

7.5	HUMAN SETTLEMENTS: [CLLR PW BISCOUBE]
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NONE

7.6	INFRASTRUCTURE: [CLLR J DE VILLIERS]
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7.6.1	LEVEL 4 RESTRICTIONS AND ASSOCIATED TARIFFS
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1. PURPOSE OF REPORT

To inform Council about the current state of the drought, to propose accelerated measures to alter restrictions and to propose measures to complete a drought management plan.

2. BACKGROUND

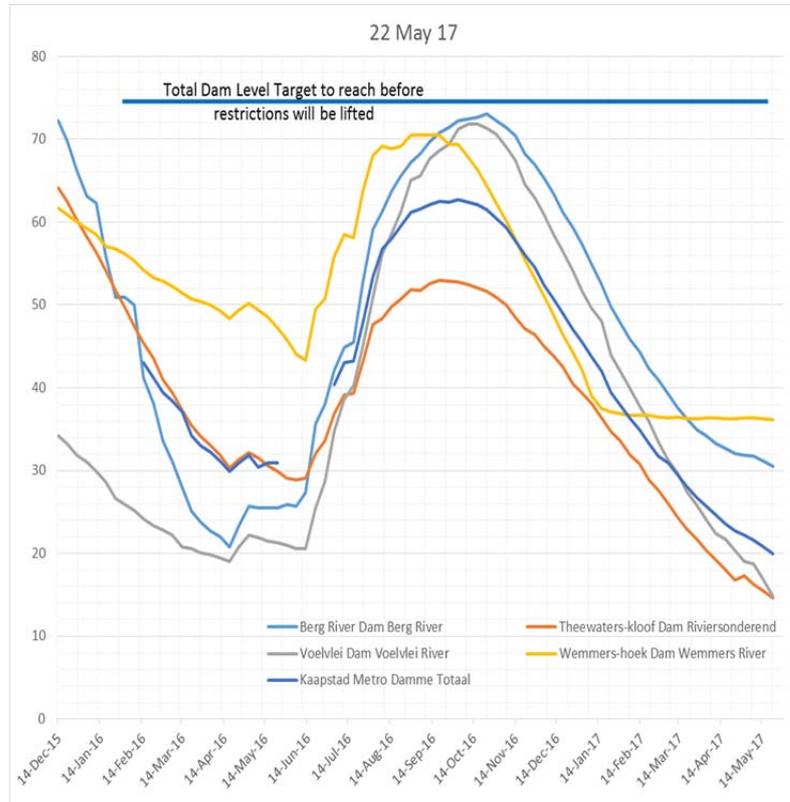
Severe drought conditions exist within and around the Cape Metropolitan Area. Stellenbosch falls within this area. The City of Cape Town, which provides 40% of the water needs of Stellenbosch, regularly imposed altering water restriction measures on curbing the consumption of water. Since Stellenbosch is so closely associated with Cape Town, it needs to follow similar impositions.

With currently very little rainfall and very high temperatures during summer, the supplies of water have reached critical levels. If the current rate of consuming water from all of the Metropolitan dams is used, the dams could dry up by July 2017. If the same rainfall is experienced as was the case in the 2016 winter, then the Cape Metropolitan area is certain to have no surface water available before the next rainfall season.

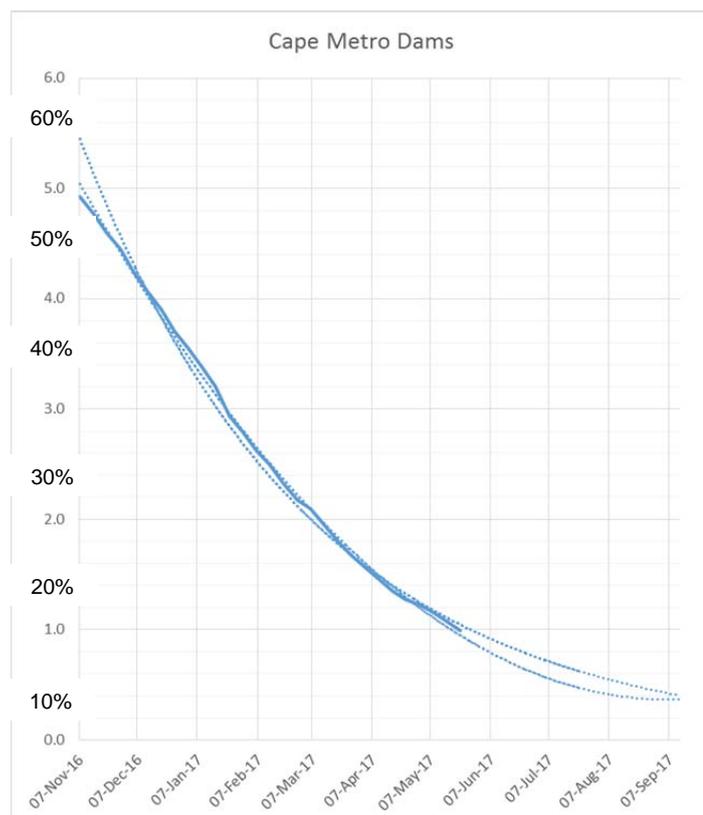
It is therefore very important to react rapidly once restriction rules are changed. In the past all Western Cape Municipality would meet with Department of Water and Sanitation to discuss the situation. Those municipalities using water from the same dams would then decide on a set of restrictions to be introduced. Since Cape Town is by far the biggest consumer, the introductions of further restriction are based on the equivalent restrictions introduced by the City of Cape Town. Once the Council of the City has approved the restrictions they are then forwarded to smaller municipalities. The smaller municipalities would then only be able to get approval from their Councils one month later. Currently the adoption of any water restrictions is delegated to the Director: Engineering Services, but is hereby presented to MAYCO for deliberation.

The current state of major dam levels is steady below:

Graph A: Western Cape Major Dam Levels



Graph B: Total Cape Metro Dams Situation



As seen from the above there is 10% of usable water left. The average weekly consumption is 0.8%, which means the Cape Metro has a supply of water that will only last for another 11 weeks.

We expect to have sufficient rain to last us through the winter, but it has been determined that if we do not have a higher rainfall this winter (2017) than the last winter (2016) we will almost surely have no water left by April 2018. For this reason we need to save as much water as we possibly can, while we still have water to save.

Also note that the Department of Water and Sanitation has very recently announced water restrictions, Government Gazette NO. 413 of 10 May 2017, whereby all municipalities within the Western Cape must save a percentage of water:

“Therefore in my capacity as the Director General of the Department of Water and Sanitation, I hereby under delegated authority in terms of item 6 (1) of Schedule 3 read with section 72(1) of the Act, limit the taking of water from the WCWSS, based on the measured water demand for domestic, industrial and agricultural sectors as per the five (5) years' average for the period 2010/11 -2014/15 as follows:

- 1. At least 20% curtailment on all domestic and industrial water use In the aforementioned areas.***
- 2. At least 30% curtailment on all agricultural water use in the aforementioned areas.***
- 3. The limitation applies from the 1a March 2017.***
- 4. The Western Cape Provincial Head is directed to lift the water restrictions should the dams recover to above 85% of the total weighted bulk storage capacity before the next decision date in November 2017.***
- 5. The established system's annual operating analysis will be undertaken in November 2017 to determine the next season's annual operating rules and restrictions.”***

SPECIAL MAYORAL COMMITTEE MEETING: 2017-05-24: ITEM 5.6.1

RECOMMENDED

- (a) that this report be noted;
- (b) that the moving to the full set of water restrictions based on the equivalent of City of Cape Town water restrictions be supported (as shown in Table 3.1), as determined by the delegations, approved by Council on 24 June 2015;
- (c) that the amended water restriction tariffs shown in Table 3.2 be accepted as the new proposed set of tariffs for the 2017/2018 Financial year;
- (d) that these tariffs be advertised as required for public opinion;

-
- (e) that Council not approve the water tariffs at the Council Meeting of May 2017, but that Council finalise these tariffs at the Council meeting at the end of June 2017 after the public opinion has been sought on the new proposed water tariffs;
- (f) that the generation of a Drought Management Plan by the Directorate: Engineering Services be noted; and
- (g) that this Drought Management Plan be forwarded to MAYCO for consideration before 30 June 2017.

<i>Meeting:</i>	<i>9th Council meeting: 2017-05-31</i>	<i>Submitted by Directorate:</i>	<i>Engineering Services</i>
<i>Ref no:</i>	<i>16/1/6 x 5/17/8</i>	<i>Author</i>	<i>Director: Eng Services: D Louw</i>
<i>Collab:</i>	<i>516459</i>	<i>Referred from:</i>	<i>Special Mayco: 2017-05-24</i>

7.7	PARKS, OPEN SPACES AND ENVIRONMENT: (PC: CLLR N JINDELA)
7.7.1	DRAFT INTEGRATED MANAGEMENT PLAN FOR JAN MARAIS NATURE RESERVE

1. PURPOSE OF REPORT

To obtain Council approval for the Draft Integrated Reserve Management Plan (IRMP) for Jan Marais Nature Reserve. **(APPENDIX 2)**

After Council approval final approval of the management plan is the responsibility of the Minister of Local Government.

2. BACKGROUND

Jan Marais Nature Reserve is a provincially declared local authority nature reserve and is governed by the National Environment Management Act: Protected Areas (NEMA: PAA, Act 57 of 2003) that contains the following set of requirements for Protected Area Management Plans.

Section 41 states that:

41 (1) The object of a management plan is to ensure the protection, conservation and management of the protected area concerned in a manner which is consistent with the objectives of this Act and for the purpose it was declared.

(2) A management plan must contain at least —

- (a) the terms and conditions of any applicable biodiversity management plan;
- (b) a coordinated policy framework;
- (c) such planning measures, controls and performance criteria as may be prescribed;
- (d) a programme for the implementation of the plan and its costing;
- (e) procedures for public participation, including participation by the owner (if applicable), any local community or other interested party;
- (f) where appropriate, the implementation of community-based natural resource management; and
- (g) a zoning plan of the area indicating what activities may take place in different sections of the area, and the conservation objectives of those sections.

(3) A management plan may also contain —

- (a) development of economic opportunities within and adjacent to the protected area in terms of the integrated development plan framework;

-
- (b) development of local management capacity and knowledge exchange;
 - (c) financial and other support to ensure effective administration and implementation of the co-management agreement; and
 - (d) any other relevant matter.
- (4) Management plans may include subsidiary plans, and the Minister or MEC may approve the management plan or any subsidiary plan in whole or in part.

In compliance with the provisions of Section 41 of the Act, management and development objectives for Jan Marais Nature Reserve are located in sections 5 and 8 of the IRMP.

3. DISCUSSION

The draft IRMP document was produced by constituting a core planning team including; municipal staff, the Reserve Advisory Board, various stakeholders such as SANBI/CREW and Cape Nature; and the appointed consultants.

A series of planning meetings and working sessions were held. The IRMP was advertised and electronic and hard copies were made available to registered interested and affected parties to comment on the plan.

Comments were assessed and where applicable, incorporated into the IRMP. Use was also made of management plans from other National Parks. A draft business plan was produced incorporating inputs from these sources and processes.

Sections 1 and 2 contains a summary of the relevant background information describing the salient biophysical and regional features, with further in-depth information to be found in the relevant appendices or source documents referred to.

In sections 3 and 5, management policies, vision and threats are presented. These form the basis for the various conservation and management objectives to be addressed, which are set out in section 8.

There are Financial Implications and the Municipality will have to provide the following according to the section on Biodiversity management on Page 24.

The requirements need to be provided for:

Minimum fire fighting requirements:

The following requirements need to be met at all times:

- Minimum firefighting equipment for prescribed burns must be available and comply with the conditions as set out by the local Fire Department.

Minimum fire fighting equipment recommended during prescribed burns:

- Fire beaters 10
- 15-liter rucksack pumps 5
- Drip torches 1
- Rake hoes 10
- First Aid kits 1
- Cell phone 1
- Trailer pump or “bakkie sakkie” fast reaction unit (min 1500 liter)

Minimum safety equipment and protective clothing recommended for any person involved in firefighting or prescribed burns:

- One 100% cotton overall
- A cotton T-shirt as undershirt
- One pair leather boots
- Helmet fitted with a heat shield visor, or a pair of large goggles
- A suitable pair of gloves

4. COMMENTS BY RELEVANT DEPARTMENTS**Planning and Development**

Supports the item.

Corporate and Strategic**Legal**

It is recommended that the Draft Integrated Reserve Management Plan with explicit reference to Provision 4 Administrative and Legal Framework makes provision that the Board will ensure that there is compliance with section 67 of the Municipal Finance Management Act, Act 56 of 2003.

The Board must ensure that the following are implemented and adhered to:

- a) monthly reports must be furnished to the Municipality on the actual expenditure of Municipal funds;
- b) effective, efficient and transparent financial management and internal control systems must be implemented;
- c) A copy of the audited financial statements must be annually submitted to the municipality

It will be advisable if the department ensures that established and upcoming artists from all walks of life are aware of the fact that their sculptures can be displayed in the park. The Municipality must ensure that sculptures on display are insured in terms the Municipal Insurance in the event of vandalism.

Finance

1. On page 25, minimum fire-fighting equipment and minimum safety equipment is listed. Does the municipality have all those in place? If not, maybe we should include the estimate under ‘financial implications’ in the item.

-
2. It is noted that the budget provision still needs to be recommended.

Engineering Services

Supported.

5. CONCLUSION

It is a legislative requirement by the Protected Areas Act (Act 57 of 2003) to have a Protected Area Management Plan.

RECOMMENDED

that the Draft Integrated Reserve Management Plan (IRMP) for Jan Marais Nature Reserve, be adopted.

**COMMUNITY AND PROTECTION SERVICES COMMITTEE: 2016-05-11:
ITEM 5.1.5**

RECOMMENDED

- (a) that the Draft Integrated Reserve Management Plan (IRMP) for Jan Marais Nature Reserve be advertised for public comment before final adoption by Council; and
- (b) that it be noted that the parking might be on the Merriman side of the entrance.

**(DIRECTOR: COMMUNITY &
PROTECTION SERVICES TO ACTION)**

MAYORAL COMMITTEE MEETING: 2016-05-18: ITEM 5.1.10

RECOMMENDED BY THE EXECUTIVE MAYOR

- (a) that the Draft Integrated Reserve Management Plan (IRMP) for Jan Marais Nature Reserve be advertised for public comment before final adoption by Council;
- (b) that it be noted that the parking might be on the Merriman side of the reserve; and
- (c) that the Jan Marais Nature Reserve Board must ensure that the following are implemented and adhered to, namely:
 - i) monthly reports must be furnished to the Municipality on the actual expenditure of municipal funds;
 - ii) effective, efficient and transparent financial management and internal control systems must be implemented; and
 - iii) a copy of the audited financial statement must be annually submitted to the municipality.

FURTHER COMMENTS BY THE DIRECTOR: COMMUNITY & PROTECTION SERVICES (2017-05-10)

The Draft Integrated Reserve Management Plan (IRMP) for Jan Marais Nature Reserve was advertised on the municipal website, in the libraries and the local newspapers. See attached **APPENDIX 1**. No comments were received.

MAYORAL COMMITTEE MEETING: 2017-05-17: ITEM 7.7.1**RECOMMENDED**

- (a) that Council adopts the Integrated Reserve Management Plan (IRMP) for Jan Marais Nature Reserve;
- (b) that the Plan be submitted to the Minister of Environmental Affairs;
- (c) that it be noted that the parking of Jan Marais Nature Reserve will be relocated to the side of Merriman Street; and
- (d) that a public participation process be followed to establish a new board to replace the current board, whose appointment period has expired.

<i>Meeting:</i>	<i>9th Council meeting: 2017-05-31</i>	<i>Submitted by Directorate:</i>	<i>Community and Protection Services</i>
<i>Ref no:</i>	<i>9/1/2/3/5</i>	<i>Author</i>	<i>Acting Manager: Community Services</i>
<i>Collab:</i>	<i>509241</i>	<i>Referred from:</i>	<i>Mayoral Committee: 2017-05-17</i>



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INNOVATION CAPITAL
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INNOVASIEHOOFSTAD

**PUBLIC PARTICIPATION PROCESS
JAN MARAIS NATURE RESERVE
INTEGRATED RESERVE MANAGEMENT PLAN**

Notice is given of the public participation process commenced by the Stellenbosch Municipality providing an opportunity to the public to comment on the Draft Integrated Reserve Management Plan for Jan Marais Nature Reserve

Opportunity to Participate: Interested and Affected Parties are invited to provide written comments on the Draft Integrated Reserve Management Plan ("IRMP") to Eco Impact or the Stellenbosch Municipality within 30 days of this notice. Your comments/suggestions, full name, contact and postal details, plus indication of any direct business, financial, personal or other interest you may have must please be provided and fully described.

