line: 2.0m
Side Building Line: 1.2m
Rear Building Line: 1.5m

Vision and Specific Visual Controls (to be read with Urban Design Indicator - Annexure B and Landscape Masterplan - Annexure A):

THE RETIREMENT VILLAGE AND CARE CENTRE

- → Residential buildings in this precinct are limited to single storey buildings, and are to be expressed as a core volume (steep symmetrical roofs), with low pitched abutments (lean to roofs).
- → Core buildings terminating in either hips or gables (either parapet or overhang with eave based) are promoted, with a balanced and symmetrical facade articulation as street interface.
- → The street interface must include a varied facade expression (core building / entrance / garage to establish a threshold between the streetscape / front garden and building facade).
- → The street interface of the building must include a veranda associated with the primary access point / front door.
- → A separate precinct plan shall be made available to developers / residents with a predetermined building orientation to facilitate shared walls between garages within the precinct.
- → Perimeter walls must be limited to a maximum height of 1.2m when measured from the building facade to the street property boundary. Front of garage to be set back min. 1.2m from street facade.
- → The visitor / care centre will be limited to double storey scale and must be expressed as a series of core buildings with link elements. The centre must include threshold elements to maintain a positive street interface (verandah/s or pergola/s). All services must be located concealed from public view.
- → The care centre / public building is to be expressed as a courtyard type structure (L shape) reinforcing the public / street interface with a recreational yard area facing the business precinct.

THE VALLEY VILLAGE

- → The Valley Village contains sensitivity in that the Eastern and Northern edge conditions play a pivotal role in maintaining the intended varied streetscape character of Riebeek Kasteel.
- → All provisions listed in the preceding precinct apply, with the exception that double storey dwellings shall be permitted in the Valley Village for the following erven (31 - 34 & 48 - 54) as the Valley Village falls within a key visual corridor towards the Church Steeple in Riebeek Kasteel when approached from Church Street. Height limitations placed on the balance of erven maintains the view corridor (5.6m wallplate from FFL & 7.0m to highest point of roof).
- → Buildings in the Valley village are permitted to be constructed on the rear (and lateral) property boundaries in order to facilitate a positive street interface on the key movement corridors (East and North).

Residential Zone 3:
Flats Coverage: 40%
Floor Factor: N/A
Height: 5.4m measured parallel from the grade line to the wall plate 7.5m measured from the grade line to the highest point of the roof in the case of pitched roofs

Street Building Line: 3.0m
Side Building Line: 3.0m
Rear Building Line: 5.0m

Vision and Specific Visual Controls (to be read with Urban Design Indicator – Annexure B and Landscape Masterplan – Annexure A):

THE DUPLEX UNITS AT THE FONTEIN STREET ENTRANCE

- → The Fontein Street entrance represents 1 of 4 key access points to the new development, and thus this precinct should be expressed as a pedestrian friendly street interface with building facades and front gardens as thresholds.
- → The duplex units do not present a significant visual impact and consequently the residential units can be designed as double storey walk-up type dwellings.
- → The duplex precinct does offer an opportunity to function as a gateway into the development, and thus the streetscape should be expressed as a continuation of the varied / walkable streetscape/s of the existing Riebeek Kasteel. It is required that the building facade facing Fontein street contains a gable roof / interface.
- → The vision is to reference the central Riebeek Kasteel urban fabric, with continuous building facades located close to the street interface, with subtle variety in colour and material expression.
- → Parking is to be located towards the North of the erf, resulting in a direct pedestrian connection to the series of dwellings, with a layered front garden and landscaped threshold. The precinct can Include one central vehicular access point, leading vehicles to circulation and parking located at the rear of the property.
- → The duplex units are to be expressed as a series of individual buildings with shared dividing walls, resulting in a continuous streetscape of buildings leaving out towards the public street.
- → The perimeter wall facing the public internal street is to be limited to a height of 1.8m, with a minimum permeability of 60%. The boundary wall is to be expressed as a series of columns, with a low wall and steel infill panels designed to correlate with the grid system established by the duplex residential designs beyond.
- → Low walls can be built internally between units (1.2m height) and / or planted hedges for privacy / screening.
- → Variation in facade-based elements / colours is promoted to establish as subtle rhythm and balance in respect of the pedestrian / vehicular experience, and each unit is to contain a threshold element for a minimum of 40% of the unit width facing the internal public street (veranda with columns).

Community Zone 3: Institution
Coverage: 60%
Height: 3.2m measured parallel from the grade line to the wall plate 6m measured from the grade line to the highest point of the roof in the case of pitched roofs. All buildings to be single storey only.
Street Building Line: 3.0m
Side Building Line: 1.5m
Rear Building Line: 1.5m

THE RETIREMENT VILLAGE AND VISITOR'S / CARE CENTRE
Vision and Specific Visual Controls (to be read with Urban Design Indicator - Annexure B and Landscape Masterplan - Annexure A):

- → Residential buildings in this precinct are limited to single storey buildings, and are to be expressed as a core volume (steep symmetrical roofs), with low pitched abutments (lean to roofs).
- → Core buildings terminating in either hips or gables (either parapet or overhang with eave based) are promoted, with a balanced and symmetrical facade articulation as street interface.
- → The street interface must include a varied facade expression (core building / entrance / garage to establish a threshold between the streetscape / front garden and building facade).

- → The street interface of the building must include a veranda as part of the front door design.
- → A separate precinct plan shall be made available to developers / residents with a predetermined building orientation to facilitate shared walls between garages within the precinct.
- → Perimeter walls must be limited to a maximum height of 1.2m when measured from the building facade to the street property boundary.
- → The visitor / care centre will be limited to single storey scale and must be expressed as a series of core buildings with link elements. The centre must include threshold elements to maintain a positive street interface (verandah/s or pergola/s). All services must be located concealed from public view.
- → The care centre / public building is to be expressed as a courtyard type structure (L shape) reinforcing the public / street interface with a recreational yard area facing the business precinct.
- → It is desirable that the visitor/s centre extends to 5.0m from the public street boundary to provide a continuation established by the Duplex Units precinct, reinforcing the pedestrian experience to and from the Fontein Street entrance.
- → Parking for the visitor/s centre can be located along the internal street (main retirement village entrance.
- → Building scale for the visitor and care centre should be expressed as a series of residential buildings, rather than a institutional core building of excessive scale. The visitor's centre's massing and expression should facilitate the scale threshold between the business / retail component, and fine-grained retirement units beyond.

Business Zone 1: General Business
Coverage: 100%
Floor Factor: 3
Height: 6.0m measured parallel from the grade line to the wall plate 9m measured from the grade line to the highest point of the roof in the case of pitched roofs
Street Building Line: 35.0m
Side Building Line: 3.0m where abutting residential
Rear Building Line: 3.0m where abutting residential

THE RETAIL VILLAGE SQUARE
Vision and Specific Visual Controls (to be read with Urban Design Indicator - Annexure B and Landscape Masterplan - Annexure A):

- → The Retail village square serves as 1 of 4 key gateways to the development, primarily for visitors from the existing Riebeek Kasteel via the left in from Church Street. The Retail Village will also present an opportunity to become a key stop / rest point for visitors passing through Riebeek Kasteel along the "de facto" scenic route R311.
- → The Retail Centre should be fragmented into 4 primary volumes in respect of roof articulation. Low wall 0.9m to be included on R311.
- → The Retail centre is to be set back a minimum of 30m from the western property boundary facing the R311 to permit a continuation of the existing rural streetscape experience. The buffer zone is to be expressed with clusters of trees / dense landscaping and a combination of hard / soft landscaping below which can be utilized as parking / rest areas. Small, roofed rest areas and / or trading stalls in these areas are welcomed to reinforce a walkable / pedestrian based retail experience. The fine grained and layered visual experience will reinforce the intended visual separation between the R311 and the Retail centre beyond.
- → The Retail centre is to be set back as far as possible towards the Northern and Eastern property boundaries, and ideally to be expressed as an L - Shape simple linear structure with a double pitched roof terminating in gable ends / hips. All structures facing the Retail square are to contain covered walkways, interrupted by a series of gables to establish a rhythm demarcating key access points to the Retail Centre.
- → A secondary core structure is required towards the South of the precinct to reinforce the "courtyard" based design, and also the scale of the centre. The break in the core structure facilitates a key strategic link between the Retail Village Square and the Neighbourhood Park.

- → All public facing facades are to contain verandah type structures with either door/s or window openings to promote an interactive interface.
- → The roof of the retail centre shall be expressed as a double pitched symmetrical roof. Where the width of a structure exceeds 8.0m in width, a hipped roof shall be applied. Gables to be used where structures are below 8.0m in width.
- → All facades facing the Retail Square and Neighbourhood Park shall Be expressed as interactive and walkable facades (core structure with covered walkway/s and sequenced gables establishing a rhythm in expression)
- → Loading areas for the Retail centre are to be located along the Northern property boundary, and services are to be limited to the back of the centre, strategically located not to present any visual / noise pollution to the residential precincts beyond.

The following series of Architectural Guidelines have been developed to provide specific input/s on Architectural elements which will form part of each of the Development Precincts. The guidelines are not exhaustive or all - inclusive, however, the guidelines are to be considered as a mechanism against which future design submissions can be evaluated in order to maintain the development, Vision. The guidelines / controls focus primarily on the residential precincts within the larger development; however, the Retail / Institutional and Park precincts are also to be developed based on the guidelines / mechanisms and intended materiality / expression as set - out.

