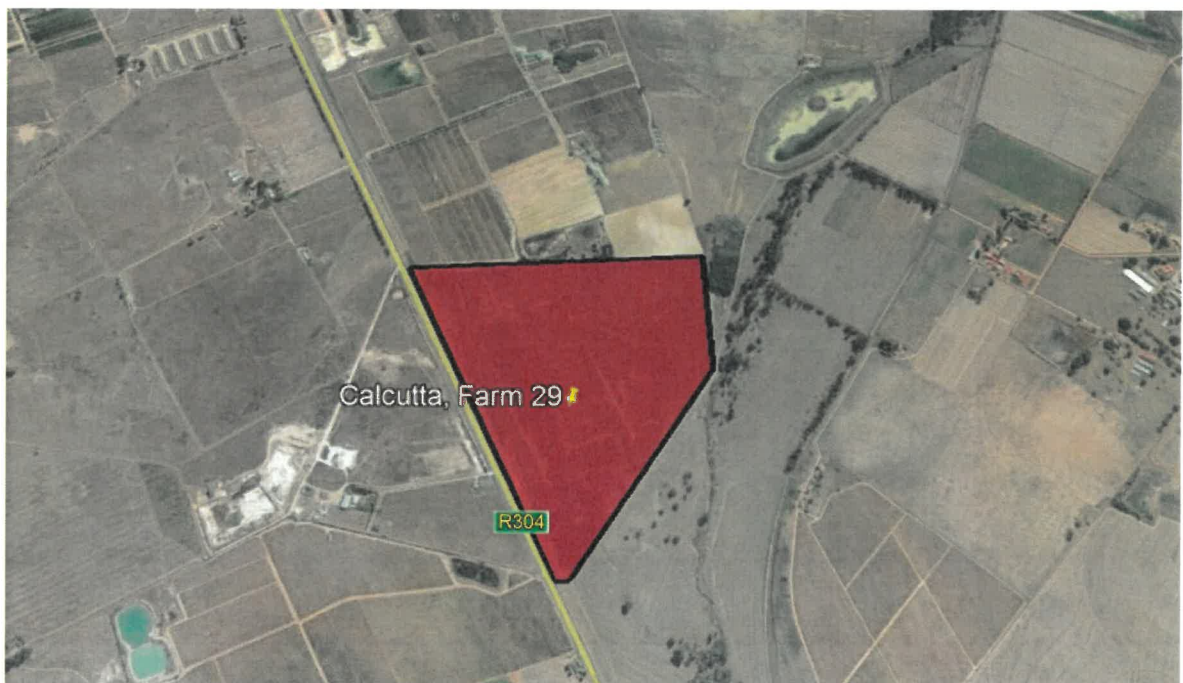


# STELLENBOSCH MUNICIPALITY

## PROPOSED CALCUTTA PUBLIC CEMETERY AND MEMORIAL PARK

*on Farm Calcutta No. 29, Stellenbosch Municipality, Western Cape*



## POST-APPLICATION DRAFT BASIC ASSESSMENT REPORT

in terms of the National Environmental Management Act, No. 107 of 1998 (as amended)  
and associated environmental impact assessment regulations, 2014

### (VOLUME 3 OF 3)

April 2019

## SECTION I: APPENDICES

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B1	Preferred Alternative Layout (Alternative 1)
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K		Minutes of Stellenbosch Municipality Council Meeting (partial)
L		<i>First Report, Final October 2016: Identification and Acquisition of Authorisations and Approvals for the Establishment of One or More Regional Cemeteries for Stellenbosch Municipality</i>
M		<i>Motivation to obtain Stellenbosch Council's endorsement of Region Cemetery Sites in fulfilment of tender B/SM No. 17/16: Acquisition of Authorisations and Approvals for the establishment of one or more regional cemeteries for Stellenbosch Municipality</i>
N		Cemetery Feasibility Study, October 2006
O		Environmental Management Plan/Programme
P		Aerial Images of Calcutta plantation history (March 2005 to December 2018)

## Appendix G10 – Socio-economic Statement



# The Need for Burial Space in the Stellenbosch Municipal Area, 2018

## A Socio-Economic Statement for the establishment of a Memorial Park in Stellenbosch North

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Compiled by Leap Sustainable Development cc

November 2018



## The need for burial space in the Stellenbosch Municipal Area, 2018

### A Socio-Economic Statement for the establishment of a Memorial Park in Stellenbosch North

#### 1. Statement Purpose

This statement outlines the socio economic cost to create burial space in the Stellenbosch Municipal Area.

A Socio-Economic Statements analyses i.e. predicts, reflects and manages but does not evaluate or rate, the intended and unintended consequences on the human environment of planned interventions (policies, programmes, plans and projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment (Vanclay, 2002).

At a broad level the impacts on the overall welfare of a community should be investigated considering the efficiency, equity and sustainability of the project as well as the trade-offs or 'opportunity cost' the various alternatives will yield.