The Draft IRMP will be made available via electronic copies to be mailed or on CD's to be collected at the Jan Marais Nature Reserve Office, at 123 Merriman Avenue upon request to any I&AP within the 30 day commenting period.

A hard copy of the draft IRMP will also be made available at the Reserve's Eco Centre for viewing by the general public.

Comments received will be presented to the Municipality and Reserve Advisory Board for consideration to be included in the final IRMP.

Send Comments or Suggestion on the Draft IRMP to:

Johmandie Gillomee (Eco Impact)
PO Box 45070, Claremont, 7735
Fax: 088 021 671 1660
Tel: 021 671 1660
Email: admin@ecoimpact.co.za

Or
the public can drop off written comments at
Stellenbosch Municipal Contact person
Leon Lourens, Jan Marais Nature Reserve, 123 Merriman Avenue, Stellenbosch

Closing Date for Comments: (Closing date 18 May 2015)

Figure 1: Advert: Public participation process JMNR Integrated Reserve Management Plan.



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PUBLIC NOTICE **PUBLIEKE KENNISGEWING**

JAN MARAIS NATURE RESERVE: PROPOSED INFORMAL PARKING ON MERRIMAN STREET, STELLENBOSCH

Notice is hereby given of the intent to accommodate parking on the road reserve along the northern boundary of the Jan Marais Nature Reserve.

The Community Services Department: Nature Conservation section, intends to accommodate informal visitors parking alongside the boundary fence on Merriman Street. This is due to the limited parking at the main entrance on Marais Street since the road upgrades. In this regard, public comments are invited. Please forward comments in writing to:

Enquiries:
Leon Lourens (Superintendent Nature Conservation and Environmental Education)
Tel: 021 808 8417/8424
Fax: 021 887 7664
Email: leon.lourens@stellenbosch.gov.za

JAN MARAIS NATUURRESERVAAT: VOORGESTELDE INFORMELE PARKEERING TE MERRIMANLAAN, STELLENBOSCH

Kennis geskied hiermee van die voorneme om informele parkeering te Merrimanlaan, op die pad reserwe op die noordelike grens te akkomodeer.

Die Gemeenskapsdienste-afdeling: Natuurbewaringsafdeling, beoog om informele parkeering vir besoekers toe te laat langs die grensheining op Merrimanlaan. Dit is as gevolg van beperkte parkeering by die hoofingang te Maraisstraat na die padopgradeering. Die publiek word aangemoedig om hul geskrewe kommentaar in die verband deur te gee.

Navrae:
Leon Lourens (Superintendent Natuurbewaring en Omgewingsopvoeding)
Tel: 021 808 8417/8424
Fax: 021 887 7664
Email: leon.lourens@stellenbosch.gov.za

000000-ES181016

Figure 2: Advert: JMNR Propose Informal Parking on Merriman Ave, Stellenbosch

Jan Marais Nature Reserve Stellenbosch

Integrated Reserve Management Plan

June 2017

Prepared for: Stellenbosch Municipality
Community & Protection Services
PO Box 17
Stellenbosch
7599
Tel: 021 808 8417
Fax: 021 887 7446

Prepared by: Eco Impact Legal Consulting (Pty) Ltd
P.O. Box 45070
Claremont
South Africa
7735
Tel: 021 671 1660
Fax: 088 021 671 1660
Email: admin@ecoimpact.co.za

And

Leon Lourens (M tech-Nature
Conservation)
Reserve Manager
PO Box 17
Stellenbosch
7599



AUTHORIZATION PAGE

This Integrated Reserve Management Plan for the Jan Marais Nature Reserve was drafted by Eco Impact Legal Consulting (Pty) Ltd.

Supported by:

Stellenbosch Municipality - Community and Protection Services
Reserve Advisory Board
Cape Nature
SANBI

Recommended and adopted by:

Name and Title	Signature	Date

Approved by:

Name and Title	Signature	Date

DOCUMENTED

Integrated Reserve Management Plan	
<i>This management plan replaces Version 2 as compiled by the Jan Marais Reserve Advisory Board dated March 2008</i>	
<u>Document Version:</u> Version 3: June 2014	<u>Prepared by:</u> Eco Impact Legal Consulting (Pty) Ltd
<u>Document Reference:</u>	<u>Approved by:</u> Stellenbosch Municipality <u>Date of Approval:</u> <u>Date of Implementation:</u>
<u>Distribution:</u> Distribute as Jan Marais Integrated Reserve Management Plan to all relevant staff, stakeholders and Departments.	
<u>Date for Revision:</u> April 2019 (IRMP to be updated/revised every 5 years)	

DEFINITIONS OF TERMS AND ACRONYMS

The following abbreviations (in alphabetical order) have been used below:

Department of Environmental Affairs and Development Planning	DEA&DP
Fire Protection Association	FPA
Integrated Reserve Management Plan	IRMP
Jan Marais Nature Reserve	JMNR
Method Statement	MS

South African National Biodiversity Institute: Custodians of Rare and Endangered Wildflowers Programme	SANBI:CREW
Stellenbosch Municipality	SM

PREAMBLE

The Jan Marais Nature Reserve is a provincially declared nature reserve and is therefore governed by the National Environment Management Act: Protected Areas (NEMA: PAA, Act 57 of 2003) which contains the following set of requirements for Protected Area Management Plans.

Section 41 states that:

- 41 (1) The object of a management plan is to ensure the protection, conservation and management of the protected area concerned in a manner which is consistent with the objectives of this Act and for the purpose it was declared.
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 - (e) procedures for public participation, including participation by the owner (if applicable), any local community or other interested party;
 - (f) where appropriate, the implementation of community-based natural resource management; and
 - (g) a zoning of the area indicating what activities may take place in different sections of the area, and the conservation objectives of those sections.
- (3) A management plan may contain —
- (a) development of economic opportunities within and adjacent to the protected area in terms of the integrated development plan framework;
 - (b) development of local management capacity and knowledge exchange;
 - (c) financial and other support to ensure effective administration and implementation of the co-management agreement; and
 - (d) any other relevant matter.
- (4) Management plans may include subsidiary plans, and the Minister or MEC may approve the management plan or any subsidiary plan in whole or in part.

In compliance with the provisions of Section 41 of the Act, management and development objectives for JMNR are located in sections 5 and 8 of the IRMP.

Sections 1 and 2 contains a summary of the relevant background information describing the salient biophysical and regional features, with further in-depth information to be found in the relevant appendices or source documents referred to.

In sections 3 and 5, management policies, vision and threats are presented. These form the basis for the various conservation and management objectives to be addressed, which are set out in section 8.

THE PROCESS

The document was produced by constituting a core planning team; including municipal staff members, the Reserve Advisory Board, various stakeholders such as SANBI/CREW and CapeNature; and the appointed consultants.

A series of planning meetings and working sessions were held, during which Reserve objectives and programme objectives were formulated or adopted from the proposals. The IRMP will be advertised and electronic and hard copies will be made available to registered interested and affected parties to comment on the plan. Their comments will be assessed and where applicable incorporated into the IRMP. Use was also made of management plans from other national parks. A draft was produced incorporating inputs from these sources and processes. Feedback was assimilated.

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DEFINITIONS OF TERMS AND ACRONYMS

The following abbreviations (in alphabetical order) have been used:

Cape Winelands Biosphere Reserve	CWBR
Department of Environmental Affairs and Development Planning	DEA&DP
Interested and Affected Parties	I&APs
Integrated Reserve Management Plan	IRMP
Jan Marais Nature Reserve	JMNR

Method Statement	MS
South African National Biodiversity Institute: Custodians of Rare and Endangered Wildflowers Programme	SANBI:CREW
Stellenbosch Municipality	SM

1. INTRODUCTION

1.1 Aim of the Integrated Reserve Management Plan

The Jan Marais Nature Reserve Integrated Reserve Management Plan aims to serve as the first single-source reference to the management and development of the Jan Marais Nature Reserve in its current and proposed future state.

1.2 Location and Extent (Site Description)

The Jan Marais Nature Reserve (hereafter referred to as the Reserve) is situated within the town of Stellenbosch in the Western Cape Province.

The Reserve's boundaries are formed by Merriman Avenue and private residential property along the northern border; Jannasch Street, Stellenbosch High School and Primary School to the east; Marais Street, a church and Stellenbosch University hostels to the west; and a boundary with a row of Jonkershoek Road private residential erven to the south. See Map 1 and Map 2 under Appendix A1.

The Reserve is therefore a significant and unique open space area, located in a densely developed urban area.

Apart from the property being a Reserve for the protection of the unique indigenous vegetation types present, it also offers a range of facilities available to the public, such as:

- Several trails throughout the Reserve that can be used for walking, running and cycling
- A play park
- Eco Centre, which contains a Struik Nature Library and serves as a conference and training centre
- An old kiosk which currently serves as the Reserve's Information Centre
- Ablution facilities
- Several picnic areas
- A small dam/pond
- Park benches placed throughout the Reserve.
- A labyrinth
- Planted gardens
- Several art works/sculptures placed throughout the Reserve

The Reserve is approximately 23 ha in extent.

Coordinates:
33° 55' 30" S
18° 52' 30" E

2. OWNERSHIP AND BIOPHYSICAL DESCRIPTION

2.1 Ownership and History

On 20 March 1915, Johan Henoch Marais in his testament donated ten thousand pounds sterling to the Municipality of Stellenbosch for the establishment and maintenance of a public municipal park. In November 1917 the Town Council agreed to set aside and enclose 45 morgen (24ha) of municipal land. On 26 November 1917 Prof Marais stated that the Park should not be a flower garden, but should contain indigenous and other trees and that the Park, established from funds left by the late Mr Marais, should be a place worthy of the generous donor.

The Town Council's minutes on 30 April 1918 included the first mention of the park in question and on 10 May 1918 the Town Council reported the following: "We have the honour to report that we have examined the ground sketches prepared by the Town Engineer, Mr Hamlin, for the establishment of a "Jan Marais Park" on the ground selected by the Council and approved of by the Ratepayers, at a meeting held on the 28th of November 1917, situated on a portion of Lot 25 and a portion of Lot 53, adjoining Lot 25."

On 16 July 1918 the Town Council fenced off a piece of ground comprising 29 morgen for the Jan Marais Park. Only 29 morgen of the original 45 morgen was used.

The official opening of the Park and handing over to the public took place in early 1919. At the opening a tree planting ceremony took place during which three oaks were planted in memory of Mr Jannie Marais (the donor), Mrs Marais and Mr Charlie Neethling, who was Mayor at that time.

Up to at least 1956 the Reserve's eastern boundary was not fenced. On 23 March 1962, the Jan Marais Park was declared as a Wild Flower Reserve (Veldblomreservaat) and in 1980 it was declared a Nature Reserve (Anon. 1994).

An Advisory Council was established on 28 October 1966 to assist and advise the Municipality with regards to the development of the Reserve. Due to financial restraints, the park was subsidized by the Provincial Administration.

The original boundaries of the Reserve were moved as a result of new street plans and the Reserve now comprises 23ha. Walkways were laid out, which have also helped to form fire breaks.

In 1979 it was decided that no plants should be planted in the areas of natural veld, unless otherwise specified by the Advisory Board. An electricity substation was also built on an area where little plant growth occurred (Swart 1983).

The vegetation in the Reserve represents one of the only natural examples of Boland Granite Fynbos and Swartland Shale Renosterveld left within the boundaries of Stellenbosch. The 23 hectares also provide secure habitats for small mammal species, bird life, insects and reptiles. The vegetation is managed as two distinct sections: an extensive undisturbed natural area of 20 hectares is surrounded by a managed buffer area along the perimeter. Thus far it has been established that the Reserve contains more than 235 plant species of which 15 are listed as red data species. Students and professionals regularly use the Reserve to conduct botanical, ornithological, entomological and geological research.

Various artworks/sculptures are exhibited throughout the Reserve. The gravel road through the middle of the Reserve is the remains of the old road from the town to Jonkershoek. The terrain is patrolled by security personnel and three surveillance cameras.

The Reserve serves as an important local recreational destination. It is frequently used for trail running, walking, cycling, dog walking, picnicking and general relaxation. Weddings, kiddie's parties and environmental events are regularly hosted on the large lawns.

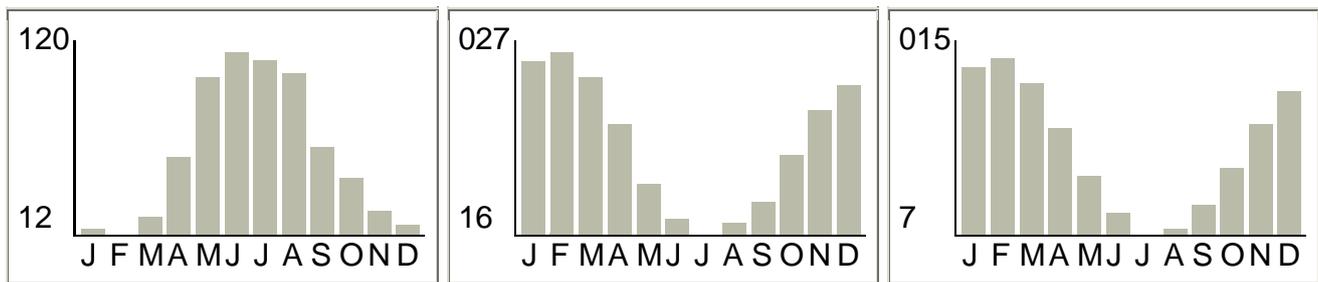
The Jan Marais Eco Centre was launched on 22 April 2013 (Earth Day) to provide environmental education specifically aimed at the youth of the Greater Stellenbosch. Interactive programmes are presented according to the National Environmental Calendar and linked to the school curriculum. The facility can also be hired for small group meetings.

2.2 Physical Environment

Climate:

Stellenbosch normally receives about 673mm of rain per annum and because it receives most of its rainfall during winter it has a Mediterranean climate. The chart below (lower left) shows the average rainfall values for Stellenbosch per month. It receives the lowest rainfall (12mm) in February and the highest (113mm) in June. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Stellenbosch range from 15.6°C in July to 26.3°C in February. The region is the coldest during July when the mercury drops to 6.6°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures.

Average rainfall (mm)	Average midday temperature (°C)	Average night-time temperature (°C)
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(http://www.saexplorer.co.za/south-africa/climate/stellenbosch_climate.asp)

The dominant winds: the summer wind from the southeast and the winter wind from the northwest. Ecologically the most important wind is the southeaster that blows during the hot dry months from October to just before the winter rains start, which is usually at the end of April. This southeaster can be very strong and can reach gale force winds, which increases evaporation and can cause physical damage. This wind can continue for days, which can accelerate transpiration of the plants. In contrast, the winter northwester, although it too can reach gale force, brings the rain. There are less dominant wind patterns, such as the seasonal easterly and berg winds, but these have a relatively minor impact on the Reserve and surrounds.

Topography:

The 23ha Reserve has little topographic relief, with a relatively even fall of approximately 5m from the eastern boundary (Jannasch Street) towards the western boundary (Marais and Cluver Streets). The only relief evident on the Reserve is essentially man-made, namely the low hill ("heuweltjie") and the shallow ornamental dam.

Geology:

Structural Geology - The Reserve lies on the second terrace of the Stellenbosch sequence of alluvial gravels. The alluvial materials consist predominantly of sandstone and quartzite pebble-boulder gravels, derived from the higher lying Table Mountain sandstone strata, in a sandy matrix. The alluvial materials in turn are underlain by Cape granite and strata of the Malmesbury Group.

Soils/Sediments – The general surface layer of the Reserve consists of loose gravels~ with a highly variable sand matrix. The alluvial gravels vary enormously in size, ranging from less than 10mm in diameter, to in excess of 300mm (Van der Merwe 2000.)

Hydrology:

According to Professor Rust the Eerste River originally ran through the area where the Reserve is now located but due to urban development the course of the river was diverted.

In the early years the Reserve was dependent on municipal water for irrigation; however in 1973 a borehole was sunk in the north-eastern sector of the Reserve. The borehole was serviced in 2014 after being non-functional and provides the bulk of the water required by the Reserve.

There is a small man-made dam/pond of approximately 700m² within the reserve, which was constructed to provide water for avifauna and fauna. This pond only holds water seasonally

and is usually dry during the warm summer months. It is proposed that the borehole be used to ensure that the man-made dam/pond within the Reserve remains full to attract freshwater bird species.

Seasonal wetland areas exist mainly within the north western corner of the Reserve. Due to the high water table which exists within these areas the seasonal wetland usually holds water from June to October.

See Appendix A1 for maps of the Reserve indicating hydrological features as discussed.

2.3 Biological Environment

Vegetation Types:

The Reserve is composed of natural/indigenous veld and managed areas. The natural/indigenous veld is found mainly in the central area of the Reserve zoned as the Nature Reserve Zone on the proposed zoning map. The managed areas are all the remaining zones in-between the Natural Reserve Zone and border fence of the Reserve. Refer to Appendix A1 – Map 5.