Boundary Walls

Boundary Walls - Street Facing

A positive street interface and visually permeable streetscape shall be promoted through limitations placed upon street facing boundary walls.

Street facing boundary walls, including side facing boundary walls up to the plane of the building facade, shall not exceed 900mm in height.

Boundary walls are to be constructed of masonry / block, and plastered & painted. No excessive ornamentation / plaster details shall be permitted. Boundary wall tops can be square, contain plaster bands or finished with a 30 degree plastered coping.

Where boundary walls contain gates, these gates shall not exceed the height of the adjoining wall. Boundary walls can include decorative steel panels beyond 900mm, but limited to a height of 1800mm. Walls are to be expressed as columns of minimum 440x440mm at a minimum of 3.0m centres, with decorative steel panels fixed between columns.

No sliding gates shall be permitted for enclosure of driveways, driveways are to remain accessible to the street.

Owners are encouraged to employ mass planting and hedges for street boundary definition - street boundary walls are not mandatory / required.

Boundary Walls - Side and Rear Facing

Street facing boundary wall types may be employed as lateral / rear boundary walls

Lateral walls between residential properties may be solid, limited to a height of 1800mm.

Where drying yards / service areas occur, walls may be permitted to a height of 2100mm.

For sloping sites, walls are to maintain a horizontal line / wall top, with even steps in the wall panels (minimum 3.0m) accommodate topography.

Any wall which faces onto a public street / public open space shall be assessed as a "street facing wall" - no solid walls are permitted here.

Retaining Walls

Where retaining walls are required, the height per tier / wall shall be limited to 1.2m vertically and spaced at intervals of 600mm minimum. Owners are encouraged to employ planting spaces between consecutive retaining walls (staggering). Retaining walls can be built walls, dry packed stone, gabion stone walls and Terraforce Rock Face walls. No terraforce with planting pockets will be permitted. Owners are encouraged to respect the landscape / topography and express structures as a function thereof, large retaining walls should be avoided through considered design.

The following walls types shall not be permitted: palisade fencing, bagged brickwork / blockwork, vibracrete walls.

Driveways

The driveway may not exceed 6.0m in width. Driveway materials are to be of a natural palette, such as exposed aggregate concrete pavers (Table Mountain Sandstone aggregate - or similar). Small or large format charcoal cobbles shall also be permitted. A simple combination of pavers (edging & infill) is promoted.

Exposed aggregate surface beds shall be permitted within the perimeter of the erf, however toad verges are to be paved only to ensure future access to services.

Each homeowner shall provide 2 x 110mm PVC sleeves 500mm below the level of the driveway complete with draw wires for provision of future services (road reserve).

Homeowners are encouraged to soften large, paved areas with planted inlays

Driveways must join the access roads at right angles.

Building Composition

Plan Form

Simple Barn Forms are required, and building forms are required to be arranged parallel to one another. All buildings should be orthogonal to the erf's street boundary - any deviation to be motivated for approval. Dwellings must be expressed as a single-, or series of Core buildings not exceeding 150m^2 per volume. Core buildings shall be primary shapes (square or rectangular forms), which are separately roofed, and joined by linking elements. Plan Forms should be expressed as a "letter of the alphabet" building type.

Cut / Fill & Building Platform/s

Buildings constructed on slopes may require plinths to improve the degree of utility related to the specific site. The height of the ground fill at any point of the site may not be more than 1500mm measured from the natural ground level at the particular point of the site. Buildings should seek to respect the topography, and stepped levels should respond to the slope through considered design. Buildings are required to be positioned aligned with the natural topography of each site, and not perpendicular to the slope of the site, which will result in excessive cut / fill and platform/s. No Cut / Fill shall be permitted closer than 1.0m to any property boundary.

Core Buildings

Core buildings shall be a minimum of 5.0m wide, up to a maximum of 7.5m.

Core buildings are encouraged to end in gables and/or hips - gables can be either traditional parapet type or to underside of roof overhang.

Linking Elements / Low Pitched Abutments

Linking elements shall serve as a secondary / recessive architectural feature to bind primary core buildings together.

Linking elements shall be either concrete flat roofs, or flat mono-pitched roof structures concealed behind a minimum 250mm parapet wall.

Linking elements shall not exceed 30% of the overall architectural scheme when measured from roof plan.

Link Elements shall not exceed 7.5m in width.

Architectural Elements and Materials

Roof Core Structure Roofs are encouraged to be expressed as double pitched symmetrical roof structures with equal roof pitches, with the apex to be in the absolute centre. Core Structure Roofs can also be expressed as hipped roofs.

Roof pitch to be a minimum of 25 degrees and a maximum of 40 degrees.

Permitted Roof Materials include:

- → Clip-lok / Diamond Deck or S-Profile Steel Roofing (Dark Charcoal colour family only)
- → Coverland Elite Roof tiles (through colour concrete flat roof tile) or similar approved (dark grey)
- → Concrete Flat Roofs (linking elements) are to be waterproofed and covered with brown or grey stone chips (no silver coating to be visible).

The following Roofing Materials are not permitted:

- → Galvanized (finish) roof sheeting
- → IBR Roof Sheeting
- → Fibre Cement Sheeting
- → Profiled Cement / Concrete Tiles
- → Thatch Roofs
- → Clay Roof Tiles

All roofs are to be covered with a trafficable surface.
Fascias and gutters:

- → 125 OGEE profile, seamless and pre - painted gutters, with square / rectangular aluminium downpipes
- → Downpipes are to match either roof / gutter colour, or wall colour.
- → Nutec or Timber Fascias painted to match either eave or roof colour

Barge Boards:

- → Installed with a minimum 40mm shadow line from gable walls

- → Painted to match the colour of the main roof

Roof Eaves:

- → Roof overhangs are to be a minimum of 300mm, and maximum of 900mm
- → Dwellings are encouraged to include overhangs for an improved shading factor / energy efficiency
- → Eaves can be either flush boarded Nutec type, or exposed sprockets with recessed boards (painted).

Roof structures are encouraged to be expressed as simple / primary forms to complement the existing urban fabric / roofscape of Riebeek Kasteel. No excessive ornamentation will be considered. Dormer windows will be permitted to optimize roof space accommodation in single storey control areas - wallplate and absolute heights to be respected. Stoeps and Verandas are strongly encouraged.

Solar Panels or PV collectors are to be installed in the same plane as the roof and frames / brackets are to be colour matched to the roof finish. The intended installation extent is to be indicated on the plans submitted for estate approval.

Townscape Analysis and Key Informants

Riebeeck Kasteel boasts a distinct townscape / village character which can broadly be defined stylistically as Cape Vernacular Architecture. The town and historic town centre contains a variety of modest homesteads / businesses and focal nodes (Church) characterized by the following experiential informants:

- → Buildings contribute substantially to the street edge condition, often becoming the defining element in respect of streetscape experience.
- → Where buildings are more recessive, the more traditional homestead “werf” is experienced, with low walls only defining the property extents.
- → A strong visual connection is experienced between the public realm, and private homesteads.
- → Both Streetscapes and “werfs” are sensitively planted which offers a strong reference to the rich agricultural potential of the hinterland.
- → Built forms express traditional (symmetrical) Cape Cottage styles, and also more recent “letter of the alphabet” building configuration/s.
- → Ornamentation is experienced on certain buildings in the historic town core - referencing the Edwardian and Georgian influence.
- → Building Forms and massing can be described as rectalinear buildings often aligned with the street grid pattern. Symmetry is experienced in facade expression, with some variation on more recently constructed buildings.
- → Strong traditional Cape Dutch elements are prevalent such as thick walls and whitewashing, gabled roof structures, verandas and stoeps, loft windows, corrugated metal roofs with steep double pitched roof expression.
- → The urban fabric of Riebeeck Kasteel is firmly embedded in the landscape through a variety of built forms of similar scale / height and material expression. The roof landscape is experienced as a variety of steep double pitched corrugated metal roofs, interspersed with a variety of planting and established tree canopies.
- → It is the intention of the developer to facilitate a continuation of the distinct townscape / village character, thus the conceptual massing and expression of proposed building compositions will be critical in achieving this vision.
- → The following guiding principles and controls are offered to ensure alignment with the existing urban fabric of Riebeeck Kasteel.

Building Composition

Plan Form

Square or rectangular Forms are required, and building forms are required to be arranged parallel to one another.

The orientation of the building should seek to be aligned with at least one of the side erf boundaries, but arrangement should also respect the topography, and can be arranged in alignment with the dominant slope / topography of the site. Dwellings must be expressed as a single-, or series of Core buildings not exceeding 100m2 per volume.

Core buildings shall be primary shapes (square or rectangular forms), which are separately roofed, and joined by linking elements.

Plan Forms should be expressed as a "letter of the alphabet" building type.

Cut / Fill & Building Platform/s

Buildings constructed on slopes may require plinths to improve the degree of utility related to the specific site.
The height of the ground fill at any point of the site may not be more than 1500mm measured from the natural ground level at the particular point of the site.

Buildings should seek to respect the topography, and stepped levels should respond to the slope through considered design.

No Cut / Fill shall be permitted closer than 1.0m to any property boundary.

Core Buildings

Buildings shall be expressed as a series of core buildings, as opposed to a single dominant volume. Core buildings shall be a minimum of 5.0m wide, up to a maximum of 7.5m.

Core buildings are encouraged to end in gables - gables can be either traditional parapet type or to underside of roof overhang.

Linking Elements / Low Pitched Abutments

Linking elements shall serve as a secondary / recessive architectural feature to bind primary core buildings together.