#### 2. Need for burial space

The scale of the need over the next 10 to 30 years for additional burial space was determined by considering the death rate and land required based on traditional burials.

a) Death Rate:

Cape Winelands experienced 6 560 deaths/out of 48 141 deaths in the Western Cape in 2016 translating in a death rate of 0.76%. Cape Winelands had a population of 866 223 people in 2016 with the highest number of deaths occurring in the age cohorts of 65+ followed by 45 – 64 and 15 – 44 as outlined below.

Age	0	1-14	15 - 44	45 - 64	65+	Unspecified	Total
Population	185	83	1 530	2 174	2 581	7	6 560

The table below provides a summary of leading causes of premature mortality in the Cape Winelands District Municipal Area compared to the Western Cape and South Africa. Stellenbosch Municipality form part of the Cape Winelands District Municipality:

Overall Rank	Cause	Western Cape		Cape Winelands		South Africa	
		Number	Percentage	Overall Rank	Percentage	Overall Rank	Percentage
1	Diabetes Mellitus	3 694	7.7	1	7.9	2	5.5
2	Human Immunodeficiency Disease (HIV/ AIDs)	2 975	6.2	2	7	5	4.8
3	Ischaemic heart disease	2866	6	6	5.2	9	2.8
4	Cerebrovascular disease	2 682	5.6	5	6.1	4	5.1
5	Tuberculosis	2 461	5.1	3	6.7	1	6.5
4	Chronic lower respiratory disease (Infections)	2 373	4.9	4	6.4	10	2.8
6	Malignant neoplasms of digestive organs	2 204	4.6	7	4.9		
7	Malignant neoplasms of respiratory and intrathoracic organs	2 193	4.6	8	4.9		
8	Hypertensive diseases	1 890	3.9	9	3.4	6	4.4
9	Other forms of heart disease	1 473	3.1	10	3.9	3	5.1
10	Other natural causes	16 497	35.2		32.7	11	43.8
11	Other non-natural causes	6 383	13.3		11.2	12	11.2
	Influenza & pneumonia					7	4.3
	Oher viral diseases					8	3.6

Tuberculosis as the leading cause of death in South Africa, was ranked 5<sup>th</sup> in the Western Cape. Diabetes Mellitus was the leading (1<sup>st</sup>) natural cause of death in the Western Cape whilst it was second (2<sup>nd</sup>) in South Africa. Diabetes Mellitus is followed by Human Immunodeficiency Virus [HIV] disease and ranked as 2<sup>rd</sup> cause of death in the Western Cape whilst it ranked as the 5<sup>th</sup> cause of death in South Africa. Ischaemic heart disease ranked the 3<sup>rd</sup> cause of death in the Western Cape, whilst other forms of heart disease ranked the same in South Africa. Overall, the results show a considerable burden of disease from non-communicable disease and signs of a sizable proportion of deaths associated with diabetes mellitus, particularly for females.

b) Extent of traditional graves:

Extent of a grave:  $2\text{m} \times 1\text{m}$  ( $2.3\text{m} \times 0.9\text{m}$ ) =  $2\text{m}^2$ . Extent of a grave and space for movement:  $3\text{m} \times 2\text{m} = 6\text{m}^2$ . Considering the cemetery as a park and a recreational amenity, the space per grave can be increased to  $8\text{m}^2$ .

c) Land requirements

Cape Winelands experienced 6 560 deaths/out of 48 141 deaths in the Western Cape in 2016 translating in a death rate of 0.76%. Cape Winelands had a population of 866 223 people in 2016

At 2016 death rate i.e. 757 deaths per 100 000 population per annum  $4\,542\text{m}^2$  grave space per annum will be required. Over the next 30 years 14ha of land will be required. Providing for a park increases the extent to 18ha.

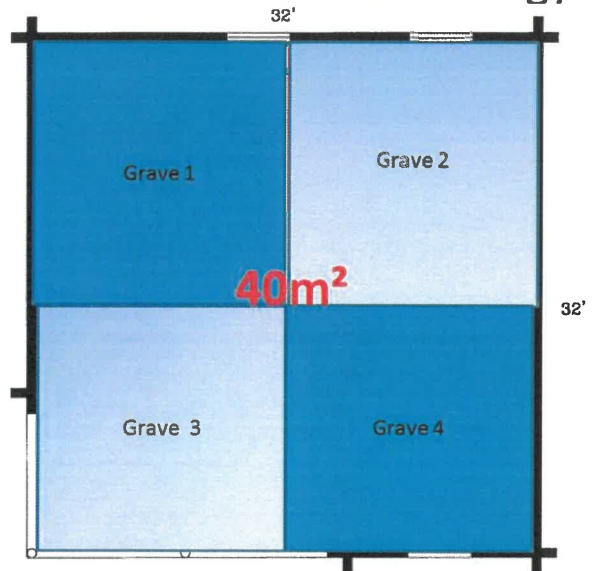
A 20ha – 30ha regional site should provide sufficient cemetery space for the next 30 years.