The indigenous vegetation types present in the Reserve are comprised of Boland Granite Fynbos and Swartland Shale Renosterveld (Mucina & Rutherford 2006). See Appendix D3 for description and characteristics of the indigenous vegetation types present in the Reserve.

Latest plant survey list as compiled by SANBI: CREW during 2013 – 2014 is available under Appendix C1.

Invasive Alien Plants:

Alien vegetation in the natural areas includes *Pinus radiata*, *Pinus pinea* and different *Eucalyptus* types. There are clear rows of *Pinus radiata*, *Eucalyptus* (mainly Blue Gum) and oak trees situated along the boundaries of the Reserve.

The nursery/Garden Zone situated in the Reserve contains a variety of indigenous and exotic tree species.

The change in the vegetation surrounding the current main entrance is attributed to management practices. Here there are a variety of plant types comprising exotic species and indigenous vegetation, which also includes different *Protea* species.

Mammals:

The Reserve does not have a large variety of mammal species, mainly small mammals i.e. mice, mongoose and a few Duikers that have been resident in the Reserve for a number of years.

It is estimated that there were four adult Grysbok in 2000. Two pairs of Grysbok were donated by Somchem in 1989 (Anon. 1994). In April 2007 three adult Grysbok were found dead on

different days. Two were buried in the Reserve. One was delivered to CapeNature to be sent to the National Museum. During the autopsy a sample of the liver was removed and sent to the state veterinarian. The outcome was a stress-induced illness due to the small size of the available habitat. It is not certain how many Grysbok are currently present within the Reserve and no Grysbok has been sighted for a number of years now. It is believed that none exist within the Reserve anymore. It is not recommended that Grysbok be re-introduced to the Reserve as it was proven not successful due to the inadequate size and carrying capacity of the Reserve.

Birds:

The Reserve has a rich bird life. The bird species that were identified in 2000 included many of the sunbird family, such as the *Nectarinia famosa* (Malachite sunbird); *Promerops cafer* (Cape sugarbird) and the *Nectarinia violacea* (Orange breasted sunbird). A Black Eagle (*Aquila verreauxii*) has also occasionally been sighted.

The pheasant species include the Helmeted Guinea fowl (*Numida meleagris*) and the Cape Francolin (*Francolinus capensis*). All bird species expected to occur in this region are listed in Appendix C2.

Reptiles:

Both the Bergskilpad or Leopard tortoise (*Stigmochelys pardalis*) and the Rooipens or Angulate tortoise (*Chersina angulata*) are common residents of the Reserve. See Appendix C3 for a list of reptiles expected to occur in the Stellenbosch region.

Of the different snake species, the Cape Cobra (*Naja nivea*), Cape Puff-adder (*Bitis arietans*) and the Aurora House Snake (*Lamprophis aurora*) have been sighted in the Reserve.

The Marbled Leaf-Toed Gecko (*Afrogecko porphyreus*) and the Ocellated Thick-Toed Gecko (*Pachydactylus geitje*) have been sighted on the Reserve. Also discovered under rocks in the reserve were adult and juvenile specimens of the legless Western Cape Dark Skink (*Acontias meleagris meleagris*). A Rhombic Skaapsteker (*Psammophylax rhombeatus rhombeatus*) was sighted in the Reserve.

(http://www.markoshea.info/research_fieldwork_safrica05-1b.php).

Amphibians:

Some of the common frogs in the Reserve include the Clicking Stream Frog (*Strongylopus grayii*) and the Platanna (*Xenopus laevis*)

The Cape Rain Frog (*Breviceps gibbosus*) has been sighted in the Reserve. This species is listed on the IUCN Red List as Near Threatened

(http://www.markoshea.info/research_fieldwork_safrica05-1b.php).

Invertebrates:

The common brown button spider (*Latrodectus geometricus*) has been sighted in the Reserve and the Reserve has rich invertebrate species diversity.

(http://www.markoshea.info/research_fieldwork_safrica05-1b.php).

3. PURPOSE, VISION/MISSION AND SIGNIFICANCE/VALUE

3.1 Purpose of the Protected Area: Conservation of Unique Biodiversity

The vegetation in the Reserve represents one of the only examples of Boland Granite Fynbos and Swartland Shale Renosterveld left within the boundaries of Stellenbosch. Protection and management of these unique remnants are therefore imperative to maintain the unique biodiversity ecosystem as present within the Reserve. The Reserve also acts as a research, recreational and educational facility for the people of Stellenbosch.

The Reserve falls within the Cape Winelands Biosphere Reserve (“CWBR”). The CWBR is an internationally proclaimed area within the Western Cape’s Cape Floral Kingdom located within the Western Cape Province and extends from the Kogelberg Biosphere Reserve in the south, northwards along the Cape Fold Belt Mountain Chain and adjoining valleys constituting the Cape Winelands.

The CWBR was proclaimed by UNESCO in 2007 when it was agreed that the area has special people, an abundance of animals and plants, water reserves of great importance and a unique natural and cultural environment that need to be protected for generations to come. The aim of the CWBR is to create an environment where people can live in harmony with nature, other people, businesses and other activities with the long term benefit for all.

<http://www.capewinelandsbiosphere.co.za>

3.2 Vision and Mission

To establish an urban reserve of biodiversity importance with a view to increasing awareness of natural resources towards sustainable living practices with the general public of Stellenbosch, and to conserve the local biodiversity for system and representative local flora and faunal communities in and urban setup.

3.3 Significance/Value of Property

Jan Marais Nature Reserve is a statutory nature reserve under ownership of the Stellenbosch Municipality and is indicated as such in the Municipality’s Strategic Development Plan. It has a municipal budget and therefore most expenses are covered by the Municipality. The land was

donated to the Municipality for the sole use of conserving the land for the benefit of the people of Stellenbosch.

Although surrounded by residential development, the Reserve is an example of fynbos in a natural state and is an area of scenic beauty. It is a show case of the original habitats of the alluvial terraces on which the town of Stellenbosch was established and one of the only natural remnants of Boland Granite Fynbos and Swartland Shale Renosterveld left within the town of Stellenbosch.

The Reserve borders on two schools and is within easy reach of all schools in Stellenbosch. Due to its central location in Stellenbosch, the Reserve serves as an important recreational space for the residents of Stellenbosch. It is frequently used for trail running, walking, cycling, dog walking, picnicking and general relaxation.

There are increasing numbers of local and overseas cyclists touring the area. Cycling in the Reserve is allowed as a desirable recreational activity as it does no harm to the natural environment. The presence of cyclists could assist in minimising the frequency of flower theft.

The Reserve boasts an impressive view of the surrounding mountain ranges and a collection of species of the family Proteaceae that makes a splendid and colourful display at certain times of the year.

The Reserve is also used for research projects by students of the University of Stellenbosch.

The existence of the nature reserve has a positive impact on property values of neighbouring real estate.

The Reserve has a number of public facilities on site such as the historical kiosk which currently functions as an information centre, an Eco Centre with a Struik Nature Library, a play park and ablution facilities, to name a few.

Reserve Management will ensure that established and upcoming artists from all walks of life are aware of the fact that their sculptures can be displayed in the park. The Municipality must ensure that sculptures on display are insured in terms of the Municipal Insurance in the event of vandalism.

4. ADMINISTRATIVE AND LEGAL FRAMEWORK

4.1 Legal Framework: Applicable Legislation and By Laws

Chapter 41 of the National Environmental Management Protected Areas Act 57 of 2003 requires that Management Plans be located within the context of a policy framework. The IRMP, in common with all protected areas, is to be developed and managed within the framework of guiding statutes and policy frameworks.

In this regard, relevant legislation includes:

- Atmospheric Pollution Prevention Act 45 of 1965
- Basic Conditions of Employment Act 75 of 1997
- Compensation for Occupational Injuries and Diseases Act 130 of 1993
- Constitution of the Republic of South Africa Act, No. 108 of 1996
- Conservation of Agricultural Resources Act 43 of 1983
- Disaster Management Act, No. 57 of 2002
- Employment Equity Act 55 of 1998
- Environment Conservation Act, No. 73 of 1989
- Fencing Act 31 of 1963
- Fertilizer Farm Feeds Agricultural Remedies Stock Remedies Act 36 of 1947
- Labour Relations Act, 1995 Act, No. 66 of 1995
- National Environmental Management: Air Quality Act 39 of 2004
- National Environmental Management: Biodiversity Act, No. 10 of 2004
- National Environmental Management: Protected Areas Act, No. 57 of 2003
- National Veld and Forest Fire Act, No. 101 of 1998
- National Forest Act, 84 of 1998
- National Environmental Management Act, No. 107 of 1998
- National Heritage Resources Act, No. 25 of 1999
- National Building Regulations and Building Standards Act 103 of 1977
- National Environmental Management Waste Act 58 of 2008
- National Water Act, No. 36 of 1998

- National Health Act 61 of 2003
- Occupational Health and Safety Act, No. 85 of 1993
- Public Finance Management Act, No. 1 of 1999
- Stellenbosch Local Municipality Fire Safety By-law
- Stellenbosch Local Municipality Boundary Walls and Fences
- Stellenbosch Local Municipality Electricity Supply
- Stellenbosch Local Municipality Bylaw for the Control of Certain Offences.
- Water Services Act 108 of 1997
- World Heritage Convention Act, No. 49 of 1999
- Municipal Finance Management Act, Act 56 of 2003.

The Reserve Advisory Board will ensure that there is compliance with section 67 of the Municipal Finance Management Act, Act 56 of 2003. The Board must ensure that the following are implemented and adhered to:

monthly reports must be furnished to the Municipality on the actual expenditure of Municipal funds;

effective, efficient and transparent financial management and internal control systems must be implemented;

A copy of the audited financial statement must be annually submitted to the municipality.

4.2 Administrative Framework: Management and Staff Component

The Reserve is currently under management of the Stellenbosch Municipality, which relies on the Advisory Board for specific management strategies.

The Advisory Board is composed of:

- i. Manager Community Services and Head Greening
- ii. Reserve official/s from Stellenbosch Municipality
- iii. Representative/s of CapeNature
- iv. Representative/s of the Stellenbosch residents
- v. Area ward councillor
- vi. Co-opted specialists when needed

Also see Stellenbosch Municipality Jan Marais Reserve Staff Organogram under Appendix D1 and Advisory Board Terms of Reference under Appendix B1.

5. PROTECTED AREA POLICIES FRAMEWORK & GUIDING MANAGEMENT PRINCIPLES

5.1 Management Goals and Objectives: Biodiversity; Heritage & Socio-economic

Goals:

Goal 1: To ensure that the Reserve maintains and enhances the integrity of its ecological, cultural and scenic resources.

Goal 2: To promote the long-term conservation, rehabilitation and restoration of the biodiversity within the Reserve.

Goal 3: To ensure the provision, installation, development, and maintenance of adequate and appropriate infrastructure and equipment that supports effective conservation management and the provision of visitor facilities and services in the Reserve.

Goal 4: To establish and nurture co-operative, collaborative and mutually beneficial relationships with stakeholders to ensure the long-term sustainability of the Reserve.

Goal 5: To develop the administrative capacity, human resources and financial resource to support the implementation of the Reserve's management plan and to meet the required legal responsibilities.

Goal 6: To effectively market, provide and maintain a unique experience and good service to all users of, and visitors to, the Reserve.

Goal 7: To ensure that relevant baseline scientific research and monitoring guides the improving management of the Reserve, and results in information that is readily accessible to managers and relevant stakeholders.

Primary Conservation Objectives:

The Jan Marais Natures Reserve is representative of the natural vegetation that occurred in Stellenbosch and therefore the main objective is to protect the natural flora and fauna. The plant growth in the central region of the Reserve must be managed to develop to its original state.

JMNR falls within the core area of the CWBR. The main objective of the CWBR for all areas falling within the core area is to assist in protecting and maintaining the rich biodiversity of these areas and promoting low impact activities as far as possible.

Secondary Conservation Objectives:

- The use of the Reserve for recreation for all.
- Students and professionals can use the Reserve as a site to conduct research and for practical application.
- Education at school level, for all schools within WC024.
- To educate neighbouring communities and the public in general on environmentally friendly practices and sustainable utilization of natural resources.
- To establish the Reserve as a viewing site for a large variety of plant species indigenous to the Stellenbosch area.
- Planting of rare indigenous species that occur in the surroundings of Stellenbosch, in the Reserve for their protection.
- To remove the alien vegetation plant species which pose a risk to natural vegetation of the Reserve.
- To increase the tourist and community value of the Reserve and attract more people to the Reserve by making the Reserve more attractive and developing community facilities and activities.

5.2 Threats and Challenges

The following Reserve threats and challenges exist and need to be addressed:

- The Reserve is under-staffed with the lack of a dedicated reserve manager being the most current staff priority.
- Effective rehabilitation of the central Nature Reserve Zone with indigenous Reserve plant species.
- Allocating the Reserve's budget to the main priorities as identified within the IRMP.
- Potential inadequate funding for critical projects.
- Alien invasive plants as well as the potential for native invasives.
- Climate change could result in a change in weather patterns that could have an impact on plant species distribution.
- Illegal access and general transgressions, including vandalism and stealing of plant material, especially flowers.
- Inadequate capacity building; employees not adequately experienced to perform critical management activities e.g. monitoring activities, extension services, etc.
- Insufficient baseline data to make informed management decisions. See Section 8 conservation and management actions to be addressed as indication of baseline data to be obtained to make informed management decisions.
- Reserve not large enough for species distribution and existence.
- Very high neighbouring real estate values and the pressure of an increasing population on valuable open land.
- Neighbouring landowner impacts on the Reserve are not managed or controlled.

- The gardens being planted in the areas outside of the central Nature Reserve Zone are not being monitored or controlled and may pose a risk to the Reserve's indigenous vegetation.
- Accidental wild fires.
- Control of formal and informal sports taking place within the Reserve such as touch rugby and soccer.
- The asbestos water pipeline along which regular leakages are detected and causes erosion and seedbank damage within the Reserve.

5.3 Protected Area Management Policies Framework and Guiding Principles for:

Reserve Safety & Security

The security company used for the Reserve may change as per annual tender.

JAN MARAIS RESERVE SECURITY POLICY AS FROM 1 DECEMBER 2012	
Contact Numbers :	
Stellenbosch Municipality Control Room	021-808 8890/1
Reporting	
Incident Book	The guards have an incident book where matters are recorded and feedback provided on the following Monday.
Monthly Report	The security company must provide a monthly report to the Municipality also indicating the number of visitors.
Keys	
Kiosk	The security company is provided with a set of keys for the kiosk, toilets and gates.
Toilets	The security gates at the toilets are to be kept locked and only opened for users of the park.
Gates	The gates are to be locked and unlocked by the guard on duty.
Shifts	
	7h00 to 19h00 Daily
Uniform	
	The guards on duty will always be dressed in the security company's uniform including a glow jacket and epaulets. They will be issued with handcuffs, a baton and pepper spray.
Patrols	
	Daily patrols throughout Reserve and a complete fence patrol at least once a week
Access Control	
Jannasch Street Entrance	Vehicular gates locked – opened only with permission
Marais Street- vehicular gate	Gate locked- opened only with permission
Marais Street Main Gate	Locked and unlocked according to shift hours
Duty Sheet	
The guard on duty will lock and unlock the main gate according to the shift hours stipulated above.	
The security gates at the toilets will be kept locked and opened only for users of the park.	
The guard will liaise with the municipal staff cleaning the toilets and refuse bins.	

The “ <i>hot spots</i> ” are the misuse of toilets, liquor abuse on and around the play area, picking of flowers and vandalism of the Jannasch Street gate. Benches and refuse bins may not be moved around. A bicycle is available for the guard to patrol the rest of the reserve.
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The guards will be dressed in a uniform as stated above.
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Adjacent Landowners Management

Adjacent landowners are welcome to submit deviation requests e.g. access gates which will be considered by the Jan Marais Advisory Board and for final approval by the Stellenbosch Municipality. All correspondence must be in writing with detailed maps of requested deviations.

Adjacent landowners have to adhere to the following:

- (a) Refrain from dumping/ disposal of garden refuse or other waste materials in the Nature Reserve.
- (b) Refrain from removal, alterations and/or damage to fencing of the Nature Reserve.
- (c) Refrain from installing gates to gain access other than the designated entrances to the Reserve. The Municipality offers an opportunity to the adjacent landowners with existing gates, to make a written declaration of such, which should include all permissions granted by the Municipality. In the event where the latter is non-existent, the Advisory Board and the Department Community Services will consider approving the new application. With the change of property ownership, the new owners are obliged to apply for permission to retain the access
- (d) Existing gates and fences should not be left open and unattended at any time, and should be locked as according to Reserve open and closing times.
- (e) Refrain from using Reserve land as the extension of private property or personal recreational space i.e. creating and planting own gardens within the Reserve boundaries.
- (f) Refrain from removal or introduction of, or damage to, fauna or flora.
- (g) No open fires are allowed on the Reserve side of the private property.
- (h) The Municipality cannot be held accountable for any damage or losses to adjacent properties by a third party.
- (i) The firebreak must remain accessible at all times.
- (j) The Municipality will maintain the firebreak according to guidelines as set out by the municipal Fire Department.
- (k) Screening off of the Reserve is a prerogative of each homeowner and will not be allowed to extend into the Reserve.
- (l) Use of the Reserve is restricted to open hours of the Reserve.