Linking elements shall be either concrete flat roofs, or flat mono-pitched roof structures concealed behind a minimum 250mm parapet wall.

Linking elements shall not exceed 30% of the overall architectural scheme when measured from roof plan.

Link Elements shall not exceed 7.5m in width.

Architectural Elements and Materials
Roof

Core Structure Roofs are encouraged to be expressed as double pitched symmetrical roof structures with equal roof pitches, with the apex to be in the absolute centre.

Core Structure Roofs can also be expressed as hipped roofs, or mono pitched roofs. Mono Pitched roofs are to align with the slope of the natural topography of the site.

Roof pitch to be a minimum of 15 degrees and a maximum of 40 degrees.

Permitted Roof Materials include:

- → Clip-lok / Diamond Deck or S-Profile Steel Roofing (Colour - Chalk / Rain Cloud / Seaspray / Thunderstorm / Slate)
- → Coverland Elite Roof tiles (through colour concrete flat roof tile) or similar approved (Colour - light grey & dark grey)
- → Concrete Flat Roofs (linking elements) are to be waterproofed and covered with brown or grey stone chips

The following Roofing Materials are not permitted:

- → Galvanized (finish) roof sheeting
- → IBR Roof Sheeting
- → Fibre Cement Sheeting
- → Profiled Cement / Concrete Tiles
- → Thatch Roofs
- → Clay Roof Tiles

All roofs are to be covered with a trafficable surface.

Fascias and gutters:

- → 125 OGEE profile, seamless and pre - painted gutters, with square / rectangular aluminium downpipes
- → Downpipes are to match either roof / gutter colour, or wall colour.
- → Nutec or Timber Fascias painted to match either eave or roof colour

Barge Boards:

- → Installed with a minimum 40mm shadow line from gable walls
- → Painted to match the colour of the main roof

Roof Eaves:

- → Roof overhangs are to be a minimum of 300mm, and maximum of 900mm
- → Dwellings are encouraged to include overhangs for an improved shading factor / energy efficiency
- → Eaves can be either flush boarded Nutec type, or exposed sprockets with recessed boards (painted).

Stoeps and Verandas are strongly encouraged, with lean-to roofs / afdak as enclosure.

Roof structures are encouraged to be expressed as simple / primary forms to complement the existing urban fabric / roofscape of Riebeeck Kasteel. No excessive ornamentation (skylights / dormer windows)
will be considered.

Solar Panels or PV collectors are to be installed in the same plane as the roof and frames / brackets are to be colour matched to the roof finish. The intended installation extent is to be indicated on the plans submitted for estate approval

Architectural Elements and Materials
Walls

Walls are to be constructed of masonry and plastered smooth / painted.

No experimental construction systems will be allowed (lightweight steel / container based / timber etc.)

Accent finishes will be considered, and will be limited to the following materials:

- → Locally Specified Dry Pack Stone Cladding (granite or equal)
- → Timber or composite cladding

- → Rendered Wall Coatings (Marmoran or equally approved)
- → Texture Plaster (scratch plaster or similar)

The following exterior material finishes will not be permitted:

- → Artificial Stone Cladding
- → Facebrick
- → Bagged or fairface brickwork (painted or sealed)
- → Tiled Walls
- → Shiplap Cladding.

Windows / External Doors / Shutters

Windows are to be constructed of Aluminium powder / epoxy coated glazed frames in dark grey, light grey or white.

Glazing is to be clear except where UV protection is required due to energy efficiency requirements (SANS 10400 XA Ed. 2). Coloured tints / films are prohibited other than grey or smoke tint to achieve the desired fenestration U & SHGC values. Arctic snow glazing may be employed in bathrooms for privacy, however, this will not be permitted on street facing facades.

Windows proportions should be such that the height exceeds the width, or square.

Where horizontally proportioned windows / doors or openings occur, these elements shall be adequately recessed (1500mm) behind the outer line of a shading device (afdak / pergola).

Window Sills shall be simple filleted plastered surfaces with no decorative or figurative mouldings.

Plaster bands around windows / openings shall be permitted, limited to a width of 100mm.

Front Doors shall be timber or aluminium framed with glass.

Garage Doors shall be either single (2440mm) or double (4880mm) and limited to a height of maximum 2.3m. Garage doors shall be either varnished timber, or powder coated / epoxy coated aluminium to match the colour of the roof / window frames. Only horizontal plank door types will be allowed. Garage doors are to be either sectional overhead- or tilt up type.

External Shutters will be permitted and are to be fully framed with horizontal infill representative of angled louvre elements (either natural timber or aluminium - grey).

Shutters are to be installed by means of sliding mechanism only, no side hung shutters will be permitted.

All horizontally expressed openings (windows / doors) are do be screened for 130% of the width by either timber / aluminium louvre or veranda type structure/s with sheeting.

Architectural Elements and Materials

Balconies, Stoeps, Verandas and Balustrades / Handrails

Balconies / Verandas and Stoeps are strongly encouraged in keeping with the character of Riebeeck Kasteel. Lean - to secondary roof structures are encouraged to soften primary / core structures.

No balconies shall be permitted on common boundaries.

Where stoeps / verandas abut common boundaries, they shall be adequately screened by means of a side wall / louvre screen.

The following balustrades will be permitted:

- → Timber Balustrades (natural or painted)
- → Seamless plastered Masonry upstand / parapet walls as balustrades
- → Simple painted / powder coated steel balustrades consisting of framed panels with horizontal or vertical round or square members with a maximum clear opening of 100mm.
- → A combination of the above is permitted

The following balustrades will be permitted:

- → Wrought Iron or excessively decorative steel balustrades
- → Stainless Steel (including wire balustrades)

Pergolas

Pergola structures are encouraged and are to be expressed as simple structures free of ornamentation. Materials include:

- → Varnished or painted timber
- → Aluminium powder coated to match windows / roof
- → Galvanized steel painted or powder coated to match windows / roof (square or rectangular profile/s)

Gates

Gates are to be fully framed (powder- or epoxy coated to match window colour) with aluminium louvre infill, or natural varnished timber.

Gates are to match boundary walls adjacent in height, or less.

Awnings

Awnings must be concealed from the road. Where awnings are installed to pergola or support structures, they must be fully concealed behind upstands / parapets or fascia/s. Awnings shall be of a uniform recessive matt finish, with no windows / cut-ours or decorative modifications. Vertical canvas roller blinds shall not be permitted.

No prefabricated awnings shall be permitted.

Chimneys and Fireplaces

Chimneys can be expressed as square / symmetrical structures either recessed into the floor plan envelope, or external on gable ends.

Fireplaces are encouraged to be placed on gable ends where possible.

Chimneys may be tapered vertically from both sides, or one side, to a minimum width of 1.2m x 0.8m.

Chimneys / Flues permitted include:

- → Square turbo cowl (Charcoal)
- → Louvered capping (Charcoal)
- → Square flue, with charcoal steel flue and capping - Flue to be squared off at a minimum of 300mm below wallplate level.

No round turbo cowl / rotating cowl types will be permitted.

Pools

Pools are to be located screened from street / public view. No infinity type pools will be permitted on the street facing facade.

Pool safety is to be designed with the architectural language of the dwelling, no off the shelf fencing will be permitted.

Above ground pools & porta - pools will not be permitted.

Pools and enclosures are to comply fully with the National Building Regulations (Pool Safety).

External Lighting - Private

Lighting is to be complimentary to the overall design and should not be applied following design finalization. Lighting is to be submitted as part of the DRC review process.

Indirect lighting is strongly encouraged (mood lighting) such as foot lights / up & down lights - where the light source is typically concealed.

Security / Flood lighting is discouraged, and 1 x such light shall be permitted to the front of any dwelling, and must be regulated by a timer.

The use of proximity switching / lower output lamps and timers is strongly encouraged to maintain the rural character of the development. Light pollution and hindrance to neighbours should be considered during lighting placement and design.

Buildings are not to be excessively lit during the night, and street boundary wall lighting should be limited to feature lighting to accentuate landscaping.

External Lighting – Public

Lighting to streets and public areas shall be carefully considered as to prevent undue light “spillage”.

Street Lighting shall be positioned at regular intervals and limited to a height of 3.0m (bollard type), with lights that are fully shielded.

All exterior lighting shall be located and controlled as to avoid direct illumination, glare or reflection onto any adjoining property or scenic route.

A maximum of 3000 Kelvin is recommended for public / exterior public lighting.

Lighting is to be utilized for active use only and should be turned off during non - business hours (for business components). Permanent lighting should be employed only where public safety is of concern.

Streets / Verges and Hard Landscaping

All public streets shall be covered in asphalt, with kerbs / road verges to civil and landscape engineer’s details.

Pedestrian walkways are to be exposed aggregate pavers with grey cobble copings (Cape Sandstone aggregate).

Services

All services should be designed as part of the proposed structure, and should be concealed from street view, these include:

- → Electrical Conduits and Surface Wiring
- → Air-Conditioned Units and Condensate Piping
- → Heat Pumps and Geysers / Pool Pumps and Pool Heating Units
- → No wind turbines shall be permitted

Signage

No third-party signage shall be permitted along the R311.

Building signage shall not exceed the average building height.

Signage on the R311 should be limited to directional signage to indicate entrances / exits, and primary building signage should be placed on building facades only, shielded by the vegetation buffer zone.

Landscape Design Guidelines

A landscape masterplan will be implemented by the developer, and as part of the phased implementation plan. The landscaped portion will be required to be completed prior to proceeding with any subsequent building phase to allow vegetation to be well established by completion of this development.