The required extent of the land can be compared to subsidized housing or a soccer field.

A subsidized house is  $42\text{m}^2$  in extent and equals 7 graves. On average 4 people inhabit a subsidized house. Thus half of the space we need for the footprint of a subsidized house we need for the graves of the household. Erven on which subsidized houses are built, are  $80\text{m}^2$  in extent and equals 13 graves. Thus one quarter of an erf of a fully subsidized house is required for burial space.

Alternatively, a soccer field is 0.72 ha or  $7140\text{m}^2$  and equals 1190 graves or 92 subsidized housing erven. Expressing it differently, Stellenbosch requires annually nearly one soccer field to provide for the number of deaths per annum.

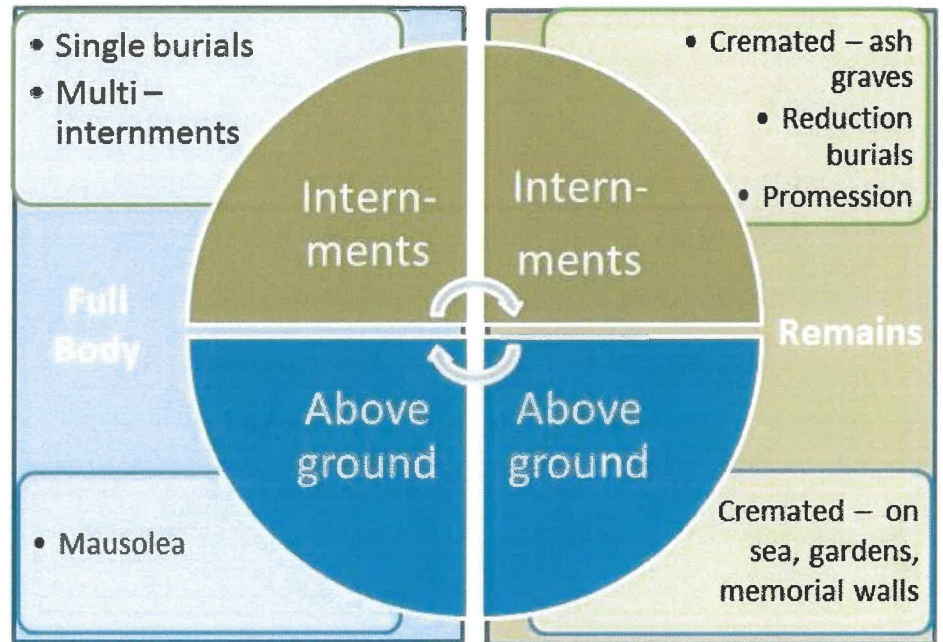
### Subsidized House Analogy





### 3. Burial alternatives

Availability of land is the biggest challenge facing the cemetery sector in South Africa due to the increase in population growth within municipalities and cultural beliefs as it pertains to dealing with the deceased. A key solution to the inadequate land for cemetery development is the introduction of burial alternatives.



Several of these burial

alternatives have existed for many years around the world, but are not actively practised in South Africa due to tradition. All alternative “memorials” other than traditional graves, i.e. memorial walls and parks, can be incorporated in cemeteries. The following should be considered when designing a cemetery:

- To approach cemeteries as a social space (including parks) in the design of cemetery site plans.
- To provide for all alternative burial methods even some of them may have a very slow uptake.
- To provide for inexpensive maintenance of cemeteries.
- To market alternative burial options.

Limited knowledge of and lack of exposure amongst communities to alternative ways of internment, the challenges for suitable land and the upkeep of traditional cemeteries are experienced. Alternative burial methods, which can be the solution to the land-hungry burial methods currently practiced in South Africa, has to be promoted and established. The different types of burials are categorized into four main categories.

### Burial Alternatives

Method	Tradition/ Believe	Required Space	Required Terrain	Decomposition Time	Cost	Maintenance
Mausoleum		A secure building with rows of crypts Above-ground burial space option Crypts are large enough to accommodate a coffin holding a full body or remains.	Rocky terrain or ground which may be unsuited to conventional burials	Once a crypt is sealed, it is ventilated to promote rapid body decomposition.	Designed to any size and specification.  Are a practical and cost-effective alternative to conventional tombstones	Generally clad with hardwearing stone or granite and are weather-resistant and maintenance-free. Crypts are sealed at the front with a concrete panel which is cemented closed.
Multi-interments		Municipal by-laws allow for burial of more than one family member in a grave. Up to three bodies from the same family can be placed in the same grave.	This allows for cemeteries that are theoretically full – i.e. with a body in each grave – to continue being used.	A period of time, usually two years, is given before graves are re-opened and a new body can be placed on top of the previous remains, before being covered up again.	Cost decreased with the number of burials per grave.	High, similar than traditional burials.
Cremation	Common amongst Christians/ West. Standard practice amongst Hindus. Forbidden by Muslims and Orthodox Jews. African cultures, traditionally viewed as undesirable although not prohibited.	The deceased body is burnt to ash, which greatly reduces the mortal remains. Ashes are kept in an urn. Options of disposing of the ashes after a cremation include: - Memorial walls - Gardens - Ash graves	Any	None	Municipalities offer cremation as a burial option along with traditional burial. Cremations are cheaper than traditional burials.	Low
Reduction burial		The buried body is later exhumed and reinterred in a smaller casket, allowing for burying more family members in the same grave.		Shorter than traditional burials		Lower than traditional burials