If these requirements are contravened by an adjoining property owner then the Municipality may prosecute the perpetrator and/or recover from the responsible owner the assessed cost of restitution or rehabilitation.

In those cases where in the past the owners may already have made changes themselves without written permission, then they have to restore the area affected to its original condition after consulting with the Municipality, failing which the Municipality may do so for the account of the owner involved.

Deviation requests can be sent to:

The Manager: Community Services, 123 Merriman Street (Jan Marais Nature Reserve Offices)
Stellenbosch 7600

Special Events

Events such as weddings, graduations, birthdays, dances, concerts, markets, fundraisers, etc. are classified as “special events.” In planning these events, it is necessary for the event planning staff to have all the information about the event at the time of booking. Withholding information and details about an event may result in the event being cancelled. Written approval must be obtained from the Municipality to make use of Reserve facilities. All events are tentative until supporting policies and/or requested information have been accepted and approved.

The Municipality reserves the right to cancel any event if they feel that the event is not in the best interest of the Reserve. The event planner must meet with the Municipality to discuss all details in full when requesting space in the Reserve or when planning an event. It is the responsibility of the event planner to provide all information regarding their event to the Municipality to ensure a smooth and successful event.

Event applications can be directed to The Manager: Community Services, where-after it will be circulated for comment. A one month notice period is required for an event to be approved.

Alcohol Policy

Any event requesting service of alcohol will need to complete and submit a “request for alcohol service” to the Municipality. No one is permitted to bring in their own alcohol or to serve alcohol at any event or to serve it at the guest tables. The Reserve does not have a liquor license; therefore no alcohol may be served within the Reserve during events if the necessary permits/licence has not been obtained.

Music/Noise Policy

Special events that include music, dancing or any type of performance need to get written permission for the Reserve. Because noise may impact surrounding neighbours the Municipality must consult with the neighbouring landowners before events are approved. This policy applies regardless of how many people are estimated to attend the event.

Event Set-Up

An event set-up schedule and layout plan must also be provided to the Municipality when applying for written approval. The Municipality may also recommend the presence of Reserve staff or management during the event set-up, proceedings and clearing to monitor potential impacts on the Reserve facilities and surrounds.

Reserve Hours

The event proceedings schedule must be provided which must be approved by the Municipality and the Reserve operating hours must be taken into account when considering the event schedule.

Food Provision

The event planners must provide all food and beverages required.

Parking

Parking is restricted to current available parking space in and around the Reserve and all vehicles entering the Reserve must be controlled and have written authorisation to do so. The Reserve takes no responsibility for any damage incurred on any vehicles or personal belongings. It is the responsibility of the event planner to arrange for adequate car guards/event security.

Security

Security must be provided by the event planner for special events unless otherwise waived by the Municipality. Determination for number of officers necessary for security for events is the responsibility of the event planner.

Relevant Legislation and By-Laws

It is the event planner's responsibility to ensure that they are aware of and comply with all relevant legislation and by-laws as applicable to the all aspects of the event and activities proposed.

Right of Refusal

An event request must be made to the Municipality at least one month before the scheduled event to allow for discussions etc. The Municipality reserves the right to refuse an event if it is deemed not in the best interest of the Reserve and/or neighbouring landowners.

Requests can be sent to:

The Manager: Community Services, 123 Merriman Street (Jan Marais Nature Reserve Offices)
Stellenbosch 7600

Art, History and Cultural Management

Written approval must be obtained from the Municipality to display any form of modern, cultural and historical art or exhibitions in the Reserve.

A description of what is proposed to be displayed with a distribution layout map and display time schedule must be provided to the Municipality for consideration.

It will be the responsibility of the individual, company, group etc. applying for approval to also remove the displays as agreed with or when requested by the Municipality.

The Municipality reserves the right to refuse any displays or request the removal of these displays at any time if it is deemed not in the best interest of the Reserve and/or neighbouring landowners.

Requests can be sent to:

The Manager: Community Services, 123 Merriman Street (Jan Marais Nature Reserve Offices)
Stellenbosch 7600

Reserve Access Control

During Reserve open hours no vehicles must be allowed to enter the central Nature Reserve Zone of the Reserve without written authorisation or supervision from the Municipality or Reserve management.

All entrance gates must be locked after hours.

All adjacent neighbouring landowners' access gates to the Reserve must be locked after hours and when the landowners are not at home. No one may access the Reserve through these gates after hours if not arranged with the Municipality.

Security may decline entry if a visitor (s) is under the influence of any toxic substance.

Pedestrian gates allow access to the reserve, and vehicular access only allowed with authorisation from the Municipality.

Infrastructure Maintenance

The Municipality must conduct an annual Reserve infrastructure audit to determine infrastructure maintenance needs and requirements.

The audit must indicate infrastructure maintenance priorities according to which the Municipality must then allocate adequate budget amounts.

Infrastructure maintenance must be supervised and conducted in a manner that does not have a detrimental impact on the Reserve, especially the core Nature Reserve Zone.

Reserve infrastructure to be audited and maintained includes:

- All buildings with associated services infrastructure such as plumbing, electrical and sewerage facilities.
- Roads and pathways
- Fences
- Play and gym equipment
- Park benches
- Gates
- Reserve lights

- Notice boards
- Electricity transformer
- Borehole

Biodiversity Management

Invasive Alien Plant Control

The core Nature Reserve Zone must be monitored for growth and encroachment of invasive alien plant species at least every three months.

If invasive alien plant species are detected eradication measures must be implemented immediately. If eradication methods does not deem effective, CapeNature and SANBI must be consulted to determine effective eradication measures to be implemented depending on type of invasive alien plant species.

It is important to determine the species of invasive alien plant to be eradicated as different species might require varying eradication measures to be effective.

Floral Rehabilitation

Only planting of indigenous Reserve vegetation species may occur within the central Nature Reserve Zone. No unauthorised planting, rehabilitation and landscaping may take place within the core Nature Reserve Zone.

All non-indigenous Reserve vegetation species must be removed manually from the central Nature Reserve Zone to allow for successful rehabilitation of the area.

If planting of indigenous Reserve vegetation species occurs within the central Nature Reserve Zone for rehabilitation purposes, the area should be watered on a regular basis and as required until plants have established successfully.

Garden and Buffer Zones Management

The Garden and Buffer zones (i.e. all areas outside of the central Nature Reserve Zone) to be managed in such a way as to not pose a threat to the distribution and diversity of the indigenous vegetation types as found within the central Nature Reserve Zone.

The Municipality reserves the right to refuse any landscaping proposal or request the removal and rehabilitation of current gardens and landscaping features if at any time it is deemed not in the best interest of the Reserve and/or neighbouring landowners.

Fire Management and Block Burning

A Reserve burning plan is essential for the management of the natural veld in the Reserve. Fire is a natural process and a keystone event in Fynbos and without it the Fynbos landscapes would lose its diversity in flora and fauna species.

Different factors must be taken into account when compiling a burning plan, such as the burning season, previous burns, fuel load, the frequency and intensity of the fire, the size of the area to be burnt and any hindrances that might occur during the proposed period of burning (rain, wind, social pressures etc.).

The Reserve burning plan must be updated after each scheduled and non-scheduled burn that occurs in the Reserve in collaboration with CapeNature and SANBI. Please refer to map 6 indicating the current veld age.

Jan Marais is susceptible to wild fires due to land uses on adjoining properties and the inefficiency of prevention measures. Any fire management regime must therefore provide innovative measures to combat the occurrence and spread of wild fires. The overarching fire management goals as it pertains to the nature reserve are to:

- a) Protect people and property.
- b) Protect natural and cultural resources from undesirable effects of fire.
- c) Suppress unwanted fire.
- d) Allow fire to assume its natural role in the ecosystem.
- e) Use prescribed fire for resource management purposes.
- f) Manage fire cooperatively with neighbouring land owners and other stakeholders.

The fire management regime of the nature reserve is premised upon the risk management strategies listed below.

Management Strategies	Guidelines
a) Avoiding the risk	Prohibiting high-risk human activities in close proximity to the nature reserve.
b) Reducing the hazard	Prescribed burning, preparation of firebreaks or manual clearing of fire hazards as well as regular inspections.
c) Reducing ignitions	Education and awareness programs, fire bans, reduction in activities during high-risk season or periods, efficient ignition investigation.
d) Reducing consequences	Contingency plans, community education programs for self-protection (lives and property), and building restrictions and standards for areas prone to veld fires.
e) Implementing an innovative artificial burning regime.	Such regime and associated practices are to reduce the risk of wild fires spreading and causing extensive ecological and financial damage. Such artificial regime implies the creation of a mosaic of veld ages that will enhance the capacity of the area to and maintain its ecological functioning.

The EMP builds on the recognition that the threat of fires to the nature reserve and the relevant reasons for such threat are unique. Due to surrounding land uses and human behaviour wild fires will probably not be prevented through any measures taken. The solution lies in a combination of options (a), (b) and (c) above which implies the on-going modification of the nature reserve in terms of an innovative artificial burning regime as described below. The primary importance of natural or controlled fires is to help reinstate and maintain a viable

population of Renosterveld by breaking up large tracts of old vegetation into a mosaic of different ages. This also contributes to the reduction of fuel load to prevent unmanageable wildfires, the control of invasive alien plants and the safeguarding of infrastructure. Uncontrolled wildfires are one of the main threats to the protection of biodiversity in the nature reserve and to the general integrity thereof.

The sum total of the current Jan Marais Fire Management Plan is cited below. The Municipality conducts the listed measures which are, upon conclusion, subject to inspected by a fire marshal from the Stellenbosch Fire Department. The Municipality relies solely on the Stellenbosch Fire Department to combat wildfires in the nature reserve. As history has shown, this management plan and strategy is inefficient and inadequate.

FIRE PROTECTION SCHEDULE: SEPTEMBER TO NOVEMBER			
BELT NO.	DESCRIPTION	SPECIFICATION	
Jan Marais Nature Reserve			
1	<i>All road edges as indicated on Map</i>	<i>Spray glyphosate</i>	<i>1.5m On each road edge. 6m Fire break will more than enough, this amounts to 1.5m on either side of the internal paths or roads</i>

Requirements of the National Veld and Forest Fire Act, Act No. 101 of 1998, as amended by the National Fire Laws Amendment Act, are to prevent and combat veld, forest and mountain fires throughout South Africa. The Act applies to the Reserve and puts in place a range of legal requirements as set out below-

The responsibilities of people (in this case the Stellenbosch Municipality who holds the responsibilities of managing the Reserve as a landowner) who own or are in control of land:

The landowner on whose land a fire may start, or from whose land it may spread across boundaries, must have in place:

- Prepared firebreaks on the own side of any boundary if there is a reasonable risk of fire.
- Have available such equipment, protective clothing and trained personnel required to extinguishing such fire as may occur, as prescribed in the local Fire Department or if there are no regulations applicable, then as reasonably required in the circumstances.
- Take all reasonable steps to notify the Fire Department should a fire break out.
- Do everything in their reasonable power to stop the spread of the fire.

The Act also requires that should the owner/manager be absent, a known and identified responsible person needs to be present, on or near this land to:

- Extinguish a fire if one breaks out, or assist or instruct others to do so.
- Take all reasonable steps to alert the neighbours and the Fire Department.

The owner may appoint an agent to act on his or her behalf to perform these duties.

Minimum firefighting requirements

The following requirements need to be met at all times.

- Minimum firefighting equipment for prescribed burns must be available and comply with the conditions as set out by the local Fire Department.

Minimum firefighting equipment recommended during prescribed burns:

- | | |
|--|----|
| • Fire beaters | 10 |
| • 15-liter rucksack pumps | 5 |
| • Drip torches | 1 |
| • Rake hoes | 10 |
| • First Aid kits | 1 |
| • Cell phone | 1 |
| • Trailer pump or “bakkie sakkie” fast reaction unit min 500 liter | 1 |

Minimum safety equipment and protective clothing recommended for any person involved in firefighting or prescribed burns:

- One 100% cotton overall
- A cotton T-shirt as undershirt
- One pair leather boots
- Helmet fitted with a heat shield visor, or a pair of large goggles
- A suitable pair of gloves

The above minimum requirements and equipment may change according to the requirements of the local Fire Department.

Guidelines Regarding Firebreaks/“Brandpaaie”:

These may be used as a management tool where such an aid is considered essential to assist with the containment or spread of a potential fire. Consider terrain features such as roads, footpaths, recently burnt areas for control lines as alternatives to hoed belts.

Firebreaks(“Brandpad”) applicable to the Reserve road along the boundary of the property prepared for prescribed burning and firefighting should be a minimum width of one vehicle to allow easy vehicular access to all areas of the Reserve in case of a fire. Hoed vegetation should be raked and dispersed deep into the area to be burnt – if piled too close to the firebreak it poses a fire hazard during the burning operation and also suppresses vegetation growth if stacked too densely. The existing roads/firebreaks along the boundary of the Reserve should be cleared once a year before the start of the fire season, in October month. Other patrol roads and footpaths will also serve as firebreaks and should be maintained as such.

It is important that only the above ground portion of any vegetation is hoed-off, ensuring that the roots of resprouting plants continue to bind the soil and to prevent erosion.

No chemical vegetation suppressants may be used in the preparation and maintenance of firebreaks.

The firebreaks along the boundary of and within the Reserve must be easily accessible to the local Fire Department at all times. Access to these firebreaks may not be prevented. The local Fire Department must have keys to access the Reserve's firebreaks when the Reserve is closed.

Guidelines Regarding Prescribed Burns:

- Permission must be obtained from the local Fire Department before any prescribed burns may be conducted. The public must be notified in advance to avoid negative reactions and reduce concerns.
- After the burn, continuing patrols must endure for a period of 48 hours, where after, intermittent patrols for an additional minimum period of 5 – 7 days is sensible.
- Weather forecasts and fire danger indices must be monitored for appropriate management actions during the mopping up and patrol operations.
- Only in exceptional cases may burns be carried out on Fridays or on the day prior to a Public Holiday.
- No burning may be carried out on Saturdays, Sundays or Public Holidays.
- Night time burning is permissible and also considered safer if personnel safety can be reasonably maintained.
- Weather patterns must be studied before a burning operation is initiated. Weather patterns should be stable. Wind speed and direction should get special attention. Extra care must be exercised on those days that can be an indicator to unstable coming weather systems.
- During all burning operations or fire suppression operations, weather forecasts should preferably be obtained at least 6-hourly and recorded formally on the Reserve for the preceding 24hr cycle.
- Predicted weather parameters should preferably fall within the following guideline limits before a burning operation is initiated:

	Norm	Ideal
Wind speed	< 30 kph (The wind speed and direction must be stable)	5 – 15 kph
Maximum temperature	< 28°C	22 – 26°C
Maximum Relative Humidity (RH)	> 25%	38 – 60%

- Local weather conditions should preferably be monitored at least at 3- hourly intervals, and recorded during a burn. Local knowledge and weather measurements should further confirm the suitability of the day.
- No prescribed burning may take place when the index is indicated as red. Fire danger ratings will be available at the local Fire Department.
- Weather forecasts can also be assessed on the internet at the following addresses:
See www.weathersa.co.za/fcast/fire.htm or www.weathersa.co.za/Forecasts/fcwcape.htm

- If possible no area larger than that, which can practically be burnt in 24 hours, should be subjected to prescribe burning. Operations that take longer than a day to complete could be subject to unexpected weather changes.

FIRE MANAGEMENT STRATEGY FOR THE NATURE RESERVE

The artificial fire regime for Jan Marais Nature Reserve is based on the following key criteria and the associated guidelines:

a) Frequency:

It is generally accepted that Renosterveld should burn at a frequency of 10 to 15 years. However, it is important that the interval between fires should be determined by the growth rate of the dominant vegetation type. Fire should not be permitted until at least 50% of the population of the slowest-maturing species in an area have flowered for at least three successive seasons. Similarly, a fire is probably not necessary unless 30% or more of the plants of these slow-maturing species are dying or no longer producing flowers and seeds. It is envisaged that controlled burning would be undertaken at intervals of 10-12 years subject to the above principles.

b) Intensity:

The intensity of a fire is a factor of fuel load, fuel moisture, relative humidity and wind speed. The intensity can be manipulated by either reducing the fuel load (i.e. burning more often) or by selecting conditions that will lead to the desired type of fire. Renosterveld generally requires higher intensity fires. Alien plants impact significantly on intensity (and consequently frequency) due to their flammable oils and the greater biomass created by the density of invasion. Pristine Renosterveld generally has a relatively low biomass and a low combustible fuel load. This factor should therefore not have a significant influence on the burning program.

a) Season:

Controlled fires must be undertaken during the optimum ecological period of March to early April. This period is generally the most suited in that it supports the ecology of all biodiversity components.