Note that predetermined tree clumps will require implementation by both the developer and land owners - refer to the landscape masterplan for further detail.

A Landscape Plan will be required to be submitted with all building plans for assessment by the Controlling Landscape Architect. The following Landscaping List is provided for selection of the endemic landscape types:

Landscaping List

FRs 9 Swartland Shale Renosterveld Biome (background - to be read further with the Landscape Masterplan)

(Mucina & Rutherford (eds) 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria).

VT 46 Coastal Renosterbosveld (85%) (Acocks 1953). LR 62 West Coast Renosterveld (86%) (Low & Rebelo 1996). BHU 31 Swartland Coast Renosterveld (63%), BHU 32 Boland Coast Renosterveld (27%) (Cowling et al. 1999b, Cowling & Heijnis 2001). Coast Renoster Shrubland (Campbell 1985).

Distribution Western Cape Province: Large, generally continuous areas of the Swartland and the Boland on the West Coast lowlands, trom Het Kruis in the north, southwards between the Piketberg and Olitantsrivierberge, widening appreciably in the region around Moorreesburg between Gouda and Hopefield, and encompassing Riebeek-Kasteel, Klioheuwel, Philadelphia, Durbanville, Stellenbosch to the south and Sir Lowry's Pass Village near Gordon's Bay. Altitude 50-350 m.

Vegetation & Landscape Features: Moderately undulating plains and valleys supporting low to moderately tall leptophylous shrubland of varying canopy cover as well as low open shrubland dominated by renosterbos. Heuweltjies are a very prominent local feature of the environment, forming 'hummockveld' near Piketberg and giving the Tygerberg

Hills their name. Stunted trees and thicket are often associated with the heuweltjies. Disturbed areas are dominated by Athanasia trifurcate and otholobium hirtum. Patches of Cynodon dactylon 'grazing lawns' also occur in abundance.

Geology and soils: Clay soils derived from Malmesbury Group shales (specifically the Porterville formation in the north and east and the Moorreesburg formation in the west). The soils contain prismacutanic and pedocutanic diagnostic horizons and Glenrosa and Mispah forms are predominant. Land types mainly Db, Fb, and Da.

Climate: Winter - rainfall regime=, with MAP 270-670mm (mean:430mm), peaking from May to August. Mean daily maximum and minimum temperatures 29.6 deg and 6.3 deg for February and July, respectively. Frost incidence 3 or 4 days per year. Mists are common in winter.

Important Taxa (Wetlands) Tall Shrubs: *Aspalathus acuminata subs. acuminate (d), Rhus angustifolia (d), Rincisa (d, Chrysanthemoides monilifera, Euroyops speciosissimus, E. tenuisimus, Gymnosphoria buxifolia, Lebeckia cytisoides. Low shrubs: Anthospermum aethiopicum (d), A. spathulatum subsp. tulbaghense (d), Elytropappus rhinocerotis (d), Eriocephalus africanus var. africanus (d), Euryops thenbergii (d), Galenia secunda (d), Helichrysum cymosum (d), H. teretifolium (d), Osteospermum spinosum (d), otholobium hirtum (d), Agathosma glandulosa, Aspelathus aculeata, A. pinguis subsp. pinguis, A. varians, Asparagus Rubicundus, Athanasia trifurcate, Cliffortia marginata, Diosma hirsuta, Euclea acutifolia, Felicia filifolia subsp. filifolia , F hyssopifolia, Galenia africana, Lebeckia cinereal, Leacadendron lanigerum var. lanigerum, marasmodes polycephala, Metalasia dregeana, M. octoflora, Muraltia decipolycephala, Metalasia dregeana, M. octoflora, Muraltia decipiens, M. ononidifolia, Oftia Africana, Passerina truncate subsp.truncata, Phylica gracilis, Plecostachys serpyllifolia, Pteronia divaricate, P. incana, Rhus dissecta, senecio pubigerus, stoebe plumose. Succulent Shrubs: Euphorbia burmannii (d), E. mauritanica, Lamprantus elegans. Woody Climber: Microloma Sagittatum. Herbs: Berkheya armata (d), B. rigida, Cotula turbinata, Echiostachys spicatus, Lichtensteinia obscura, Manulea cephalotes, Senecio laxus, Stachys eathiopica. Geophatic Herbs: Cynaella hyacinthoides (d), melasphaerula ramose (d), Melasphaerula Ramosa (d), Albuca maxima, Aristea Africana, babiana melanops, cheilanthes capensis, Disa physodes, geissorhiza imbricate subsp. bicolow, G. inflexa, G. juncea, G. purpureolutea, G. tulbaghensis, Lachenalia longibracteata, L pallida, L. polyphylla, Mohria caffrorum, Ornithogalum thyrsoides, Oxalis pes-caprea, Romulea flava, R leipoldtii, R. rosea, R. tubularis, Watsonia marginata. Graminoids: cynodont dactylon (d), Ehrharta calycina (d), Elegia capensis (d), E. recta (d), E. tectorum (d), Elegia capensis (d), E. recta (d), E. tectorum (d), Ficinia brevifolia (d), ischyrolepsis capensis (d), Merxmuellera stricta (d), Ehrharta delicatula, E. thunbergii, Hordeum capense, Merxmuellra Arundinacea, tribolium hispidum.*

Endemic Taxa Low Shrubs: Leucadendron verticillatum (d), Aspalathus acanthophylla, A. horizontalis, A. pinguis subsp. longissima, A. pinguis subsp. occidentalis, A. puberula, A. rectistyla, Cliffortia acockii, Lotononis complanata, Serruria incrassata. Succulent Shrubs: Erepsia ramosa, Ruschia patens, R. pauciflora. Herb: Indigofera triquetra. **Geophytic Herbs**: Aristea lugens, Babiana angustifolia, B. odorata, B. secunda, Hesperantha pallescens. H. spicata subsp. fistulosa, Lachenalia liliflora, L. mediana var. rogersil, L. orthopetala, Lapeirousia astigiata, Moraea gigandra, M tulbaghensis, Oxalis fragilis, O involuta, O. leptocalyx, O. levis, O. macra, O. perineson, O. strigosa, Pelargonium viciifolium. **Conservation:** This is a critically endangered vegetation unit. Target 26%, but since 90% of the area has been totally transformed (mainly for cropland), the target remains unattainable. The remnants are found in isolated pockets, usually on steeper ground. So far only a few patches have been included in conservation schemes (e.g. Elandsberg, Paardenberg). Aliens include Acacia saligna (very scattered over 65%), A. mearnsii (very scattered over 62%) as well as several species of Prosopis and Eucalyptus. Alien annual grasses of the genera Avena, Briza, Bromus, Lolium, Phalaris and Vulpia are a primary problem in remnant patches. Other serious aliens include herbs such as Erodium cicutarium, E. moschatum, Echium plantagineum and Petrorhagia prolifera. Erosion very low and low. **Remark 1**: No floristic or phytosociological support for the north-south split into Swartland and Boland BHUs (Cowling & Heijnis 2001) could be found. Nor could we find any patterns associated with the coastal-inland geological belts (Tygerberg, Moorreesburg and Brandwacht Formations).

Remark 2: Various special vegetation units are embedded within the West Coast renosterveld matrix, composed of vernal pools, ferricrete gravels, quartz patches and seasonally wet low- lands—all ranking among the most threatened Cape habitats and housing many endemic taxa. Refer to Landscape Masterplan & Design Standards for further planting lists and guidance to prepare landscape plans, **Appendix G9** of the BAR.

11.2. Urban Design concept

Urban Design Recommendations

Refer to Appendix G4 of the BAR

ACCESS POINT

There are four access points to the new neighbourhood.

1. The primary access will be from Church Street to the South of The Barn.\
2. A second access point from Church Street will function as a left-in only and will provide direct access to the retail village.
3. The Fontein Street link will connect the new neighbourhood with Fontein Street and provide a pedestrian-friendly link to town.
4. The existing Southern access point to Fontein Street will not be used.

GREEN BUFFER

The green buffer that runs along Church Street forms a soft approach to the Church-Main intersection. It also creates a green foil through which views of the town become visible as one drives down Church Street.

The new neighborhood should enhance this green buffer through the planting of trees and landscaping.

GRID

Due to the topography, it is not always possible to simply extend roads along this existing grid, however, extending the existing town grid over the site highlights where the alignment of new streets or lines of trees should be planted to tie the new neighbourhood back into the existing grid.

VIEW LINES

There are two primary view lines to be considered.

Firstly, the view from Church Street towards the DRC Steeple over the new neighbourhood. The topography falls away from Church Street, allowing for buildings to be situated in this view cone further down the valley.

The second is the view traveling south on Church Street looking onto the hill. It is important that development on the hill is nested within a foil of trees or landscaping. Buildings on the hill should consider scale and sensitivity in terms of visual impact.

POINTS OF INTEREST

There are three primary ordering elements currently on the site.

1. The fountain, which is to be publicly accessible.
2. The Barn, and existing commercial venture, which restricts access and circulation, and should be integrated with the new neighbourhood.
3. The hill, which restricts layout due to topography.