Columbarium	Can house many people of different religions. Religious décor often adorns individual niches and/or urns for ashes.	Take a variety of forms and are, occasionally quite elaborate structures. But, more often, they follow elegant-but-simple architectural designs and are part of large, urban cemeteries.	Many churches have columbaria built into their structures or erected onto their grounds.			Low
Promession (freezing)	Similar to cremation	Promession is when the body is frozen with liquid nitrogen and then vibrated to disintegrate. The pieces are freeze dried and placed in a biodegradable casket.		Caskets are interred in the top layers of soil, where aerobic bacteria cause complete decomposition in six to 12 months.	High due to irregular usage.	Low

#### 4. Socio economic Cost

The socio economic cost and benefits are outline below and listed as a general cost or benefit, followed by specifics for the proposed memorial site and concluded with management directives. Burial alternatives, although provided, are not assessed.

Anticipated & Predicted Impacts	Calcutta	Management directives
<b>Population Characteristics/ Human capital</b>		
<b>Job and skills levels increase:</b> A 30ha memorial park will require landscaping, manicuring and maintaining. Sustainable employment opportunities will be created by	Five to ten (5 – 10) full time permanent jobs are required to landscape, maintain and manicure the	Employees should be selected and appointed from within Stellenbosch Municipal Area.



the park.	memorial park.	Those employed to do so and who may not have appropriate qualifications/ skills should be afforded the opportunity to obtain the qualification/ skills.
<p><b>Social health of community/ youth</b></p> <p>As a memorial park is a place to celebrate life, it represents a social space reflecting the value a community attach to the memories of their family, friends and colleagues. A memorial park will become such a social space.</p>	<p>Entrance control of the site and control of allowable activities will enhance the celebration of life.</p> <p>The park should be managed as a park and visual links should be created to the outspan site and historical oak trees south of the Calcutta. The trek path should be celebrated and replaced as a recreational route.</p>	<p>Entrance to the cemetery should be controlled during the day and the cemetery should be locked at night.</p> <p>Voluntary manicure and maintenance programmes should be managed involving educational institutions.</p> <p>Linking the site to a network of recreation routes i.e. walking or cycling will expand the celebration of life.</p>
<p><b>Crime/ Neglect</b></p> <p>Safety of visitors are key and controlled access and activity are but some of the aspects to ensure security of burial sites and safety of</p>	<p>The memorial park will be a significant improvement as the Eucalyptus and Acacia woodlot on site is used as a dumping site and is by no means inviting for</p>	<p>The memorial park will be managed similarly to the cemetery at Jamestown; entrance control should be stricter.</p>

visitors.	people to perceive it as a social space or amenity.	
<b>Community &amp; Institutional Arrangements</b>		
The lack of cemetery space may <b>disrupt social networks which will bring about</b> changes in social ethos of community.	The MP will provide the required cemetery space and celebrate the lives of the deceased and honour the dead.  Community homogeneity and cohesion could be reduced as community members will be forced to bury elsewhere outside Stellenbosch. This may bring the Stellenbosch community in conflict with receiving neighbouring communities.	Provide a MP in each of the major municipal areas i.e. north and south  Regulate the use of burial space and rent out space for a specific period i.e. 25 years or less.
<b>Equality and Exclusivity:</b> A memorial park provides for all income groups, all cultures and all religions: The MP and its design and use should not exacerbate class equalities or cultural exclusivity. The MP should make allowance to accommodate dissimilarities in social practices i.e. social standards (burial options), religion and values.	MP to provide for all income groups and all religions.	Develop a MP policy or by-law to address access to resources i.e. burial space.  Allow for limited economic opportunity i.e. flower sellers and a nursery. Economic opportunity to be ceased by vulnerable members of the community.
<b>Employment equity of vulnerable groups:</b> Of the people employed, women and youth	The employment opportunities at the MP will enable a few families to benefit from the employment	As women and youth have to compete with more appropriately qualified applicants from