Accordingly, a scheduled block-burning approach is adopted with the objective to create a mosaic of veld ages ranging between 0 and 12 years. Figure 13 illustrates the scenario aimed for.

In order to implement the scheduled mosaic burning approach the nature reserve is divided into 14 management compartments, divided by roads and fire breaks. The burning program will be undertaken in accordance with the following sequence. Please refer to Map 6 to observe the current veld age.

Table 1: Burning programme:

Compartment	Burn Year
A10, A8	Year one, 2016

A11	April 2017,
A3	April 2018,
A5	April 2019,
A2,A12	April 2020,
A4	April 2021,
A14	April 2022,
A9	April 2023,
A13	April 2024,
A15	April 2025,
A7	April 2026,
A6	April 2027,

The mosaic of veld ages will ensure that there is always a source area to feed re-colonisation in burnt areas. The alien clearing program will correspond with the above burning sequence.

It is important to note that the proposed burning regime could be upset by incidental wildfires. This will necessitate rescheduling – flexibility is therefore a key requirement of the burning program.

Table 2: Guidelines for managing fire in Jan Marais Nature Reserve.

STRATEGY / GUIDELINE		RESPONSIBLE INSTITUTION	TIMEFRAME	RESOURCE	MONITORING & AUDITING
NO.	DESCRIPTION				
2.5.1-01	Spray glyphosate on all road edges	Municipality	Ongoing process to be completed before end of October.	Appointed service provided in terms of standard tender procedure	Compliance with schedule and program monitored by reserve manager and audited annually in October by Management Authority.
2.5.1-02	Prepare a 3 meter firebreak along the boundaries of the nature reserve according to the specifications listed under Annexure 15.	Municipality	Immediate commencement and to be completed before end of October.	Appointed service provided in terms of standard tender procedure	Compliance with schedule and program monitored by reserve manager and audited annually in October by Management Authority.

2.5.1-03	Maintain the firebreaks referred above according to the specifications listed under Annexure 4. Record annually in November by reserve manager in firebreak maintenance register.	Municipality	Annually to be completed before end of October.	Appointed service provided in terms of standard tender procedure	Compliance with schedule and program monitored by reserve manager and audited annually in October by Management Authority.
2.5.1-04	Undertake prescribed burning according to the block-burning approach (refer to Chapter 12.5.1).	Municipality	Between 15 March and 30 April depending on weather conditions.	Appointed service provided in terms of standard tender procedure @ R20 000 p.a. (1 block burn p.a. @ R20 000).	Compliance with schedule and program monitored by reserve manager and audited annually in October by Management Authority.
2.5.1-05	Prepare and maintain a register of veld fires including the extent and date.	Management Authority	Immediate commencement and on-going.	Reserve manager under remuneration on budget.	Compliance audited annually in October by Management Authority.

Discuss with neighbors and reach agreement

- To determine mutually acceptable dates.
- If the neighbour is not present on the agreed day, you can burn in his/her absence.
- Give 14 days' written notice to neighbours of day/s on which you intend burning.

But burning cannot go ahead if

- The local Fire Department objects.
- High fire danger rating.
- Conditions not conducive.
- You do not have enough people present to prevent any fire from spreading.

Important

- Inform neighbours and the local Fire Department if burn is aborted giving details of day/s you intend to burn.
- Adhere to all additional requirements as stipulated by the local Fire Department.

Fauna Management

Fauna species numbers such as duikers and tortoises that might have a detrimental impact on the Reserve vegetation should be monitored on an annual basis.

Recently only 2-3 duikers have been observed still remaining within the Reserve. The current carrying capacity of the Reserve only allows for the survival of one pair or two duikers. Duikers have an expected lifespan of approximately 4 years. Although re-introduction of duikers and steenbok into the Reserve has occurred in the past it has been observed that due to the limited size of the Reserve the re-introduction has not been successful and is not sustainable. No re-introduction of any antelope species will be conducted in the future.

Although it is highly unlikely, if it is determined that the amount of duikers and/or tortoise species exceeds the carrying capacity of the Reserve by causing extensive vegetation damage due to overgrazing, CapeNature must be contacted for advice on effective and sustainable capture and relocation options.

Research Proposals and Fauna & Flora Collection

Proposals must be made to the Municipality for written approval to conduct research projects within the Reserve. A condition for approval must be that a copy of the report must also be provided to the Reserve when the project is finished.

Students or anyone collecting fauna and flora in the Reserve must apply for a permit/written approval from the Municipality, and must show the permit to security upon request.

The Municipality reserves the right to refuse any proposal or request revoke the research and collection approvals/permits if at any time it is deemed not in the best interest of the Reserve and/or neighbouring landowners.

Requests can be sent to:

The Manager: Community Services, 123 Merriman Street (Jan Marais Nature Reserve Offices)
Stellenbosch 7600

Also see Section 8 for specific goals and management actions to be implemented as according to Reserve policies.

5.4 IRMP Public Participation Process

After initial review of the Draft IRMP by the Municipality, Reserve Advisory Board and key stakeholders such as CapeNature and SANBI, the following public participation process will be followed to encourage inputs and recommendations from the local community and interested parties to inform the IRMP.

Notification of Interested & Affected Parties (“I&APs”)

Potential I&AP’s will be notified about the opportunity to provide recommendations for the IRMP in the following manner:

- Fixing notice boards at the boundary of the Reserve
- Written notifications will be sent to potential I&APs inviting them to give comments on the IRMP; and
- Placing a notice in two local newspapers indicating where the IRMP can be found for review and how to give comments to be considered.

Public Meetings and Workshops

No public meetings have been held as of yet. The need for public meetings and/or workshops will be determined during the course of the public participation process.

Availability of the draft IRMP

The draft IRMP will be made available (via electronic copies on CDs to be collected at the “put in details of where the public can come and collect CD copies of the Draft IRMP”) upon request to any I&AP within the 30 day commenting period.

A hard copy of the draft IRMP will also be made available at the Reserve’s Eco Centre for viewing by the general public. We have also advertised the IRMP on our website and mailed it to the public on request.

Comments received will be presented to the Municipality and Reserve Advisory Board for consideration to be included in the final IRMP.

Finalisation of the IRMP

Once the 20 day commenting period has closed, the IRMP will be finalised taking into account the comments. The final IRMP will then be submitted to the Minister or MEC for approval.

“**MEC**” means the member of the Executive Council of a province in whose portfolio provincial protected areas in the province fall.

“**Minister**” means the Cabinet member responsible for national environmental management.

6. PROPOSED RESERVE ZONING: SUITABLE DEVELOPMENT NODES

Refer to Appendix A1 - Map 5: Proposed Reserve Zoning Map and Development Nodes.

The following developments and upgrades are proposed for each zone:

- 1) **Nature Reserve Zone** – This zone is to remain a pristine area. There are areas within this zone that require varying degrees of rehabilitation. Alien vegetation species must be eradicated as far as possible and/or used within the Reserve for seating or infrastructure. Seating in this zone is to be low impact and should match the materiality of the site. Interpretative signage along the pathways must be erected. Wooden seating and pathways can be used as part of interpretive storytelling.
- 2) **Play Zone** – This is an existing picnic and play area. The stone walls need to be fixed. The proposal is that this zone must be divided into areas for toddlers, tweens and teenagers; and that each activity created should be age appropriate.
- 3) **Calm Zone** – This area includes the man-made seasonal dam and labyrinth area. It is proposed that the borehole be used to ensure that the man-made dam within the Reserve remains full to attract freshwater bird species. And a bird watching shack is proposed along the edge of the dam.
- 4) **Arts and Culture Zone** – This area is an existing area to be marketed as available for outdoor performance and art/sculpture exhibition area.
- 5) **Restaurant Zone** – This is currently the information centre with main ablution facilities. It is proposed that a day time restaurant be established within this area and the ablution facilities must be upgraded.
- 6) **Fitness Zone** – This proposed zone is located west of the Merriman Avenue Entrance in-between the border fence and periphery path under the Eucalyptus trees. It is proposed that exercise equipment/structures be constructed from alien felled trees as well as providing gym equipment.
- 7) **Discovery Zone** – This zone incorporates the Merriman Avenue Entrance area, Eco Centre and surrounding disturbed areas outside of the Nature Reserve Zone. An indigenous Reserve Demo Garden and outdoor classroom are proposed within this area.
- 8) **Garden Zone** – These areas must be strictly managed by the Municipal Reserve Management to ensure that landscaping and species planted does not pose an threat to indigenous Reserve vegetation species.
- 9) **Buffer Zone** – The area in-between Nature Reserve Zone and private landowners should be always accessible to Reserve management vehicles to be managed as a firebreak.

- 10) **Merriman Avenue Entrance** – The Entrance needs to be signposted from the street and enhanced to create a welcoming entrance. It is proposed that this should become the main entrance to the Nature Reserve and Discovery Zone. The existing Eco Centre/Struik Nature Library would also become the info and visitors centre. New improved informational and directional signage would be at this entrance and the outside of the entrance must be landscaped by making use of indigenous Reserve vegetation species.

7. COSTING PLAN: EXISTING AND PROPOSED BUDGETS

The table below indicates the existing and proposed budgets available for Jan Marais Nature Reserve for 2014 – 2017, as provided by the Municipality.

	Provision. Budget	Provision. Budget	Provision. Budget
	2014/2015	2015/2016	2016/2017
JAN MARAIS NATURE RESERVE			
SALARIES	482 030	512 880	545 710
OVERTIME: SALARIES	46 280	49 250	52 410
NIGHT SHIFT ALLOWANCE	-	-	-
LEAVE BONUS	40 170	42 750	45 490
LONG-TERM BONUS	-	-	-
ALLOWANCE: SUNDRY	2 050	2 190	2 340
PENSION FUND: CONTRIBUTION	54 620	58 120	61 840
GROUP INSURANCE	11 630	12 380	13 180
UNEMPLOYMENT	5 170	5 510	5 870
SALARIES, WAGES AND ALLOWANCES	641 950	683 080	726 840
IMPAIRMENT LOSS(FAIR VALUE ADJ	-	-	-
BAD DEBT	-	-	-
DEPRECIATION	67 810	70 670	73 650
DEPRECIATION	67 810	70 670	73 650
BOREHOLES & LIGHTING	2 680	2 850	3 050
FIRES	5 620	5 960	6 320
TREES: PLANTING	20 120	21 330	22 610
TREES: FELLING	11 240	11 920	12 640
IRRIGATION	13 140	13 930	14 770
FIRE PROTECTION	3 690	3 920	4 160
BUILDINGS: SPECIFIC MAINTENANC	-	-	-
BUILDINGS: ROUTINE MAINTENANCE	-	-	-
TOOLS & EQUIPMENT	1 540	1 640	1 760
GROUNDS	99 710	105 700	112 040
FENCING	8 430	8 940	9 480
REPAIRS AND MAINTENANCE	166 170	176 190	186 830
INTEREST IN DEPT	-	-	-
INTEREST EXTERNAL BORROWINGS	-	-	-
INSURANCE	12 320	13 060	13 850
FUEL & OIL	-	-	-
PROPERTY TAX	-	-	-
ELECTRICITY CONSUMPTION	10 330	11 990	12 710
WORKMANS COMPENSATION	2 900	3 080	3 270
EDUCATIONAL PROGRAMS	90 000	90 000	95 400
SEWERAGE	-	-	-
SECURITY	-	-	-
STORES & MATERIAL	6 030	6 250	6 630
REFUSE REMOVAL	-	-	-
WATER CONSUMPTION	6 200	6 820	7 230
MINOR ASSETS: TOOLS	620	650	690
GENERAL EXPENSES OTHER	128 400	131 850	139 780

INCOME RECEIPT FOR CAP. GRANTS	-	-	-
INCOME RECEIPT ON DONATIONS RE	-	-	-
CAPITAL GRANTS AND SUBSIDIES	-	-	-
LOSS ON THE SALE OF ASSETS	-	-	-
LOSS ON SALES OF ASSETS	-	-	-
DEBITED ELSEWHERE: JOB COSTING	(179 330)	(188 300)	(199 600)
INTERNAL CHARGES ABC COSTING	(179 330)	(188 300)	(199 600)
SUNDRY	-	-	-
CONTRIBUTION: MARAIS TRUST	-	-	-
ENTRANCE FEES	(13 100)	(13 760)	(14 450)
OTHER REVENUE	(13 100)	(13 760)	(14 450)
PROFIT ON THE SALE OF ASSETS	-	-	-
PROFIT ON SALES OF ASSETS	-	-	-
COMMUNITY FACILITIES	-	-	-
LOSS OF RENTAL	-	-	-
MAINTENANCE: HOUSING SCHEMES	-	-	-
CONTRIBUTION : HOUSING FUND	-	-	-
CONTRIBUTION: INSURANCE RESERV	-	-	-
CONTRIBUTION: REVOLVING FUND	-	-	-
CONTRIBUTION: CRR	-	-	-
DIVIDENDS PAID	-	-	-
CAPITALISATION EX CRR	-	-	-
CAPITALISATION EX GOVERNMENT G	-	-	-
CAPITALISATION EX OTHER GRANTS	-	-	-
DEPREC. EX NDR GOVERNMENT GRAN	-	-	-
CONTRIBUTIONS TO THE CRR	-	-	-
DEPREC. EX NDR DONATIONS & CON	-	-	-
DEPRECIATION CRR/INFRA - FAIR	-	-	-
DEPREC. EX NDR REVALUATION RES	-	-	-
DEPRECIATION EX NDR AFR(OLD AS	-	-	-
OTHER	-	-	-
CONTRIBUTIONS TO SELF-INSURANC	-	-	-
ADVERTISING INCOME:KETC	-	-	-
CONTRIBUTION: HOUSING	-	-	-
BELOW THE LINE - APPROPRIATED	-	-	-
APPROP. VOTES (BELOW THE LINE)	-	-	-
Department Total:	811 900	859 730	913 050

It will be the responsibility of the Municipal Reserve Management to allocate available budget to the proposed conservation and management actions to be addressed as listed in order of priority under Section 8 of the IRMP.

8. CONSERVATION AND MANAGEMENT ACTIONS TO BE ADDRESSED

(Municipality still to recommend budget provision)

PRIORITY NR	CONSERVATION MATTER	OBJECTIVES	ACTIONS/IMPLEMENTATION	TIME FRAME	RESPONSIBLE PERSON/PARTY	BUDGET PROVISION
1.	Securing Financial Resources	To secure sufficient long term financial resources to implement the Reserve's management plan. To successfully market the Reserve as an asset to the residents of Stellenbosch.	<ul style="list-style-type: none"> • Compile an annual budget for the Reserve that needs to be updated on an annual basis • Secure funding from the Stellenbosch Municipality • Use alternative means to attract additional funding such as markets or renting out facilities on the Reserve for special occasions • Solicit funds from potential donors 	Annual at the beginning of the new financial year Ongoing Ongoing Annually	The Municipality is the responsible party for all conservation and management actions implementation unless stated otherwise Advisory Board	
2.	Floral Rehabilitation and Management	Encouragement of the indigenous vegetation establishment and protection of existing indigenous vegetation types	<ul style="list-style-type: none"> • The overgrowth of <i>Dodonaea viscosa</i> should be managed by physically removing a certain percentage of the plant and then monitoring the regrowth of the species. • Proteaceae seedlings must be planted according to a fixed regime in consultation with SANBI. If sterile hybrids will be planted, they should be labelled to maximise visitor experience. • In consultation with CapeNature and SANBI a list of preferred indigenous species to be planted within the managed garden areas must be compiled. • The non-indigenous plant species currently planted and occurring within the core Nature Reserve Zone must be removed systematically and replaced with vegetation species indigenous to the Reserve. • A species list to be compiled of plant species currently in the garden zone to determine the "risk" that each species represent of spreading into the core 	Ongoing Ongoing List to be compiled by December 2014 Ongoing Garden Zone plant species list to be compiled by December 2014.		