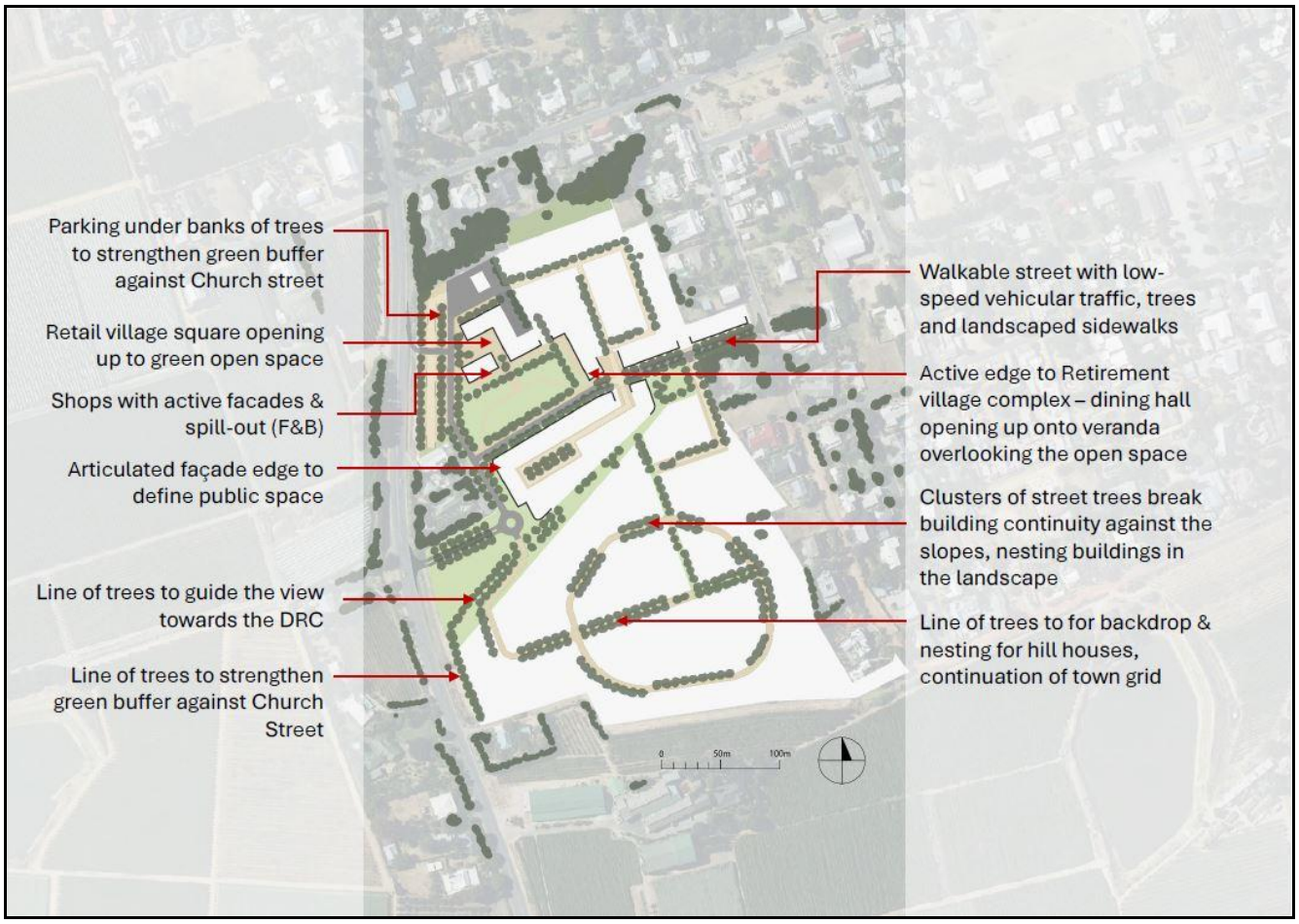
LAYOUT INFORMANTS

1. Landscape & tree buffer line - continuation of existing green buffer along Church street.
2. Church Street entrance precinct – to tie into green buffer, welcoming approach into the neighbourhood.
3. Retail precinct arrival point – primary access point when driving from town center to retail precinct (Left-in access from Church Street).
4. New public space – fountain access, buffer between residential and retail uses + public access to natural asset.
5. Fontein Street entrance precinct – link to existing neighbourhood.
6. Screening opportunities on the hill – create a green backdrop and foils for houses.
7. Framed & nested typologies – use layering of building elements to break scale; use trees and vegetation to nest buildings & mitigate visual impact.
8. Low-rise typologies – restrict size and height of buildings to maintain views from Church Street.

Recommendations

NEIGHBOURHOOD LAYOUT

The proposed layout uses elements identified through the townscape analysis to ensure the new neighbourhood sits comfortably within its context.



LAYOUT ELEMENTS

1. Retail village: Anchor with smaller line shops around a landscaped square. Connects to arrival point from Church Street as well as opens to neighbourhood green space
2. Retail parking
3. Public open green space & access to spring
4. Valley village
5. Neighbourhood park
6. Hill village
7. Green open space & parking spill-over
8. The Barn
9. Retirement village
10. Retail village square

CHURCH STREET ENTRANCE

This entrance to the neighbourhood is a green and soft approach, using banks of trees to strengthen the existing green buffer along Church Street**.**

This green space frames the view towards the DRC steeple, and creates a foil for the Valley Village to sit in.

VALLEY VILLAGE

The valley village defines two important facades within the townscape.

Firstly, it defines the Eastern edge of the Church Street entrance, framing the view towards the DRC steeple. As this is the West-facing facades of these buildings, they can have small openings or bay windows providing light while maintaining privacy.

Secondly, the Northern edge of this village stands as the defining edge of the large public open space. These buildings should aim to create a positive public interface without compromising security.

NEIGHBOURHOOD PARK

The large open space is for the public, and the neighbouring land uses should aim to create a positive interface with this space, including the valley village Northern façade, the commercial and retail village southern edge, and the retirement village Western edge. These uses should optimise their location on this green asset and have public/spill-out functions living onto this space.

HILL VILLAGE

The clusters of trees on the hill serves to break the monotony of large, free-standing buildings. Furthermore, breaking the double-storey typologies into bands further mitigates the impact of this typology on the hill.

Buildings must consist of a plinth, a body and a roof. These elements must be distinct from one another to ensure the mass of the building does not dominate the hill.

The variation in roof material and design also assist in mitigating the impact of the development.

RETAIL VILLAGE

This stands as the main arrival point by car from town, using the left-only access point along Church Street.

This is a welcoming public square with retail, food and beverage uses surrounding it. This is also the main access point to any chain anchor.

PRECINCTS
VILLAGE CROSSROAD

This intersection provides access to the retirement village as well as the valley village. It also connects the Fountain park with Fountain street, creating a direct link to the existing town.

This space is a pedestrian friendly, speed-controlled shared street. The nature of this street assist in reducing traffic speed and ensure this link does not become a through-road.

11.3. Landscape guidelines

A specific landscape plan has been drafted for the proposed development. The landscaping aims to reduce visual impacts and attempts to allow for replication of the existing townscape in Riebeek Kasteel. See **Appendix G9,** of the BAR.


LEGEND:
Existing trees to be removed
Existing trees to be retained
Proposed new 200OL trees
Proposed new 250-500L trees
Planting
Laterite walkways
Water Feature/Natural spring
Lawn
Play areas
Traffic calming
Silt ponds & River
Existing contours
Hoof St
Right of Way Servitude
Fontein St
Vanriebeek St
Fontein St
Barlinka St
Kerk St
Right of Way Servitude
PLANTING PALETTE
RIEBEECK HILL ESTATE
LANDSCAPE SITE DEVELOPMENT PLAN

12. COMPLIANCE AND MONITORING

12.1. Non-compliance

The Environmental Authorisation (EA) stipulates that, *"Non-compliance with a condition of this Environmental Authorisation and the EMP may render the holder liable to criminal prosecution."* It is therefore important that the conditions are adhered to as outlined in the EA and EMP. A Penalties scheme can be used during construction for transgressions.

Transgressions relate to actions by the contractor whereby damage or harm is inflicted upon the environment or any feature thereof and where any of the conditions or specifications of the EMP and EA have been infringed upon. In the instance of environmental damage, the damage is to be repaired and rehabilitated using appropriate measures, as far as possible and as directed by appropriate specialists, if required. These remedial actions are for the account of the contractor or other guilty party as identified by the Project Manager, applicant or ECO. Where non-repairable damage is inflicted upon the environment or non-compliance with any of the EMP / EA obligations is registered, then the Contractor may face a monetary penalty to an amount specified by the Project manager / ECO. The Project manager / ECO reserves the right to implement a first offence warning.

If excessive infringement with regard to any of the specifications is registered, the applicant / project manager / owner reserves the right to terminate the contractor's contract.

Table 3. Penalties Scheme – to be reviewed by ECO if required

INFRINGEMENT	DESCRIPTION	PENALTY
Hydrocarbon / fuel spill	Penalty to be issued when remediations not implemented timeously	R 5000
Disturbance beyond approved footprint	Disturbance to vegetation beyond approved development sites	R 5000
Disturbance to watercourse / wetlands	Any disturbance to watercourses or wetlands not included in the EA	R 5000
Waste management	Inappropriate waste management	R 3000 dependent of extent
Not adhering to conditions of EA	Not attending to specific EA conditions	R 3000 + per condition

The Client (on recommendation by the ECO) reserves the right at all times for the duration of this agreement to impose restrictions and associated penalties on the contractor with respect to the specific nature, timing and extent of construction activities on environmentally sensitive sites that are not in keeping with the contents of the EMP.

In instances of non-compliance with the EMP by the contractor (or any of their employees) or sub-contractor/s (or any of their employees) that move on or off the site, the Contractor's on-site Environmental Site Officer (ESO) must immediately inform the ECO who will issue a written warning indicating the non-compliance to the contractor.