<p>should be afforded the opportunity to join the workforce.</p>	<p>opportunities associated with MP development.</p>	<p>Stellenbosch Municipal area, skills development and improvement of educational qualification should be a strong project component.</p>
<p><b>Political &amp; Social Resources</b></p>		
<p><b>Use of social amenities:</b> The MP will provide for the need for burial space within the Stellenbosch community but may cause an increased demand from neighbouring municipalities for burial space.</p>	<p>The demand for basic services i.e. water, electricity and sewerage will be limited and not compete with the requirements for human settlements within the Stellenbosch Municipal area.</p> <p>As far as possible the MP services have to be sourced and generated on site.</p> <p>Water sources should be protected from possible impacts.</p>	<p>Regulate burial space to benefit the community of Stellenbosch.</p> <p>Alternative energy use should be promoted. Water should be sourced on the property. Sewerage should be managed on site.</p> <p>A resource management plan should be compiled and implemented as part of the maintenance and management of the site.</p>
<p><b>Increased use of municipal &amp; authority services</b> will be required but merely to regulate and guide <b>traffic</b>.</p>	<p>The slow moving traffic of funeral processions will disrupt daily traffic which is fast moving and will impact on cyclists using the R304.</p> <p>Processions should not be allowed on provincial roads. Encourage users of the MP to hold services on</p>	<p>Regulate traffic and abandon processions.</p> <p>Develop an amenity information brochure marketing the facility and the different components thereof i.e. the chapel that is interdenominational.</p>



	site.	
<p><b>Individual &amp; Family Changes:</b></p> <p>Burial practices are often linked to religious practices. Family burial practises may change over time.</p>	Provide for alternative burial options in the MP.	<p>Families have to be encouraged to consider different burial options which are less land dependant.</p> <p>Develop a burial alternative awareness campaign.</p>
<b>Community Resources</b>		
<p><b>Dust &amp; Noise levels:</b> Sporadic dust &amp; increased noise levels may occur as the park is established, graves are prepared and burial ceremonies are taking place. It is anticipated that all of the above will happen but within acceptable levels.</p>	<p>Keep dust suppression measures accessible on site.</p> <p>The necessary equipment and procedures have to be supplied and be in place.</p>	<p>Regulate noise on site and compile standard operational procedures.</p> <p>Budget and provide for dust suppression measures and equipment on site.</p>
<p><b>Sense of Place:</b> The change of sense of place will impact on people's relationship to environment and surroundings.</p>	<p>Visual and scenic issues, and thus sense of place, relate to the likely impact of this memorial park development on the Grade IIIb agricultural landscape.</p> <p>As the site is covered by an immature gum and Acacia plantation and has an untidy, overgrown atmosphere the change in use will enhance the</p>	<p>Design and compile a landscape plan to ensure the conservation of the landscape.</p>

	<p><b>Landscape Character</b> of the site. The site is surrounded by vineyards and rolling pastures and a scatter of European Oak trees down to the river. The high visual absorption capacity of the site and the low absorption capacity of its surroundings and its visibility versus the proposed activity will enhance the impact to be positive. Cemetery activities on site could easily be hidden behind decent landscaping, where structures are low with the exception of a central chapel facility.</p>	
<p><b>Social History:</b> The social history relates to patterns that were valued, but fallen into disuse (outspans), and which is part of the social history of an area will be enhanced.</p>	<p>Heritage Grading</p> <p>There are no structures on the site to grade but the area landscape has already been graded IIIb in the SHS&amp;MP (2018), as has the outspan site on the southern portion been graded IIIb. Calcutta Bos has high significance as an historic outspan site but a low significance as a woodlot in its current condition. Its rural setting makes it well-suited to the purposes of a memorial park.</p> <p>Being one of only seven or eight outspans it is quite prominent in the Stellenbosch District. Changing its</p>	<p>Should any heritage resources be discovered during the clearing of the site, the appropriate procedure required by HWC should be followed to secure and conserve such resources.</p> <p>The potential scientific significance of the site lies in the possibility of uncovering any significant archaeological remains. This will not be known until such time as excavation or development occurs but it is unlikely that anything would be recovered until such time</p>

	use to a memorial park where the deceased are laid to rest at the end of their life's journey, and being jointly a recreational park should enhance Calcutta outspan's collective heritage.	as it is densely covered and transformed by, at the very least, gum plantation. It could have been ploughed prior to gum planting.
<b>Access to leisure opportunities:</b> MPs as commissioned by Stellenbosch Municipality are simultaneously designed to enhance recreation and leisure opportunities: hiking & biking trails etc.	The MP will enhance access to leisure opportunities.	Encourage leisure and recreational activities i.e. compile and market a park calendar.
<b>Access to natural resources:</b> The MP has no impact on people's access to natural resources i.e. wood, water and medicinal plants	The MP should enhance to use of natural resources and should not compete with the community's access i.e. use of on-site sources to provide water, manage sewerage and generate alternative energy.	Compile a resource management plan.
<b>Sales &amp; GGP:</b> Sales related to the land will contribute to the economy of the municipality.	Burial space will have to be leased for limited periods of time i.e. 25 years or even shorter.	Regulate use of burial space.  Provide for subsidies for vulnerable communities.