			<p>Nature Reserve Zone and if eradication or monitoring is required. If a species is recorded in the Garden Zone that is classified as a high risk species which may potentially encroach on the core Nature Reserve Zone it must be eradicated from the Reserve completely.</p> <ul style="list-style-type: none"> • A “Rehabilitation Areas Map” must be created indicating the specific areas which requires rehabilitation within the core Nature Reserve Zone in order of priority. • Indigenous Reserve plants and seeds sourced for rehabilitation areas must be sourced either from the Reserve’s own indigenous plants and nursery as far as possible, otherwise from the Millennium Seedbank at Kirstenbosch Gardens. • SANBI to provide training to Reserve staff on how and when to harvest seeds from indigenous Reserve plant species. 	<p>Monitoring of spreading of low to medium risk species ongoing.</p> <p>Map to be created by November 2014.</p> <p>Ongoing</p> <p>Ongoing</p>		
3.	Alien Plant Eradication	The continual eradication of alien invasive plants	<ul style="list-style-type: none"> • Removal of alien species must be followed by the planting of indigenous vegetation if required. • Alien vegetation regrowth and encroachment must be monitored on a three monthly basis and alien vegetation detected must be removed immediately upon detection. • SANBI to assist Reserve management in the identification of invasive grass species and provide eradication recommendations if eradication methods applied are not effective. • SANBI and CapeNature to provide recommendations concerning the minimising of Sand Olive (<i>Dodonaea angustifolia</i>) trees within the Reserve. • Management must determine which alien trees will remain within the Reserve for recreational and aesthetic purposes, and which must be removed. No germination of any new alien tree 	<p>Ongoing</p> <p>Three monthly monitoring and ongoing eradication</p> <p>Ongoing eradication</p> <p>Ongoing management and minimisation</p> <p>SANBI to provide recommendations on which alien trees must remain and which</p>		

			<p>seedlings must be allowed and all seedlings must be removed immediately.</p> <ul style="list-style-type: none"> All alien tree seedlings and young trees to be removed from the Reserve 	<p>must be eradicated by Dec 2014 and trees to be eradicated by July 2015</p> <p>Ongoing</p>		
4.	Monitoring Projects	<p>To monitor changes in vegetation structure and composition</p> <p>To monitor changes in faunal demographics</p> <p>To obtain relevant information on which management decisions can be based</p>	<ul style="list-style-type: none"> Fixed point photography points to be established throughout the Reserve. Vegetation plots to monitor species composition and variation within "natural" blocks. Monitor regrowth of re-vegetated/planted areas. Monitor regrowth of alien plant vegetation. Monitor faunal populations. How to monitor Rare and Endangered plant species training to be provided by SANBI to Reserve Management to enable Reserve staff to conduct species monitoring on the appropriate times. 	<p>Points established by January 2015. Fixed point photos taken every 6 months.</p> <p>Plots to be established by April 2015 and species composition monitoring to take place annually.</p> <p>Three monthly monitoring and ongoing rehabilitation</p> <p>Three monthly monitoring and ongoing eradication</p> <p>Annually</p> <p>To be determined by SANBI</p>		
5.	Reserve Facilities Upgrade	<p>To improve the appearance of the managed areas and the visitor's facilities</p> <p>To increase visitors numbers</p>	<ul style="list-style-type: none"> Merriman Avenue Entrance – The Entrance needs to be signposted from the street and enhanced to create a welcoming entrance. It is proposed that 	<p>Upgrades and proposals recommended to be implemented</p>		

		<p>To attract donations and sponsorships</p>	<p>this should become the main entrance to the Nature Reserve and Discovery Zone. The existing Eco Centre would also become the info and visitors centre. New improved informational and directional signage would be at this entrance and the outside of the entrance must be landscaped by making use of indigenous Reserve vegetation species.</p> <ul style="list-style-type: none"> • Discovery Zone – This zone incorporates the Merriman Avenue Entrance area, Eco Centre and surrounding disturbed areas outside of the Nature Reserve Zone. An indigenous Reserve Demo Garden and outdoor classroom are proposed within this area. • Nature Reserve Zone – This zone is to remain a pristine area. Alien vegetation species must be eradicated as far as possible and/or used within the Reserve for seating or other structures required within the Reserve. Interpretative signage along the pathways must be erected. • Play Zone – This is an existing picnic and play area. The stone walls need to be fixed. A variety of age appropriate play activities and infrastructure are proposed that is suitable for toddlers, tweens and teenagers. • Calm Zone – This area includes the man-made seasonal dam and labyrinth area. It is proposed that the borehole be used to ensure that the man-made dam within the Reserve remains full to attract freshwater bird species. And a bird watching shack is proposed along the edge of the dam. • Arts and Culture Zone – This area is an existing area to be marketed as available for outdoor performance and art exhibition area. 	<p>as according to available budget</p>		
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			<ul style="list-style-type: none"> • Restaurant Zone – This is currently the information centre with main ablution facilities. It is proposed that a day time restaurant be established within this area and the ablution facilities need to be upgraded. • Garden Zone – These areas must be managed by the Municipal Reserve Management to ensure that landscaping and species planted does not pose an threat to indigenous Reserve vegetation species. • Fitness Zone – This proposed zone is located west of the Merriman Avenue Entrance in-between the border fence and periphery path under the Eucalyptus trees. It is proposed that equipment be constructed from alien felled trees as well as provided gym equipment. • Buffer Zone – In-between nature reserve and private landowners should be managed as a firebreak. No planting or landscaping by adjacent landowners allowed within the Reserve boundaries. • The asbestos water pipeline, along which regular leakages are detected and causes erosion and seedbank damage within the Reserve, must be replaced. 			
6.	Labelling of Plant Species and Information Boards	<p>To provide updated and correct Reserve zoning and layout information at entrances</p> <p>To make the reserve more interesting to visitors and provide an educational tool</p> <p>To improve the scientific knowledge of Reserve staff</p> <p>To provide signage in three main languages</p>	<ul style="list-style-type: none"> • Update and replace current Reserve layout maps at entrances • Source information on indigenous plant species, design and erect labels along the walking trails within the Reserve. • Source information on general characteristics of the Reserve and interesting facts of the relevant ecosystems, design and erect 	To be implemented following approval of proposed zoning plan	Sourcing of information to be completed by September 2014 and erecting of labels and information	

			information boards along the walking trails within the Reserve.	boards by December 2014		
7.	Entry, Picnic Area and Walking Trails Control	To minimise litter To prevent vandalism To prevent the picking of wild flowers To prevent poaching of fauna species	<ul style="list-style-type: none"> Security control at all entry points. Closing of the Reserve after hours Regular security patrols throughout and around the Reserve 	Ongoing Ongoing Daily throughout Reserve and a complete fence patrol at least once a week		
8.	Fauna Management	To monitor the health and amount of Duikers and tortoises To eradicate snares within the Reserve and along Reserve fence To prevent dogs from roaming freely within the Reserve	<ul style="list-style-type: none"> Tick infestation of the tortoise is a problem. Hand held spray cans could be used on the tortoises when walking through the Reserve. A local vet must be consulted on type of insecticide to be used before applying insecticide to the tortoises. Type and amount of tortoises found in Reserve to be recorded on annual base. Disease control related to the Duikers needs to be monitored. When a dead animal is found a post mortem should be carried out to identify the cause of death. The boundary fence must be monitored on at least a weekly base to ensure no snares or breakages are present. If dogs are found in the Reserve they should be captured, the SPCA must be contacted and the respective owners should be fined. 	Tortoise tick spraying to occur annually Annually during active summer months Post mortems to be conducted asap when dead Duiker is found. Fence patrol at least once a week Ongoing		
9.	Block Burning	To establish a burning plan to maintain biodiversity To determine a strategy which will assist with alien eradication To reduce fuel load and therefore limit the chance of runaway fires	<ul style="list-style-type: none"> Currently the Reserve does not have an updated Block Burning Plan. An updated Block Burning Plan must be compiled by working in consolidation with CapeNature and SANBI. Alien vegetation plant material to be removed from Reserve to decrease fire fuel load. 	To be compiled by December 2014 Ongoing		

10.	Environmental, Health and Safety Risk Register	To compile a list of environmental, health and safety risks for the Reserve To identify all potential hazards and associated risks and preventative or mitigation measures to be implemented. To ensure compliance with relevant environmental, health and safety legislation.	<ul style="list-style-type: none"> • Compile or appoint a qualified company to compile a comprehensive environmental, health and safety risk register. 	To be compiled and implemented by April 2015		
11.	Research Data Base	To compile and maintain a database of all research projects previously conducted, ongoing and proposed	<ul style="list-style-type: none"> • Copies of previous research projects conducted relating to the Reserve must be obtained and kept at the reserve. • A list of all ongoing and proposed research projects must also be maintained to ensure that a copy of the research findings is provided to the Reserve upon completion. 	Information to be sourced and obtained by May 2015 Ongoing		

9. RECORDING AND IRMP REVIEW

The Municipality must keep records of all management and development actions implemented as relevant to the IRMP; these records must be consulted during the revision and update process.

To ensure that the IRMP remains relevant and up to date concerning the management and development aspects of the Reserve, the IRMP should be reviewed and updated at least every five years.

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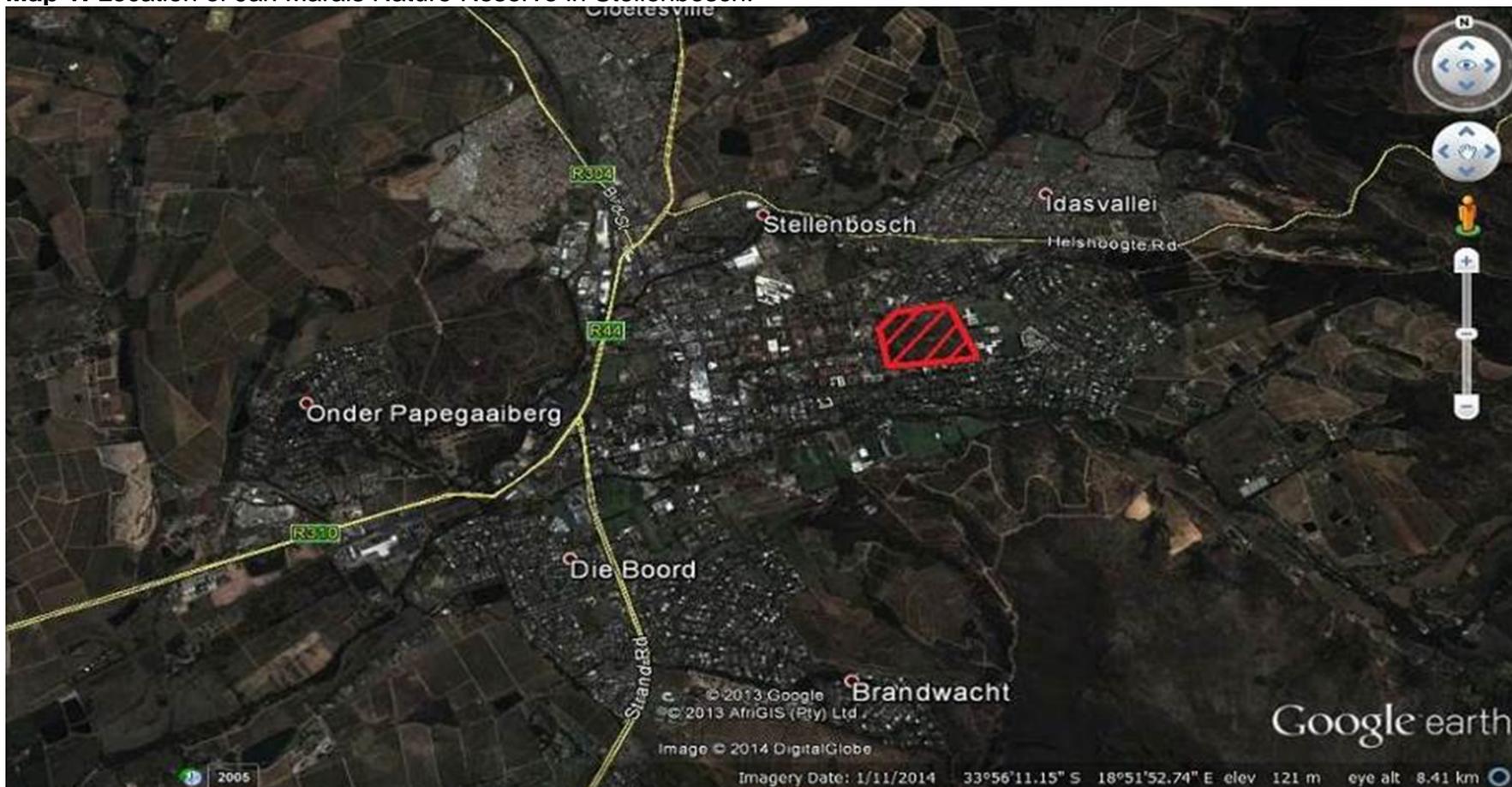
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11. APPENDICES

APPENDIX A: MAPS AND PHOTOGRAPHS

A1: Maps

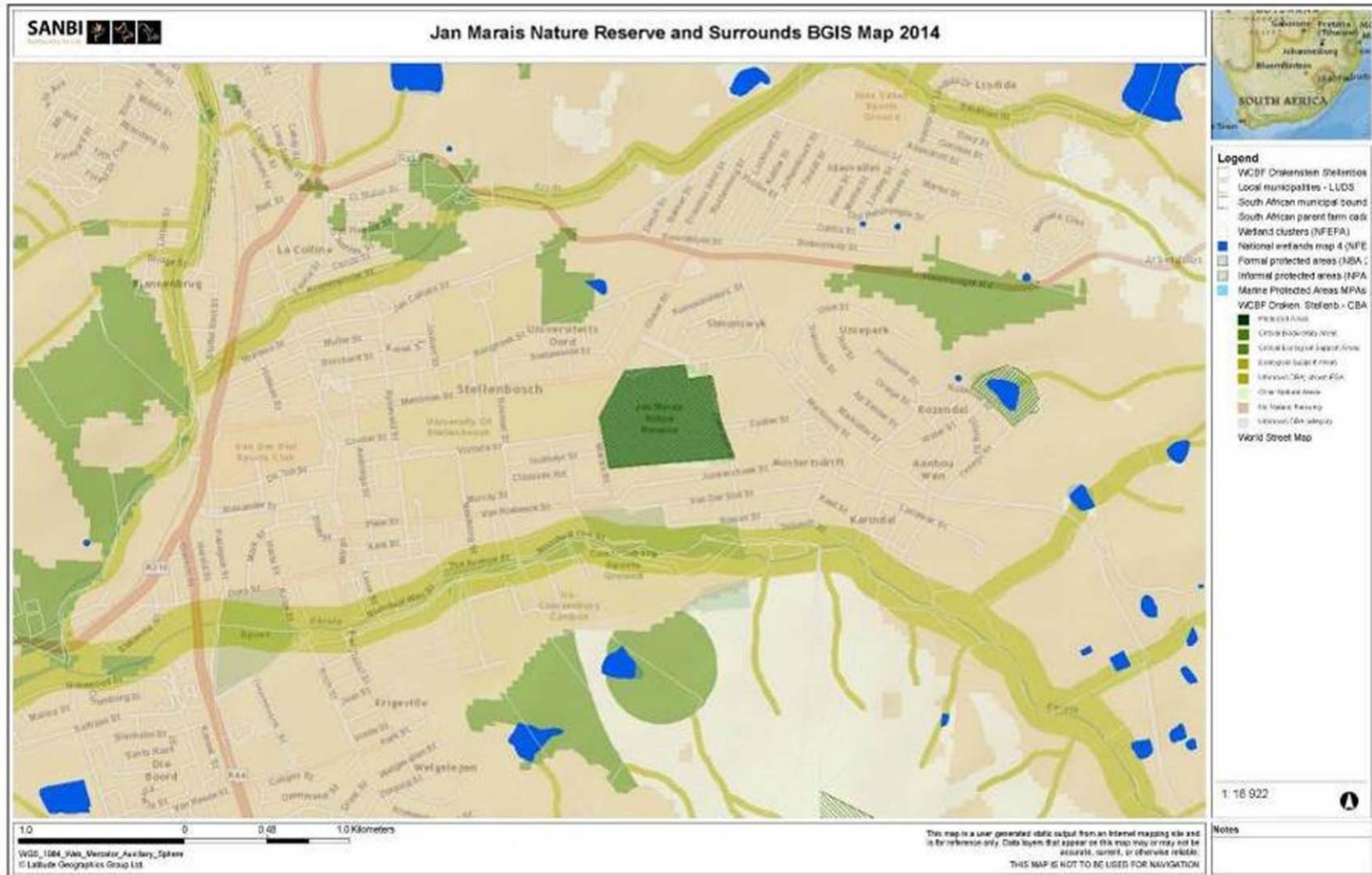
Map 1: Location of Jan Marais Nature Reserve in Stellenbosch.