The Client, in consultation with the ECO, has the prerogative to determine the amount of the penalty, if applicable. Such penalty amount, if applicable, must be produced in writing and presented to the contractor within seven (7) calendar days of the written warning. The Client may recover penalties by deducting the fine from the offending contractor.

The contractor will be responsible for all costs incurred where emergency procedures are implemented to deal with accidents impacting on the environment as well as the rehabilitation of such damage in conjunction with the Client, ECO

and Site Engineer. In serious cases, at the discretion of the Client and the ECO, any multiple offences can be added together.

The ECO, after consultation with the Client, may also stop the works or part thereof until the situation is resolved. Please note that no extension of time is claimable by the contractor for such work stoppages due to non-compliance with the EMP. These penalties furthermore do not preclude any prosecution under any law or regulation. This set of procedures must be brought to the attention of and understood by all relevant on-site personnel during the Environmental Awareness Training Course.

12.2. Environmental Control Sheets

Environmental Control Sheets to be used by the ECO on a weekly basis to monitor construction activities to ensure compliance with recommendations. The ECO should familiarise themselves with the full set of recommendations for the site and reasons for these recommendations, as well as understand the site and constraints analysis and be able to identify the constraints / No Go areas.

Table 4: Environmental Control Sheet

TASK	ACTION REQUIRED / MITIGATION & METHOD FOR IMPLEMENTATION	FREQUENCY	TARGET / OUTCOME	RESPONSIBILITY
PRE-CONSTRUCTION				
Procurement	→ EA and EMP to be distributed to contractor at tender stage to include costing incurred due to compliance with EA and EMP METHOD: Distribute with tender documents	As required	Contractors are aware of requirements in terms of NEMA and can budget accordingly	Developer Project Manager
Environmental File	→ To include EA, EMP, site diary, public complaints section → To be updated on a regular basis → Public complaints register → Kept on site at all times METHOD: Issue all applicable documents to site manager	As required	Construction team(s) and general public can access relevant information f and when required	ECO Project Manager
Environmental Awareness training and induction	→ All contractors to attend briefing prior to commencement of site works → Register to be signed as proof of attendance METHOD: Briefing to be undertaken by project manager and / ECO	As required	Construction team(s) informed of all requirements in terms of EMPr and EA	ECO Project Manager
Method Statements	→ Contractors to submit MS seven working days prior to commencement on site → MS to contain clear methods for pollution control measures during construction including hazardous waste, run off, general waste etc. METHOD: Request for method statements to be contained in tender documents	As required	ECO and project manager to be well informed in terms of methods for construction	Contractor

Site definition and demarcation	→ Site survey and pegging → Site demarcation and fencing (mark construction areas – all other areas are No Go) → Access roads for construction vehicles to be clearly indicated, consideration to be given to turning circles → Review of specialist input to familiarise with mitigation measures → Buffer areas to be indicated and demarcated as No Go METHOD: Demarcation methods to be undertaken as outlined in EMP, suitable to the environment and semi-permanent to last as long as possible during construction phase, to be checked on a regular basis	As required and to be repeated on a regular basis in the event that demarcations shift or disturbed by operators, weather etc.	A well demarcated site Well-defined No-Go areas Well defined construction zones	ECO Project Manager Contractor
Construction traffic	→ All construction vehicles carrying materials must use cover sheeting to prevent loss of loads due to wind or rain → Maximum speed to be enforced → Movement of construction vehicles must be limited to approved haul and access routes and existing tracks → The proposed access off Church Rd should be designed according to the local and provincial guidelines. Attention should be given to sight distances from the access along Church Road. → The proposed access on Fontein Street should be designed according to local guidelines. → The route through the development connecting Church Road in the west with Fontein Street in the east should have a blacktop width of at least 6,0 m. Other internal access roads should have minimum blacktop widths of 5,5 m and bell-mouth radii of 6,0m (minimum 5,0m); → Off-street parking should be provided as per the Swartland Municipality Land Use Planning By-law document. → It is furthermore proposed that a surfaced sidewalk be provided along at least one side of the Class 5 Local Street (13 m reserve) through the development and up to the filling station premises. METHOD: To be monitored by ECO and project manager as well as construction team leaders	Duration of Construction	A safe working environment with minimal impact on No Go areas, minimal dust impact, minimal loss of load and minimal general public impact	Project Manager Contractor
Emergencies protocol	→ Staff to be aware of actions to be taken in the event of a natural or medical emergency → Applicable Health and Safety required in terms of OH&S Act METHOD: OH&S officer to be appointed, appropriate signage to be implemented	Duration of Construction	A safe working environment with minimal incidences	Project Manager Contractor

Fire	→ Fire Management recommendations to be implemented → Required firefighting equipment is available on site, and in working order → No open fires are lit on site without approval of the ECO and Site Manager METHOD: To be checked by the ECO and project manager and implemented by the contractor	Duration of Construction	A safe working environment with minimal incidences Action plan in the event of a fire	Project Manager Contractor
Contractors camp	→ Contractor's Camp is located at the most suitable site as identified by the ECO and Site Manager, preferably in areas to be developed or used (i.e. roads or house footprints) or already transformed areas → Contractor team to be briefed regarding Do's and Don'ts of camp and site in general → Suitable toilet facilities are provided for all staff → Ablutions are to be restricted to the facilities provided → Toilets are to be kept in a hygienic condition and emptied regularly → Recommendations by Freshwater specialist will be implemented METHOD: Site to be determined in conjunction with project manager and ECO, to be well demarcated with appropriate signage, serviced and cleaned on a regular basis, checked by ECO	Duration of Construction	A well placed and functional contractors camp to minimise impacts on other areas on site	Project Manager Contractor
CONSTRUCTION				
TASK	**ACTION REQUIRED / MITIGATION & METHOD FOR IMPLEMENTATION**	**FREQUENCY**	**TARGET / OUTCOME**	**RESPONSIBILITY**
Topsoil removal and stockpiling	→ Replaced immediately after works where required → Topsoil which is required to be removed from direct work areas, should be stockpiled separately from subsoil and reused as far as possible → Stockpiles should be suitably shaped to prevent leaching of nutrients, and stabilized, or dispersal by wind or rain → Stockpiles to be monitored for dispersal by rain and wind METHOD: Implement conditions outlined in EMP for stockpiling and topsoil removal	Duration of Construction	Reusable sand and soil stockpiles to facilitate rehabilitation of the site	Project Manager Contractor

Earthworks	→ Works to be restricted construction area only → Bulldozer/ heavy machinery operators to be under constant supervision particularly at onset of works → Use and excessive movement of heavy machinery to be avoided in areas of environmental sensitivity or high erosion potential → Trenching to be undertaken in a phased manner → Fill material to be replaced in same work area from which it originated → Fill material to be compacted to its approximate original density METHOD: Construction zone to be clearly demarcated, instruction for stockpiling to be implemented, operators to be briefed prior to works	Duration of Construction	Minimal disturbance to sensitive zones, minimal disturbance to vegetation	Project manager Contractor ECO
Material handling, dispatching and storage	→ Fuels and hazardous materials to be stored in suitably equipped storage areas in the Contractor's camp and approved by the ECO → Strict measures to be put in place for the use and storage of hazardous materials on site → Disposal to licenced facility only → These areas shall comply with fire safety requirements → Impervious materials are to be used to prevent contamination of the ground in the event of spillages or leaks → Construction materials spilled on public or private roads to be immediately cleaned → No storage other than contractor camp METHODS: Undertake regular inspections of areas and procedures	Duration of Construction	Minimal disturbance to sensitive zones including non-perennial drainage line Minimal incidences	Project Manager Contractor
Stockpiles	→ Sites for stockpiling as identified by the Contractor are to be marked on a plan, and approved by the ECO and Site Manager → Stockpiles must be suitably stabilized where necessary METHODS: Undertake regular checks of stockpiles to ensure methods outlined in the EMP and Dune EMP are implemented	Duration of Construction	Reusable sand and soil stockpiles to facilitate rehabilitation of the site	Project Manager Contractor ECO
Waste management	→ All waste to be stored in an appropriate contained area on site, and protected against wind, rain and animal dispersal → Waste to be removed on a weekly basis for disposal at a permitted disposal site → No burning or burying of refuse on site is allowed → Eating areas must be demarcated and provided with suitable refuse collection areas METHOD: Waste areas to be designed correctly and be wind and weatherproof and emptied on a regular basis	Duration of Construction	A clean waste collection point which is serviced on a regular basis	Project Manager Contractor ECO

Construction wastewater	→ Careful runoff management will be required particularly during construction. No contaminated water should be allowed to seep into the ground or runoff the construction site → All runoff from batching plants, work areas and mixer washings to be contained in sedimentation ponds, which are suitably lined → Ponds must be allowed to dry out regularly, and solid waste removed and disposed of at a site approved by the local authority. METHOD: Wastewater areas to be suitably designed and inspected on a regular basis	Duration of Construction	A clean site post construction	Project Manager Contractor ECO
Maintenance of equipment	→ All mechanical equipment and work vehicles to be stored, serviced and refuelled at designated areas in the contractor's camp → Major services to take place off site → Drip trays or impervious materials to be used to prevent contamination of ground METHOD: Regular inspections undertaken	Duration of Construction	A clean site post construction	Project Manager Contractor ECO
Stormwater	→ Suitable measures must be in place to prevent erosion resulting from diversion, restriction or increase in stormwater runoff → Measures must be taken to prevent stormwater from flowing from excavated areas or stockpiles → Stormwater containing harmful substances to be contained, and removed from site METHOD: Regular inspections undertaken	Duration of Construction	A clean site post construction, avoiding additional impact on surrounds	Project Manager Contractor ECO
Erosion	→ Stormwater channels are to be kept clear from soil and debris → Erosion or stormwater damage resulting from Contractor's operations to be suitably repaired → Suitable stabilization measures are to be implemented wherever works are taking place as outlined in this document → Where erosion is detected, suitable mitigation methods are to be employed as soon as possible METHOD: Regular visual inspections undertaken	Duration of Construction	A clean site post construction, avoiding additional impact on surrounds	Project Manager Contractor ECO