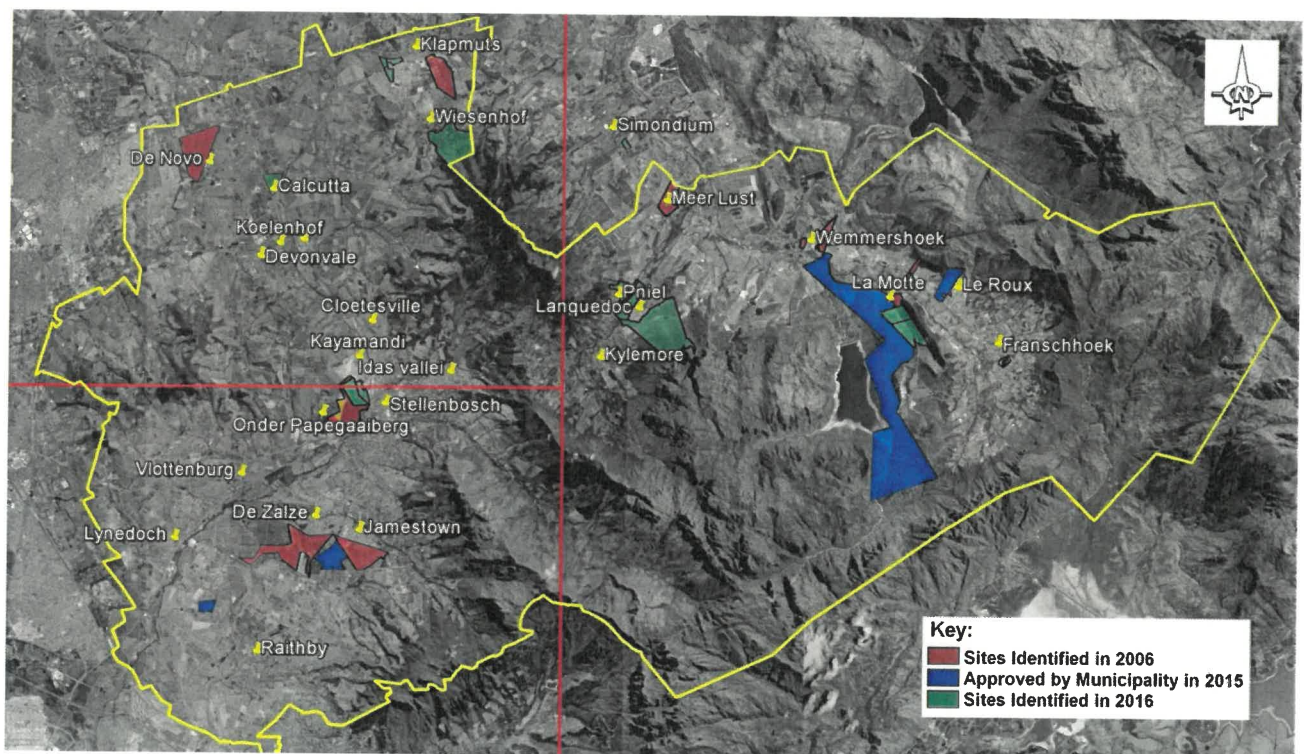


## 5. From cemeteries to Memorial Parks

The strategy Stellenbosch adopted to provide burial space were twofold: Expanding local cemeteries and establishing regional cemeteries in Stellenbosch Municipal Area.

The following three regions were identified and sites per region were identified and assessed according to the criteria in Addendum A.

- Region 1: Northern Stellenbosch
- Region 2: Eastern Stellenbosch (Franshoek Valley)
- Region 3: South Stellenbosch



The site for Eastern Stellenbosch has not been promoted as yet as most of the area is located within the Berg River flood plain.

### Site Identification

Selection was informed by several studies and activities i.e.

- a) a 2006 Cemetery Feasibility Study conducted by Dennis Moss Partnership.
- b) site visits by CK Rumboll and Partners in May and June 2016.
- c) Sites identified by the Property Management Department of Stellenbosch Municipality.
- d) Sites approved on a Stellenbosch Council meeting, various dates 2015 – 2018.

## **Initial Assessment**

The preliminary scan of 50 sites considered the following:

- a) Ownership, Use, Zoning and Proximity
- b) Value (intrinsic, instrumental, systemic), Environment (Fauna & Flora, Ecological Rehabilitation, Geology, Pedology, Hydrology) and Policy Assessment (Access, Competing uses, SDF & IDP aligned)
- c) Digging graves: Soil excavability, permeability (distance from domestic water sources, drainage features and soil type), drainage features, gradient, basal buffer, grave stability, soil workability and cemetery size

Sites were separated into cemeteries that can expand and new cemeteries smaller than 30ha, regional cemeteries and full cemeteries that cannot expand.