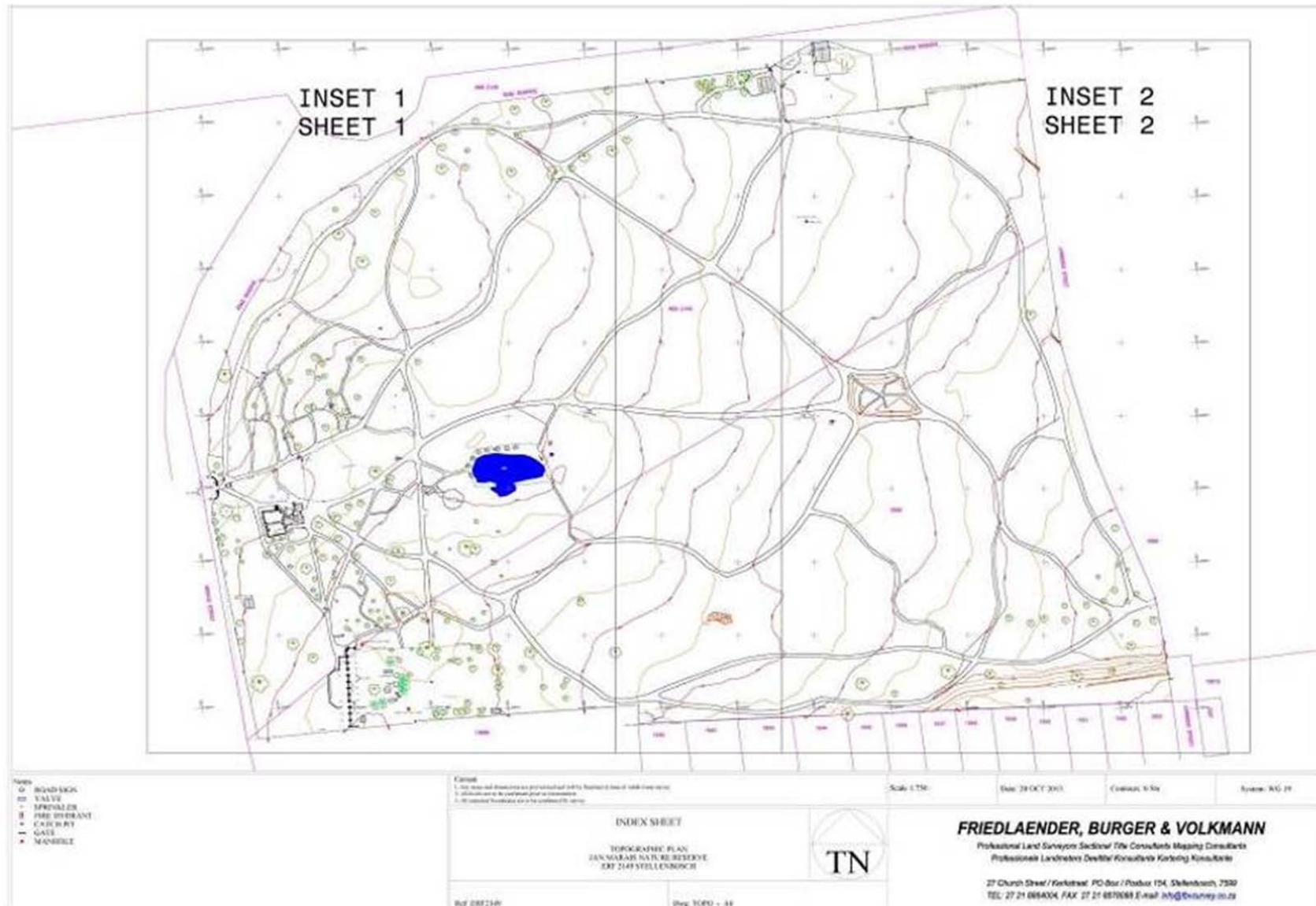
Map 2: Jan Marias Nature Reserve property boundary and surrounding land uses.



Map 3: Jan Marais Nature Reserve and surrounds; latest BGIS map



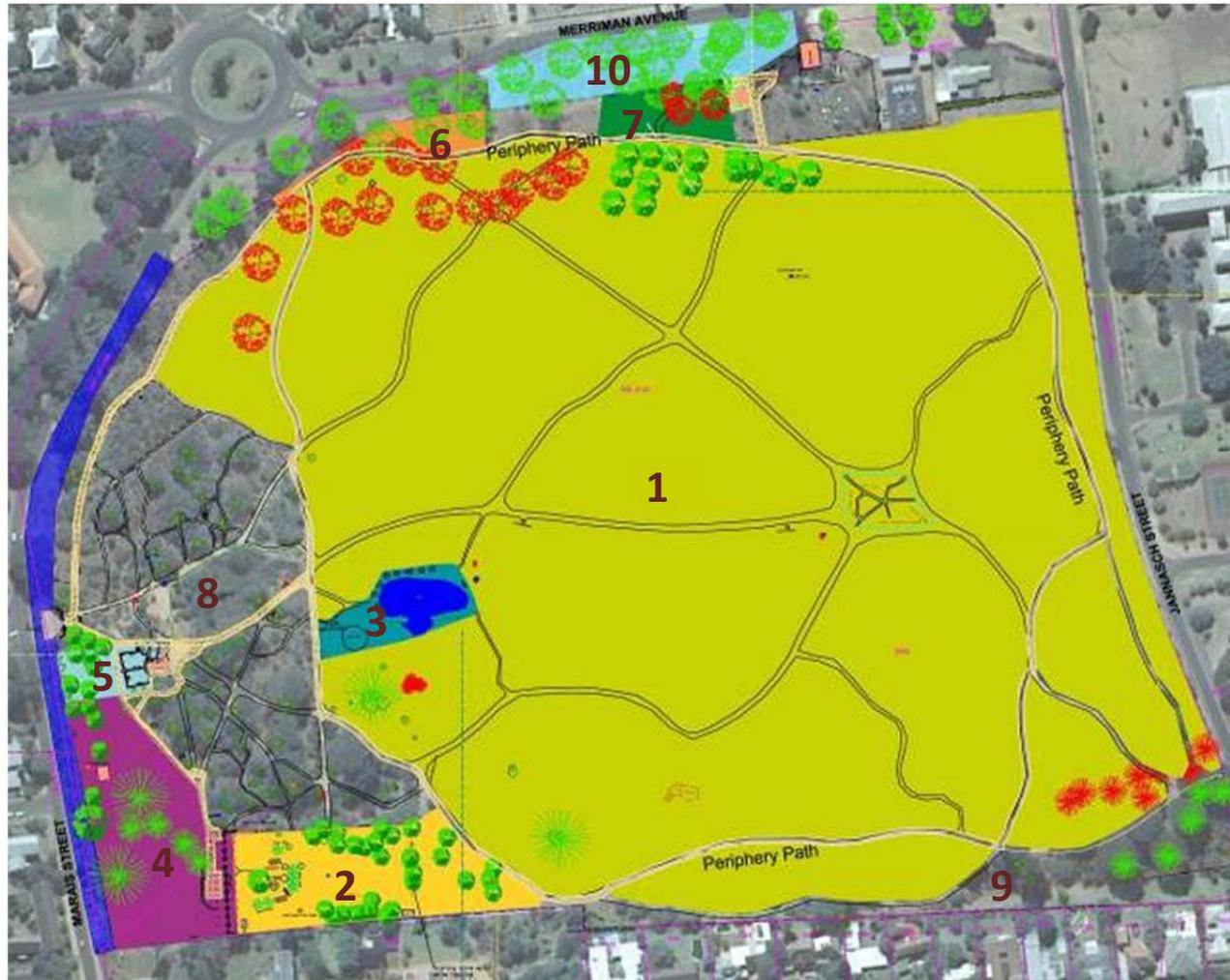
Map 4: 2013 Topographical survey of Jan Marais Nature Reserve



Map 5: Proposed Reserve Zoning Map and Development Nodes

LEGEND:

-  Nature Reserve Zone (67%)
-  *Pinus* trees to be removed
-  *Eucalyptus* trees to be removed
-  *Pinus* trees to be retained
-  *Eucalyptus* trees to be retained
-  Pathways to be paved
-  Existing parking
-  Proposed parking



Map 6: Current veld age map



Map 7: Block burning system for Jan Marais Nature Reserve indicating the management compartments and their respective hectares.



A2: Reserve Photographs taken June 2014



Photo 1: Merriman Avenue entrance



Photo 2: Newly painted Eco Centre containing the Struik Nature Library



Photo 3: Recycling Bins Project at Merriman Entrance

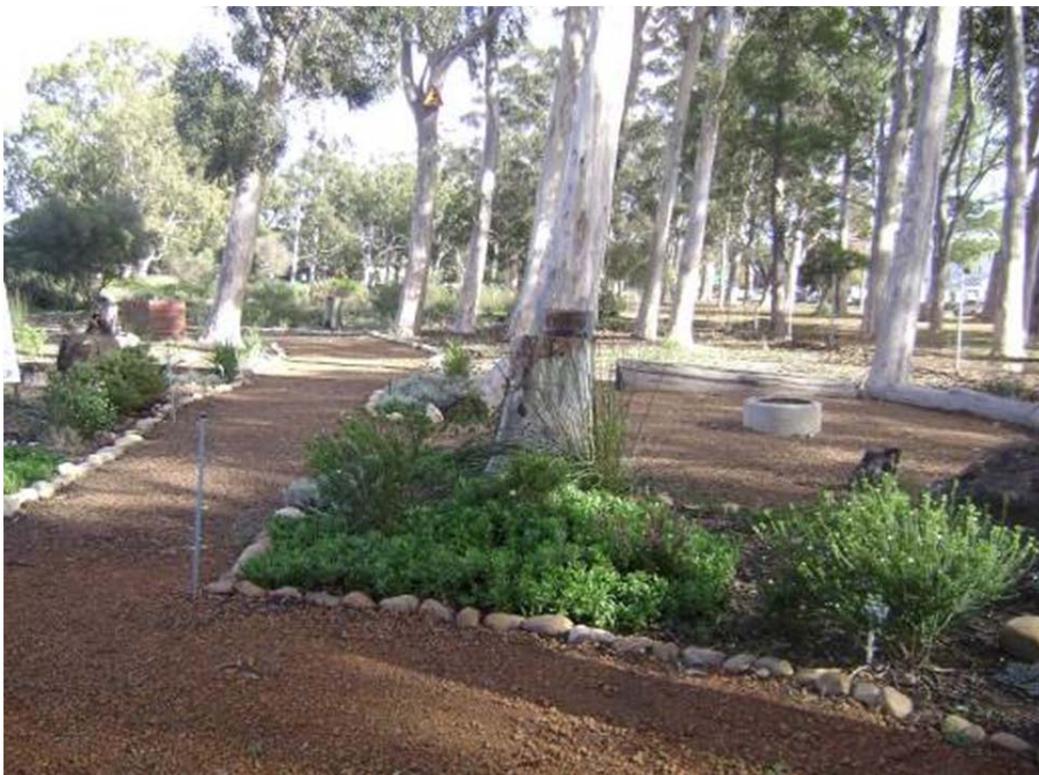


Photo 4: Outside classroom area at Eco Centre



Photo 5: Existing Reserve information board and map to be updated



Photo 6: Reserve indigenous nursery area



Photo 7.1: Central Nature Reserve Zone



Photo 7.2: Central Nature Reserve Zone



Photo 7.3: Central Nature Reserve Zone indicating seasonal wetland area



Photo 7.4: Central Nature Reserve Zone



Photo 8: Reserve southern boundary and Buffer Zone bordering on residential erven



Photo 9: Labyrinth in Calm Zone



Photo 10: Man-made dam/pond in Calm Zone



Photo 11: Managed Garden Zone



Photo 12: Information centre and ablution facilities at main entrance



Photo 13: Picnic area



Photo 14: Play equipment within the Play Zone



Photo 15: Main Reserve entrance off Marais Street



Photo 16: Proposed Fitness Zone under Eucalyptus trees along northern boundary

APPENDIX B: LEGAL AGREEMENTS

B1: Advisory Board Terms of Reference

TERMS OF REFERENCE FOR THE FUNCTIONING OF THE ADVISORY BOARD FOR THE JAN MARAIS NATURE RESERVE.

WHEREAS the Stellenbosch Municipality is responsible for the management of the Jan Marais Nature Reserve in terms of the National Environmental Management: Protected Areas Act 57 of 2003;

AND WHEREAS the Stellenbosch Municipality wishes to establish an Advisory Board to assist it in discharging its responsibilities.

NOW THEREFORE the Stellenbosch Municipality has resolved to appoint the Jan Marais Advisory Board.

1. DEFINITIONS

“Board” means the Advisory Board appointed by the Council in terms of these terms of reference.

“Council” means the Council of the Municipality of Stellenbosch.

“First meeting” means the first meeting after the members of the Board has been appointed, whether such appointment is the first appointment of members to the Board or an appointment in terms of clause 2.5.

“Municipality” means the Stellenbosch Municipality, a local government established in terms of the Local Government: Municipal Structures Act 117 of 1998.

“Portfolio Committee” means the Community Services Portfolio Committee of the Stellenbosch Municipality, or such other portfolio committee as may be allocated responsibility from time to time.

“Reserve” means the Jan Marais Nature Reserve.

2. ESTABLISHMENT & COMPOSITION OF THE BOARD

2.1 The Board will consist of nine (9) members who can demonstrate their skills, knowledge, competence and/or qualifications in any one or more of the following fields:

- 2.1.1 Planning.
- 2.1.2 Landscaping.
- 2.1.3 Technical needs.
- 2.1.4 Community Participation.
- 2.1.5 Reserve Management.
- 2.1.6 Historical background and Environmental Education.

2.1.7 Business: Marketing and events.

2.1.8 Maintenance.

2.1.9 Security.

2.2 The Board may also co-opt the following:

- (a) A representative (with a substitute) from the Western Cape Nature Conservation Board (WCNCB) trading as CapeNature.
- (b) A member appointed by the Executive Mayor and Rector's Forum to represent the University of Stellenbosch.
- (c) Any specialist required for input on any specific item,

2.3 The Municipality will publish an advertisement for applications by interested persons or parties to serve on the Board, at least three (3) months prior to the expiration of the term of office of the members of the Board, requiring that applicants submit the application on a prescribed form with a full curriculum vitae.

2.4 It is preferable that the Board members all have some background, experience or training in the field of environmental management and/or biodiversity conservation, and that the Board promotes the community's participation in its functioning and activities.

2.5 The Board will be appointed for a three (3) year period. A vacancy occurring on the Board during such a period shall be filled by (a) Council if the vacated office was appointed by Council or (b) the WCNCB if the vacated office was appointed by the WCNCB.

2.6 The Board shall elect a chairperson and a vice-chairperson for the term of office from the members of the Board at the first meeting of the Board or as often as either of the positions become vacant. If both the chairperson or vice-chairperson of the Board are not present at a meeting, the members present shall elect one of their number to act as chairperson for that meeting.

2.7 A person must be nominated to act as Secretary for the Board. This person must be able to type, be computer literate and have access to a computer linked to the network. The Secretary shall keep minutes of every meeting of the Board and such minutes shall be submitted at the next Board and, if confirmed, shall be signed by the person presiding thereat. These minutes will be submitted to the following meeting of the Portfolio Committee.

2.8 The Secretary shall at least 7 (seven) days before a meeting of the Board notify all members of the place, date and hour of such meeting. At the first meeting and all subsequent meetings, the Board shall decide the date, place and hour of the next meeting of the Board.

2.9 Five (5) members of the Board shall form a quorum and no business shall be transacted unless a quorum is present. Provided that where there is no quorum within 30 (thirty) minutes of the scheduled time of the meeting, the meeting shall be automatically adjourned to a date being the same day of the following week, at the same time of day and the same venue, where those members present shall constitute a quorum (a deemed quorum). Provided further that the Board may not conduct more than 2 (two) consecutive meetings with a deemed

quorum.

- 2.10 A member of the Board who desires to resign therefrom shall lodge his/her resignation in writing with the Secretary of the Board.
- 2.11 Whenever there are urgent matters which require the attention of the Board, the Chairperson may instruct the Secretary to convene a special meeting of the Board on at least 7 (seven) days notice. Provided that the Chairperson may determine a shorter notice period in his/her discretion according to the circumstances.
- 2.12 The Board shall meet at least four (4) times annually.

3. MISSION AND AIMS

3.1 Mission

To maintain, preserve and enhance the bio-diversity of the existing facility for the well-being of present and future generations in the precincts of the Stellenbosch Municipal Area.

3.2 Aim

To achieve the mission, the following aims need to be achieved, through the management of the Reserve:

- 3.2.1 Identify and preserve the bio-diversity of the ecosystems within the Reserve.
- 3.2.2 Engage actively in environmental education.
- 3.2.3 Facilitate sustainable development.
- 3.2.4 Facilitate sustainable economic activity.
- 3.2.5 Practice participative management.
- 3.2.6 Facilitate the appropriate recreational use of the Reserve.
- 3.2.7 Establish an ongoing program to support the mission and aims.

4. FUNCTIONS OF THE BOARD

4.1 To achieve their Mission and Aims, the Board will perform the following functions:

- 4.1.1 Advise the Municipality on proposed projects.
- 4.1.2 Make recommendations on the management of the Reserve where required.
- 4.1.3 Initiate goals and projects to promote the Reserve.
- 4.1.4 Advise the Municipality on any short term environmental problems related to the Reserve.
- 4.1.5 Evaluate, comment on and/or approve applications for usage that will have an environmental impact on the Reserve.
- 4.1.6 Give input into the budgetary process.