Dust	→ Sand stockpiles are to be covered with Hessian, shade cloth or DPC plastic → Stockpiles are to be in sheltered areas and the useable face to be orientated away from the prevailing wind → Excavation and transporting erodible material during high wind conditions - water dampening measures or cessation of activities should be required → If necessary, certain components of the work should be stopped until conditions are more favourable → Vehicles must not exceed 40 km/h along gravel roads → If roads generate unacceptable levels of dust, suppression measures should be introduced → If water is used only the critical areas should be watered by cart or hand to avoid unnecessary run-off, erosion or misuse METHOD: Areas and activities of possible dust generation to be inspected on a regular basis, as well as strategies to address dust	Duration of Construction	A clean site post construction, avoiding additional impact on surrounds, avoidance of impacts on general public	Project Manager Contractor ECO
Site clean-up and rehabilitation	→ All structures, equipment materials and facilities are to be removed from site on completion of the project → Construction site shall be cleared and cleaned to the ECO's satisfaction → Site / Area Rehabilitation to be conducted in line with recommendations herein → Specialist advice to be sort where required → No waste or remaining materials to be buried on site → In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DFFE: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase. METHOD: Inspected upon site closure / suspension of works, rehabilitation methods contained in EMP and Dune EMP to be implemented	Duration of Construction	A functional ecosystem post construction, suitably rehabilitated as required	Project Manager Contractor Applicant ECO

Alien Clearing	→ An AIPS control plan must be compiled which includes measures to control and prevent the proliferation of AIPS during the operational phase. → In line with the NEMBA, all AIPS listed under the amended AIPS Lists (DFFE: GN1003, 2020) must either be removed or controlled on land under the management of the proponent. An AIPS control plan must therefore be compiled which includes measures to control and prevent the proliferation of AIPS during the construction phase. METHOD: Regular monitoring of rehabilitation progress, alien plant regrowth, and any faunal presence should be conducted during and after the construction phase. Adaptive management practices should be applied to address emerging issues and ensure that the long-term ecological integrity of the site is maintained.	Construction and post-construction phase	Long term ecological integrity and restoration of Agulhas Sand Fynbos vegetation	Project Manager Applicant Contractor ECO
Ecological impacts / Vegetation loss	→ All construction must be done in accordance with an approved construction and operational phase Environmental Management Plan (EMP), which must include the recommendations made in this report. → A suitably qualified Environmental Control Officer must be appointed to monitor the construction phase in terms of the EMP and any other conditions pertaining to specialist studies. → The layout of the development footprint should take the sensitivity of the Krom River into account and should aim to establish a suitable corridor along this river system in order to allow for potential rehabilitation of this ecosystem – included in the preferred layout → The olive trees discussed under Heading 7.1 of the Botanical Assessment should be considered for replanting into green belts or gardens. → All listed alien invasive tree species must be removed from the site, while special care must be taken with the removal of white poplar (in order to ensure it does not enter the river system. → Lay-down areas or construction sites must be located at least 30m away from the Krom River corridor; → An integrated waste management approach must be implemented during construction. ○ Construction related general and hazardous waste may only be disposed of at suitably approved waste disposal sites.	Construction and post-construction phase	Long-term ecological integrity	Project Manager Applicant Contractor ECO

Visual Impact	→ Implement requirements as outlined in VIA, HIA, AIA, Urban and Landscape Guidelines	Construction and post-construction phase	Potential discovery of uncovered human remains.	
Aquatic Biodiversity Impact	→ The loss of the seriously degraded Seep Wetland 2, along with the loss of portions of Seep Wetland 1, should be compensated for by rehabilitating the Remnant Seep Wetland 1. → No untreated stormwater should enter the Remnant Seep Wetland 1 or "Offset" wetland area. → Avoid encroachment into the remnant Seep Wetland 1 and the Krom River during construction and operational phases. These two areas should be set aside as a No Go for construction and operational phases. → A 20 m buffer area should be implemented around the remnant Seep Wetland 1; and a 10 m buffer around the Krom River (aboveground). The portions of the buffer areas that are located outside of the demarcated construction footprint should be designated as a No Go area. → Tie into mainline sewage if possible or use fully contained conservancy tanks serviced by truck. No sewage treatment, irrigation or soak-aways should be contemplated. → Allowance must be made for stormwater to be treated in a vegetated detention pond and/or a substantial vegetated swale before release into the Krom River or Remnant Seep Wetland 1. → Municipal water supply should be used if possible.			

Archaeology	→ No further archaeological mitigation is required. → No archaeological monitoring is required during construction phase excavations → If any buried human remains are uncovered during construction excavations, these must be immediately reported to the archaeologist (J Kaplan 082 3210172. Burials must not be disturbed until inspected by the archaeologist.			

Architectural Guidelines	→ Architecture: The design of buildings needs to incorporate traditional typologies and details that will make a better fit with this historic town and prevent a modernist intrusion on a heritage landscape. → Landscape Plan: A Landscape Plan has already been prepared and a reference to traditional tree and shrub species is desirable e.g. Oak and Gum trees. → Tree Plan: Trees both on-site and adjacent need to be mapped to ensure their conservation and incorporation into the development, including both traditional heritage tree species like oaks, gums and poplars, and indigenous/endemic species like Wild Olive. → Planting: There is no need to rigidly adhere to any "indigenous-only" kind of botanical extremism in an urban setting, especially one with strong historic connections. → Fencing: Is always a key feature of Architectural/Landscape detailing as it strongly affects the edge condition. Subtle, well-detailed, traditional fencing options and colours are preferred. ClearVu fencing is not desirable especially along the R311. → Colouration: Colouration is a key tool to fitting any development into the landscape. There is a strong tendency for monotonous charcoal/grey estate colourations today and black fencing ClearVu fencing. These are not traditional colours in the Cape and detract from both contemporary and historic environments. A subtle combination of scheme colours needs to be developed that will avoid a mass approach to colouration with a high visual impact. → Maintenance: Landscape Maintenance, both private and public, including streetscapes, needs to be integrated into the scheme. → Damage Control: All parties must make every effort to control the destruction of soils and vegetation on site, especially any remnants of natural vegetation. These must not be damaged under any circumstances. → Pollution: Chemical damage by cement mixing directly on the ground and by diesel, etc spills must also be prevented at all costs, as should vandalism of the plants and accidental damage to limbs by workers and machinery. Fires must be prevented also at all costs in all areas. Penalties and incentives should be implemented as can fencing off areas. → Monitoring: Monitoring of the landscape, soils and vegetation during construction is very important and must be attended to regularly. Damage to some is all too inevitable and often irreversible. Adequate indigenous (preferably endemic) vegetation must be planted. → Lighting: Lighting should be minimised and carefully controlled as part of the project's management plan. The use of green energy fittings and concepts should be			
	encouraged and lighting developed with sensitivity to the rural landscape. → Landscape Maintenance: must be carried out at all times in line with these recommendations to help keep the scheme green and encouraging local biodiversity.			75

13. ENVIRONMENTAL DECLARATION OF UNDERSTANDING FOR THE EMP

The purpose of the Environmental Declaration of Understanding agreement between the Applicant / Client, the Engineer, Contractor and the ECO is;

→ To enforce agreement on compliance by all relevant Parties with the DEA&DP Environmental Authorisation & this Environmental Management Plan.
→ To maintain proof of such an agreement pertaining to the onsite requirements of the EMP
→ To spell out the Applicant's responsibility to inform all relevant parties of the DEA&DP Environmental Authorisation & EMP (as per condition of DEA&DP Environmental Authorisation).
→ To protect the environment of the site against environmental damage.
→ To make good any damage to the environment.
→ Ensure that all contractors and sub-contractors are familiar with the EMP & DEA&DP Environmental Authorisation and sign the mandatory Declaration of Understanding indicating their undertaking to work within the management framework to achieve the environmental requirements pertaining to the site as contained in the EMP.

This agreement outlines the obligations on the various parties and forms the basis for the ECO to ensure compliance by all parties with the EMP.

14. RESPONSIBILITY OF THE CLIENT (as the Applicant)

The Client must be responsible for ensuring compliance with the conditions contained in the DEA&DP Environmental Authorisation by any person acting on his behalf, including but not limited to an agent, servant, employee or any person rendering a service to the Client in respect of the activity, including but not limited to contractors and consultants.

The Client is responsible for appointing the ECO, Site Engineer and Contractor for the duration of the construction contract and for ensuring that the Site Engineer and Contractor fulfil their obligations in terms of this EMP. The Client and or its representative must notify DEA&DP and any other relevant authority, in writing, within 24 hours thereof if any condition of this DEA&DP Environmental Authorisation is not adhered to.

15. THE SITE ENGINEER / SITE MAIN CONTRACTOR

The Site Engineer/Site main contractor (whichever is applicable) is responsible for ensuring that the construction contract and daily construction activities as per the original site specifications are implemented in terms of the Construction Phase Environmental Management Plan which includes additional OSSM agreements.