### **Cemeteries that can expand and new cemeteries smaller than 30ha**

This category were further divided into

- Extensions identified on land belonging to Stellenbosch Municipality: At Franschoek and Stellenbosch (Onder Pappagaaiberg) (expand graveyard sites), Kylemore, Pniel (develop new cemeteries on erven adjacent to existing cemetery).
- New cemeteries identified on land belonging to Stellenbosch Municipality: at Pniel (open space across existing cemetery)
- Extensions identified on state land within the jurisdiction of Stellenbosch Municipality at De Novo.
- A new cemetery identified on state land at La Motte (existing cemetery does not have the appropriate zoning).
- Extensions identified on private land at Le Roux (Dennegeur), Franschoek, Languedoc, Klappmuts and Pniel.
- New cemeteries identified on private land at Klappmuts and Pniel.

### **Full cemeteries**

Seventeen (17) Cemeteries are fully occupied and need cleaning, remarking of graves, fencing and upkeep.

### **Sites not further assessed**

There were sites that were not further considered as they did not meet the environmental and policy assessment criteria i.e.

- Proximity to the settlement
- Entire site earmarked for housing
- Earmarked for recreation and youth development
- Undesirable slopes

- Earmarked for road and infrastructure upgrades
- Watercourses, water quality and soil characteristics

### **Regional cemeteries**

Regional cemeteries were identified in Jamestown, Lyndoch, Klapmuts, La Motte, Maasdorp (on R45 to Franschoek), Meerlust (T junction of R45 (Paarl to Franschoek) and R310 (to Stellenbosch)), Wemmershoek (R301) & Wiesenhof (R44).

Identification of regional cemeteries was narrowed down on land belonging to Stellenbosch Municipality at or close to James Town, Koelenhof and Wemmershoek. Only state land is available for a regional cemetery in Eastern Stellenbosch or the Franschoek Valley at La Motte, Maasdorp and Meerlust and in Northern Stellenbosch at de Novo.

Regional cemeteries on **private land** within the jurisdiction of Stellenbosch Municipality, have been identified at Jamestown, Klapmuts and Lyndoch.

From these, two regional sites were selected to obtain the appropriate authorisations to establish two regional memorial parks: i.e. Calcutta and Louw's Bos



## **Addendum A: Selection Criteria**

Sites were subjected to a set of selection criteria:

### **a) Initial (Ownership and Proximity) Assessment**

The purpose of this assessment is to determine which identified portions of land can be utilized as a local or regional cemetery and to determine the time frames involved in obtaining the appropriate rights and authorizations.

1. Ownership: Does the property belong to Stellenbosch Municipality, a State Department or a private person.
2. Zoning: What is the official zoning of the property?
3. Current Land Use: What is the property used for?
4. Lease: Is the property leased. If yes, for how long is the duration of the lease.
5. Transfer: If the property is not owned by Stellenbosch Municipality, it has to be transferred.
6. Location: Is the proposed development an extension of the existing cemetery or is it a completely new cemetery.
7. Proximity: Is the cemetery accessible for the region or only for the settlement in which it is located?

This assessment was done according to information as per the following documentation and site visits: ownership records, zoning certificates and diagrams.

### **b) Environmental and Policy Assessment**

The purpose of this assessment is to determine if there are any policies or natural aspects that may prohibit the expansion or development of cemeteries.

8. Intrinsic Value: What is good for the property? (Use & Heritage Value)
9. Instrumental Value: What is the property good for? (SDF alignment)
10. Systemic Value: Does the property contribute to the health of any eco system and or habitat? Is the property important for conservation purposes (does it form part of a sensitive ecological corridor which may include part of stream, drainage systems & wetlands and may be subject to ground water pollution.
11. Current status: Is there any indigenous Fauna and Flora habitats on the property and are there occurrence high or are there stands of rare endemic plants.
12. Ecological Rehabilitation: What should the property look like if restored to its pristine form? How did it look like? What are the likelihood/ potential of the property being rehabilitated?

13. Geology: What are the Solid features of Earth
14. Pedology: Status of soils in their natural environment
15. Hydrology: Are there any drainage lines
16. Accessibility: Is there physical access to the site? How easily can the site be accessed? What modes of transport can be used to reach the site? What modes of transport are available?
17. Land Availability: What are the competing uses in the area?

This information was gathered as per data available, site visits, previous studies conducted (see Reference List) and a meeting with municipal officials representing different departments; Data available included zoning maps, ecological and hydrological data, geological data, roads network data, programmes & projects from other municipal departments.

### **c) Soil Scan**

The purpose of this assessment is to determine if the site will be functionally appropriate to dig graves and bury people.

18. Soil excavability: Is the soil medium dense and firm
19. Soil permeability: Safe distance from domestic water sources (No – too close; Conditional - Certain forms of burials only i.e. walls of remembrance; Developable)
20. Soil permeability: Soil type (Clay Gravel, Silty Sand, Clay Sand, Silt) and permeability ranges. Poor subsurface conditions, either high water table or clay layers - grave surface flooding or perched water tables
21. Soil permeability: Safe distance to drainage features and sources (No – too close; Conditional - Certain forms of burials only i.e. walls of remembrance; No - Adequate surface drainage difficult - flat topographical features)
22. Drainage features: Present, Partial or Absent
23. Topography: Gradient 2° - 6°. No when slope exceeds 9°.
24. Basal Buffer Zone: 2.5m between grave & water table. No when basal buffer is absent.
25. Grave Stability: Verges & Sides to stand up.
26. Soil Workability: Ability of soil to compact on return to grave
27. Cemetery Size: Justify engineering geological & geotechnical investigation

This information was gathered as per data available, site visits and previous studies conducted and meetings with the Directorate Community Services. Data available included hydrological data, geological data and a full assessment of Wemmershoek as a housing development.

**Addendum B: Sites investigated**

No	Property Number & Settlement (Alphabetic)	Existing Cemeteries	Identified			Approved by Municipality (February 2015)
			Feasibility Study 2006 (Dennis Moss)	Site Visits & Scan, 2016 (CK Rumboll)	Property Management: Stellenbosch Municipality 2016	
1	RE 10/727 De Novo					
2	RE/3666 Franschoek, DenneG					
3	Erf 1219 Franschoek, Le Roux					
4	Erf 516 Franschoek					
5	Erf 423 Franschoek					
6	Erf 41 Franschoek					
7	Erf 428 Franschoek					
8	Erf 42 Franschoek					
9	Erf 16 Franschoek					
10	Erf 739 Franschoek					
11	Erf 2885 Franschoek					
12	Erf 2886 Franschoek					
13	RE/502 Jamestown					
14	1166 Jamestown					
15	RE/527 Jamestown					
16	RE 13/1674 Languedoc					
17	RE 1/619 Lyndoch					
18	Farm 342 Klappmuts					
19	8/744 Klappmuts					
20	RE/2/744 Klappmuts					
21	7/748 Klappmuts					
22	3/748 Klappmuts					
23	40/748 Klappmuts					
24	Erf 9 Kylemore					
25	Erf 21 Kylemore					
26	Erf 71 Kylemore					
27	Erf 35 Kylemore					
28	Erf 36 Kylemore					
29	RE/1/1339 La Motte					
30	1653 La Motte					
31	1/1158 La Motte					
32	RE/1158 La Motte					
33	Farm 7/1041 Maasdorp					
34	Farm 28/1041 Maasdorp					
35	1/1006 Meer Lust					
36	RE/1 Pniel					
37	9/1173 Pniel					
38	2/1647 Pniel					
39	1357 Pniel					
40	RE1/1176 Pniel					
41	17/1685 Pniel					
42	4/941 Simondium					
43	Farm 2/81 Kayamandi					
44	181 Stellenbosch					
45	RE/33/175 Stellenbosch					
46	RE/183 Stellenbosch					
47	RE/1/1024 Wemmershoek					
48	202 Wemmershoek					
49	23/747 Wiesenhof					
50	Farm 29 Koelenhof (Calcutta)					

### Addendum C: Full cemeteries

Cemeteries that are **fully occupied** and need cleaning, remarking of graves, fencing and upkeep are listed below:

	Property	Owner	Zoning
24	Erf 1219 Franschoek, Le Roux	Mun Gebied van Farnschhoek	Local Authority Zone
25	Erf 41 Franschoek	Ned Ger Sendingkerk Franschoek	Local Authority Zone
26	Erf 42 Franschoek	Ned Ger Kerk Franschoek	Local Authority Zone
27	Erf 423 Franschoek	Roux David Marais	Local Authority Zone
28	Erf 428 Franschoek	Congregational Church Franschoek	Local Authority Zone
29	Erf 16 Franschoek	Ned Ger Franschoek	Local Authority Zone
30	RE/527 Jamestown (Unregistered Portion 6/527)	Mun Stellenbosch	Agriculture Zone 1 (Local Authority (Cemetery))
31	7/748 Klapmuts	Volle Evangelie Kerk van God in Suidelike Afrika Klapmuts	Agriculture Zone 1
32	3/748 Klapmuts	Volle Evangelie Kerk van God in Suidelike Afrika Klapmuts	Agriculture Zone 1
33	Erf 9 Kylemore (re use western side)	Mun Stellenbosch	Open Space II
32	Erf 21 Kylemore	Mun Stellenbosch	Subdivisional Area for Residential Zone 1 and Transport Zone II (public road)
33	Erf 71 Kylemore	Old Apostolic Church of Africa	Open Space II
34	Erf 35 Kylemore	Mun Stellenbosch	Open Space I
35	RE/1 Pniel	Gemeenskap van Pniel	Open Space for Pniel Cemetery Authority Use for rest of property
36	Farm 190, Stellenbosch	Mun Stellenbosch	Local Authority (Cemetery)
37	Farm 191, Stellenbosch	Mun Stellenbosch	Local Authority (Cemetery)
38	Farm 285, Stellenbosch	Mun Stellenbosch	Local Authority (Cemetery)



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