The Site Engineer/Site main contractor (whichever is applicable) and the ECO are expected to develop a close working relationship and to stay in contact with each other. The Site Engineer issues site instructions to the Contractor and all requests and communications between the ECO and Contractor are via the Site Engineer. The only exception to this is where the ECO needs to issue a "stop works" order on the Contractor or the Site Engineer if serious environmental harm is about to happen or is happening as a result of construction activity. This "stop-works-order" must be confirmed by the ECO as soon as practically possible to all affected construction personnel.

When the ECO is not on site the Site Engineer (assisted by the ESO) will be responsible for implementation of the EMP. Any construction related activities that might lead to damage to the environment should be immediately brought to the attention of the ECO and must be recorded on the Environmental Weekly Checklist (see **Appendix 4**) by the Site Engineer or the appointed engineer's representative (ESO).

16. THE CONTRACTOR

The Contractor must ensure that all of its sub-contractors, employees, suppliers, agents, etc., are fully aware of the environmental issues detailed in the site EMP. The Contractor must liaise closely with the Site Engineer and the ECO and must ensure that the works on site are conducted in an environmentally sensitive manner and fully in accordance with the requirements of the EMP at all times.

Main bulk service providers such as Telkom and Eskom must be advised of the construction activities as well as the requirements of this EMP and the Contractor must be responsible for their activities conducted within their work areas. All contractors working on site must attend the Environmental Awareness Training Course and have proper and competent contractor supervision during their time of contract. If more than one contractor works on the site simultaneously, then the responsibility lies on each contractor to adhere to the conditions of the EMP and related documents for the duration of the contract.

The supervisors must work closely with the appointed environmental officer and discuss the daily programme with the appointed environmental officer, taking special consideration of any specific method statement requirements. Any problems that might lead to damage to the environment must be discussed prior to commencement of the activity.

The ECO must ensure that the Contractor has signed a "Declaration of Understanding" of this environmental management plan before construction commences.

17. AUTHORITY OF THE ECO

The ECO has the authority to stop works if in his/her opinion there is a serious threat to, or impact on the environment, caused directly by the construction operations. This authority is to be limited to non-compliance to the EMP and emergency situations where consultation with the Client is not immediately available. The ECO is to inform the Client of the reasons for the stoppage and agree on a solution to the problem as soon as possible.

Upon failure by the contractor or his employee to show adequate consideration to the environmental aspects of this contract i.e. wilful destruction of the environment, the ECO may recommend to the Client/site representative to have the contractor's representative, or any employee(s) removed from the site or work suspended until the matter is remedied. No extension of time will be considered in the case of such suspensions, and all costs will be borne by the contractor.

18. ENVIRONMENTAL COMPLETION STATEMENT

An Environmental Completion Statement is a report by the ECO/Environmental Consultant to the relevant authorities stating completion of the project and compliance with the EMP and conditions. The following environmental statements may be required to be completed on completion of all site construction activities and submitted in line of sequence to the relevant office for perusal and reference. The required completion statements must be discussed and agreed upon at the OSSM.

18.1. ECO: Environmental Completion Statement:

The ECO must submit an environmental closing statement relating to all environmental and technical issues that occurred on site as well as any conclusions regarding incidents such as written warnings, stoppages of works and penalty fines.

19. ENVIRONMENTAL AUDITS

The purpose of auditing is to determine and monitor compliance with the EMP and EA and measure its effectiveness in mitigating environmental impacts. In terms of Regulation 34 of the NEMA EIA Regulations, 2014, the holder of the EA must conduct environmental audits in order to determine compliance with the conditions of the EA and EMP. Environmental Audit Reports should be submitted to the Competent Authority or as stipulated in the EA. The audit reports should be prepared by an independent person. The audit report should also provide recommendations regarding the need to amend the EMP.

The objective of the environmental audit report is to:

→ Report on the level of compliance with the conditions of the EA and the EMP
→ Report on the extent to which the avoidance, management and mitigation measures outlined in the EMP, achieve the objectives and outcomes of the EMP
→ Identify and assess any new impacts and risks as a result of the activity
→ Evaluate the effectiveness of the EMP
→ Identify shortcomings in the EMP
→ Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMP.

An environmental audit report should contain the following:

→ Details and expertise of the independent person who prepared the environmental audit report
→ A declaration that the auditor is independent.
→ An indication of the scope of, and the purpose for which, the environmental audit report was prepared
→ A description of the methodology adopted in preparing the environmental audit report
→ An indication of the ability of the EMP to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity as well as to ensure compliance with the provisions of environmental authorisation and EMP.
→ A description of any assumptions made, and any uncertainties or gaps in knowledge
→ A description of any consultation process that was undertaken during the course of carrying out the environmental audit report if required.
→ A summary and copies of any comments that were received during any consultation process
→ Any other information requested by the competent authority.

20. CONCLUSION

An EMP has been developed as part of the Basic Assessment process to ensure that mitigation and management measures are enforced during the construction phase of the development, and that the conditions of the EA are upheld. The EMP should guide all phases of the project to minimize possible negative impacts and assign responsibility for environmental controls. The EMP provides a tool to recognise the needs of the environment and is intended to be utilised in conjunction with the Environmental Authorisation.

Appendix 1

EXAMPLE OF DECLARATIONS

1. ENVIRONMENTAL CONSULTANT AND/OR ENVIRONMENTAL CONTROL OFFICER

The work described in this Method Statement, if carried out according to the methodology described, is satisfactorily mitigated to prevent avoidable environmental harm:

_____ _____
(Signed) (Print name)

_____ _____
(Signed) (Print name)

Dated: _____

2. PERSON UNDERTAKING THE WORKS

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to other signatories and that the ECO will audit my compliance with the contents of this Method Statement

_____ _____
(Signed) (Print name)

Dated: _____

3. THE CLIENT

The works described in this Method Statement are approved.

_____ _____ _____
(Signed) (Print name) (Designation)

Dated: _____

4. APPROVING AUTHORITY

The works described in this Method Statement are approved.

_____ _____ _____
(Signed) (Print name) (Designation)

Dated: _____

Appendix 2.

CONTACTOR: ENVIRONMENTAL WEEKLY CHECKLIST

SITE: _____

PHASE OF WORK AND % OF COMPLETION: _____

ENVIRONMENTAL ASPECT	YES/ NO (✓ or X)	COMMENTS
• How many workers are on site		
• All new personnel on site are aware of the contents of the EMP and have been through the environmental awareness course.		
• Contractor's camp is neat and tidy and the labourers' facilities are of an acceptable standard.		
• Sufficient and appropriate fire fighting equipment is visible and readily available.		
• Waste control and removal system is being maintained.		
• Refuse bins in place and maintained		
• Toilets are in place and clean		
• Demarcation and other fences are being maintained.		
• What machinery are on site		
• Drip trays are being utilised were there is a risk of incidental spillage		
• Bunds/ drip trays are being emptied on a regular basis (especially after rain).		
• No leakages (oil & fuel) are visible from construction vehicles		
• No go areas, remaining natural features and trees have not been damaged.		
• Dust control measures (if necessary) are in place and are effectively controlling dust.		
• Noise Control measures (if necessary) is in place and is working effectively.		
• Erosion control measures (if necessary) are in place and are effective in controlling erosion. (Access road, site areas etc.)		
• Stockpiles are located within the boundary of the site, do not exceed 2 m in height and are protected from erosion.		

Completed by:…… Sign:…… Date:……

To be submitted at the end of each week to the Environmental Site Officer (ESO)

Received by:

Environmental Site Officer: :…… Sign:…… Date:……

Appendix 3.

ECO/ESO WEEKLY REPORT/CHECKLIST EXAMPLE

PROJECT: **LOCATION:**

PROPONENT: **PHASE:**

WEEK NO. **DATE:**

ENVIRONMENTAL ASPECT	Y/N	COMMENTS
Is the site free of day-to-day litter? And are clean within acceptable tolerance levels?		
Contractor's camp is organised and is he maintaining good housekeeping standards on site?		
Labourer's quarters are adequate with acceptable ablution facilities?		
Are there sufficient refuse bins on site?		
Boundary fences remain in place and are being maintained?		
No-go areas, remaining natural features and trees have not been damaged?		
Waste control and removal systems are being maintained?		
Wastewater control system is being maintained?		
On-site fire fighting equipment rechecked and is in good working order?		
Heavy earth-moving equipment and vehicles operating within site boundaries?		
Bunds and drip trays are being used and emptied on a regular basis?		
Construction vehicles are mechanically sound with no visible oil leaks?		
Are on-site refuelling areas in compliance with the site EMP specs?		
Dust control measures (when necessary) are in place and minimise dust pollution effectively?		
Erosion control measures have been installed and are working effectively?		

Appendix 4.

ESO WEEKLY CHECKLIST EXAMPLE

ENVIRONMENTAL ASPECT	Y/N	COMMENTS
Stockpiles of topsoil or rocks are being located within the site boundary and do not exceed maximum heights?		
Has there been unauthorized removal or alteration of soil or rock not specified in the EMP?		
If applicable, if rivers or streams flow through or near the site, have pollution measures been installed?		
State approximate no of workers currently on site		
Have any wildlife species been found on the site. If so what measures were taken for relocation?		
If applicable is the concrete batching area well maintained and in compliance with the EMP? And are spillages removed on a regular basis?		
Are empty cement bags contained and removed daily?		
Has there been any increase of heavy earthmoving or construction machinery brought onto the site not stated on original EMS forms?		
Has it been necessary to impose spot fines or penalties on the site? If so for what reasons?		
Completed by: Date:		Title: Signature