- 4.1.8 Evaluate and report on any incident that has a negative or positive impact on the Reserve.
- 4.1.9 Take part in, organize or assist with any event in the Reserve pertaining to the Environment.

4.2 In addition to the above functions, the Board will strive to contribute to and achieve the following longer term goals:

- 4.2.1 Develop policy.
- 4.2.2 Develop a marketing strategy.
- 4.2.3 Revise the Management Plan of the Reserve according to the agreed timeframe.

APPENDIX C: JAN MARAIS NATURE RESERVE SPECIES CHECKLISTS

C1: Plants (Including Updated SANBI Botanical Survey of 2013-2014)

Tree Species

SPECIES	STATUS	COMMON NAME
<i>Brachychiton populneus</i>	UnK	Kurrajong
<i>Brachychiton acerifolius</i>	UnK	Australian Flame Tree
<i>Cinnamomum camphora</i>	UnK	Camphor Tree
<i>Tipuana tipu</i>	UnK	Tipu Tree
<i>Podocarpus elongatus</i>	LC	Breede River Yellowwood
<i>Podocarpus falcatus</i>	LC	Outeniqua Yellowwood
<i>Clerodendrum glabrum</i>	LC	Tinderwood
<i>Lagerstroemia indica</i>	UnK	Pride-of-India
<i>Melia azedarach</i>	UnK	Syringa
<i>Cedrela toona</i>	UnK	Toon Tree
<i>Ceratonia siliqua</i>	UnK	Karob
<i>Gardenia thunbergia</i>	LC	White Gardenia
<i>Schotia latifolia</i>	LC	Bush Boer-bean
<i>Harpephyllum caffrum</i>	LC	Wild Plum
<i>Ficus macrophylla</i>	UnK	Australian Banyan
<i>Ficus retusa</i>	UnK	Malay Banyan
<i>Olea capensis</i>	LC	False Ironwood
<i>Olea europaea</i> subsp. <i>africana</i>	LC	Wild Olive
<i>Phoenix canariensis</i>	UnK	Canary Date Plum
<i>Taxodium distichum</i>	UnK	Marsh Cypress
<i>Encephalartos altensteinii</i>	VU	Eastern Cape Cypress
<i>Grevillea robusta</i>	UnK	Silky Oak
<i>Noltea africana</i>	LC	Soap Dogwood
<i>Celtis africana</i>	LC	White Stinkwood
<i>Rhus lancea</i>	LC	Karree
<i>Fraxinus americana</i>	UnK	American Ash
<i>Euphorbia tirucalli</i>	LC	Rubber Tree
<i>Brabejum stellatifolium</i>	LC	Wild Almond
<i>Eucalyptus maculata</i>	Alien	
<i>Eucalyptus citriodora</i>	Alien	
<i>Acacia mearnsii</i>	Alien	Black Wattle
<i>Quercus suber</i>	Alien	Cork Oak
<i>Quercus robur</i>	Alien	Oak Tree
<i>Pinus pinea</i>	Alien	Stone Pine
	Declining	
	Near Threatened	
	Vulnerable	
	Endangered	
	Critical	
UnK	Unknown or Not Evaluated	
LC	Least Concern	
Alien	Invasive Plant/Tree	

Plant Species Checklist as according to Odendal (1978)

	FAMILY	SPECIES
DICOTYLEDONEAE	Aizoaceae	<i>Carpobrotus edulis</i>
		<i>Erepsia</i> sp.
		<i>Tretagonia</i> sp.
	Anacardiaceae	<i>Rhus angustifolia</i>
		<i>R. laevigata</i>
		<i>R. rosmarinifolia</i>
		<i>R. tomentosa</i>
	Asclepiadaceae	<i>Asclepias fruticosa</i>
	Asteraceae	<i>Arctotis breviscapa</i>
		<i>Berkheya rigida</i>
		<i>Chrysanthemoides monilifera</i>
		<i>Castalis nudicaulis</i>
		<i>Cotula</i> sp.
		<i>Dimorphotheca pluvialis</i>
		<i>Eriocephalus africanus</i>
		<i>Elytropappus rhinocerotis</i>
		<i>Euryops speciosissima</i>
		<i>Leysera gnaphalodes</i>
		<i>Metalasia muricata</i>
		<i>Senecio pubigerus</i>
		<i>Senecio burchellii</i>
		<i>Ursinia anthemoides</i>
	Bignoniaceae	<i>Tecomaria capensis</i>
	Campanulaceae	<i>Cyphia volubilis</i>
	Crassulaceae	<i>Crassula ovata</i>
	Ericaceae	<i>Erica cerinthoides</i>
	Fabaceae	<i>Aspalathus cordata</i>
		<i>Podalyria sericea</i>
		<i>Psoralea hirta</i>
	Gentianaceae	<i>Sebaea exacoides</i>
	Geraniaceae	<i>Pelargonium myrrhifolium</i>
		<i>P. triste</i>
		<i>P. rapaceum</i>
	Labiatae	<i>Salvia africana</i>
	Laminaceae	<i>Salvia aurea</i>
	Montiniaceae	<i>Montinia caryphyllacea</i>
	Myoporaceae	<i>Oftia africana</i>
	Oleaceae	<i>Olea europea</i> subsp. <i>africana</i>
	Oxalidaceae	<i>Oxalis compressa</i>
		<i>O. dentata</i>
		<i>O. versicolor</i>
	Polygalaceae	<i>Muraltia ericoides</i>
		<i>Polygala garcinii</i>
	Proteaceae	<i>Leucadendron salignum</i>
		<i>L. tinctum</i>
		<i>Protea lepidocarpodendron</i>
		<i>P. neriifolia</i>
		<i>P. repens</i>
	Rosaceae	<i>Cliffortia ruscifolia</i>
		<i>Cliffortia</i> sp.
	Rutaceae	<i>Agathosma</i> sp.
	Santalaceae	<i>Thesium</i> sp.
	Sapindaceae	<i>Dodonaea viscosa</i>
	Scrophulariaceae	<i>Dischisma ciliatum</i>
	Sterculiaceae	<i>Hermannia alnifolia</i>

	Thymelaeaceae	<i>Passerina vulgaris</i>
MONOCOTYLEDONEAE	Amaryllidaceae	<i>Haemanthus</i> sp.
	Iridaceae	<i>Babiana ambigua</i>
		<i>Gladiolus brevifolius</i>
		<i>Moraea tripetala</i>
		<i>Sparaxis grandiflora</i>
		<i>Watsonia angusta</i>
	Liliaceae	<i>Bulbine alooides</i>
		<i>Bulbine</i> sp.
	Orchidaceae	<i>Holothrix villosa</i>
	Graminaceae	<i>Aira cupaniana</i>
		<i>Aristida junciformis</i>
		<i>Cynodon dactylon</i>
		<i>Poa annua</i>
		<i>Themeda triandra</i>
	Restionaceae	<i>Chondropetalum tectorum</i>
		<i>Staberoha cernua</i>
	Poaceae	<i>Eragrotis curvula</i>
		<i>Hyparrhenia hirta</i>
		<i>Pentaschistis cervivolia</i>

Latest Plant Species Checklist as provided by SANBI: CREW Survey conducted 2013-2014

FAMILY	SPECIES	STATUS	COMMON NAME	FLOWERING	RECORD DATE
AIZOACEAE	<i>Carpobrotus edulis</i>		Sour Fig, Perdevy	Aug-Oct	7-6-2013
AIZOACEAE	<i>Dorotheanthus bellidiformis</i>		Bokbaaivygie	Aug-Sept	23-8-2013
AIZOACEAE	<i>Erepsia cf ramosa</i>	VU	Vygie	Mar - June	7-6-2013
AIZOACEAE	<i>Lampranthus aduncus</i>		langblaar Bosvygie	May-Aug	23-8-2013
AIZOACEAE	<i>Lampranthus emarginatus</i>				10-1-2014
AIZOACEAE	<i>Lampranthus filicaulis</i>	VU	langsteel Vygie	June - July	7-6-2013
AIZOACEAE	<i>Lampranthus glaucus</i>	VU	Vygie	Aug-Oct	23-8-2013
AIZOACEAE	<i>Lampranthus spiniformis</i>		Vygie	May-June	7-6-2013
AIZOACEAE	<i>Ruschia rubricaulis</i>		Vygie	May - Aug	7-6-2013
AIZOACEAE	<i>Tetragonia echinata</i>		Klapperbrak, Kinkelbos	June-Sept	23-8-2013
AIZOACEAE	<i>Tetragonia nigrescens</i>		geel Klapperbrak	July - Oct	7-6-2013
ALLIACEAE	<i>Tulbaghia sp</i>		Wild Garlic		7-6-2013
AMARYLLIDACEAE	<i>Ammocharis longifolia</i>		Malgas Lily	Jan-Apr	23-8-2013
AMARYLLIDACEAE	<i>Gethyllis sp</i>		Kukumakranka	Dec - Jan	7-6-2013
AMARYLLIDACEAE	<i>Haemanthus sanguines</i>		Brandlelie, Velskoenblaar	Jan - April	7-6-2013
AMARYLLIDACEAE	<i>Strumaria tenella</i>		Tolbol	Apr - July	7-6-2013
ANARCARDIACEAE	<i>Searsia angustifolia</i> (= <i>Rhus</i>)		Wilgerkorentebos	Oct - Nov	7-6-2013
ANARCARDIACEAE	<i>Searsia laevigata villosa</i>		Koerentebos, Taaibos	Oct - Dec	7-6-2013
ANARCARDIACEAE	<i>Searsia rosmarinifolia</i>		Roosmaryntaaibos	May - Aug	7-6-2013
ANARCARDIACEAE	<i>Searsia tomentosa</i>		Korentebos	July - Aug	7-6-2013
ANEMIACEAE	<i>Mohria caffrorum</i>		Fern		7-6-2013
APIACEAE	<i>Lichtensteinia lacera</i>			Dec - Jan	7-6-2013
APOCYNACEAE	<i>Eustegia minuta</i>			July-Feb	23-8-2013
ASPARAGACEAE	<i>Asparagus rubicundus</i>		Swart Haakdoring	Jan-June	7-6-2013
ASPARAGACEAE	<i>Asparagus undulatus</i>			July-Oct	23-8-2013
ASPHODELACEAE	<i>Bulbine praemorsa</i>			June - Sept	7-6-2013
ASPHODELACEAE	<i>Trachyandra hispida</i>			Sept - Dec	7-6-2013
ASPHODELACEAE	<i>Trachyandra hirsuta</i>			Sept-Dec	23-8-2013
ASTERACEAE	<i>Arctotheca calendula</i>		Cape Weed	Aug-Nov	23-8-2013
ASTERACEAE	<i>Arctotis acaulis</i>		Renostergousblom	July-Oct	23-8-2013
ASTERACEAE	<i>Arctotis hirsuta</i>		Gousblom	Sept-Dec	23-8-2013
ASTERACEAE	<i>Athanasia crithmifolia</i>		Draadblaar-Klaaslouwbos	Oct-Jan	23-8-2013

ASTERACEAE	<i>Athanasia trifurcata</i>		Kouterbos	Oct-Nov	7-6-2013
ASTERACEAE	<i>Berkheya armata</i>		Grootdissel	Sept-Nov	7-6-2013
ASTERACEAE	<i>Chrysocoma cf ciliata</i>		Bitterbos	Oct - Jan	7-6-2013
ASTERACEAE	<i>Cotula turbinata</i>		Ganskos	Mainly Jul - Oct	7-6-2013
ASTERACEAE	<i>Dimorphotheca pluvialis</i>			Aug-Oct	23-8-2013
ASTERACEAE	<i>Elytropappus rhinocerotis</i>		Renosterbos	March-Sept	7-6-2013
ASTERACEAE	<i>Eriocephalus africanus</i>		Kapokbossie	May-Sept	7-6-2013
ASTERACEAE	<i>Gerbera crocea</i>		African Daisy	Oct-Mar	23-8-2013
ASTERACEAE	<i>Gorteria personata</i>		Klitskruid	Aug-Oct	23-8-2013
ASTERACEAE	<i>Helichrysum asperum</i>				10-1-2014
ASTERACEAE	<i>Helichrysum cymosum</i>				10-1-2014
ASTERACEAE	<i>Helichrysum cf moesianum</i>		geel Sewejaartjie	Aug-Feb	23-8-2013
ASTERACEAE	<i>Helichrysum patulum</i>		Kooigoed	Nov - Dec	7-6-2013
ASTERACEAE	<i>Helichrysum teretifolium</i>		Reenblommetjie	Aug-Oct	23-8-2013
ASTERACEAE	<i>Metalasia dregeana</i>				10-1-2014
ASTERACEAE	<i>Metalasia muricata</i>		Blombos	Apr - Sept	7-6-2013
ASTERACEAE	<i>Osteospermum monilifera</i> =Chrysanthemoides		Bietou	Mar - Oct	7-6-2013
ASTERACEAE	<i>Osteospermum spinosum</i>		Bietou	May-Oct	23-8-2013
ASTERACEAE	<i>Othonna bulbosa</i>		Bobbejaankool	June-Oct	23-8-2013
ASTERACEAE	<i>Othonna digitata</i>		Bobbejaankool	June-Oct	23-8-2013
ASTERACEAE	<i>Othonna heterophylla</i>		Bobbejaankool	May - Sept	7-6-2013
ASTERACEAE	<i>Senecio burchellii</i>		Geelgifbos	Apr - July	7-6-2013
ASTERACEAE	<i>Senecio ilicifolius</i>		Sprinkaanbos	June - Jan	7-6-2013
ASTERACEAE	<i>Senecio pubigerus</i>		Skraalbossie	March-June	7-6-2013
ASTERACEAE	<i>Stoebe plumosa</i>		Slangbos	Apr - June	7-6-2013
ASTERACEAE	<i>Ursinia anthemoides</i>		Bergmagriet	Aug -Oct	7-6-2013
ASTERACEAE	<i>Ursinia paleacea</i>				10-1-2014
BRASSICACEAE	Coronopus didymus			July-Dec	
BRASSICACEAE	<i>Heliophila coronopifolia</i>		Sporrie	Aug - Oct	7-6-2013
CAMPANULACEAE	<i>Prismatocarpus fruticosus</i>			Dec - Apr	7-6-2013
CARYOPHYLLACEAE	Petrorhagia prolifera			Sept-Nov	23-8-2013
CARYOPHYLLACEAE	Silene gallica		Small catchfly	Sept-Nov	23-8-2013
CARYOPHYLLACEAE	<i>Silene pilosellifolia</i>			Sept - Dec	7-6-2013
COLCHICACEAE	<i>Baeometra uniflora</i>		Slangblom	Aug-Oct	23-8-2013
COLCHICACEAE	<i>Wurmbea recurva</i>			Sept-Oct	23-8-2013

CONVOLVULACEAE	Convolvulus arvensis	Alien	Lesser Bindweed		10-1-2014
CYPERACEAE	Cyperus eragrostis				7-6-2012
CYPERACEAE	Cyperus cf sphaerospermus				10-1-2014
CYPERACEAE	Ficinia bulbosa				10-1-2014
CYPERACEAE	Ficinia indica			July-Nov	23-8-2013
CYPERACEAE	Ficinia nigrescens			May - Oct	7-6-2013
DROSERACEAE	Drosera cistiflora		Doublom, Snotrosie	Aug-Sept	23-8-2013
DROSERACEAE	Drosera trinervia		Sonnedou	Aug-Nov	23-8-2013
EBENACEAE	Diospyros glabra		Kraaibossie	Oct - Dec	7-6-2013
ERICACEAE	Erica cf abietina	LC			10-1-2014
ERICACEAE	Erica discolor	LC			10-1-2014
ERICACEAE	Erica cf grata	Rare			10-1-2014
ERICACEAE	Erica urna-viridis	Rare			10-1-2014
EUPHORBIACEAE	Clutia cf polygonoides			June - Nov	7-6-2013
FABACEAE	Aryrolobium cf lunare			Aug-Feb	23-8-2013
FABACEAE	Aspalathus biflora				10-1-2014
FABACEAE	Aspalathus cordata		steek Ertjebos	Oct-Dec	7-6-2013
FABACEAE	Aspalathus cymbiformis			Oct-Mar	23-8-2013
FABACEAE	Aspalathus hispida			Sept - Jan	7-6-2013
FABACEAE	Aspalathus perforata			Sept - Dec	7-6-2013
FABACEAE	Aspalathus tridentata tridentata				10-1-2014
FABACEAE	Indigofera sp				7-6-2013
FABACEAE	Lebeckia cf sepiaria LC or meyeriana EN				10-1-2014
FABACEAE	Lessertia frutescens		Kankerbos	July - Dec	7-6-2013
FABACEAE	Lotus subbiflorus				10-1-2014
FABACEAE	Otholobium hirtum		grys Keurtjie	Sept-Dec	7-6-2013
FABACEAE	Otholobium virgatum			Sept - Nov	7-6-2013
FABACEAE	Podalyria sericea	NT		May - June	7-6-2013
FABACEAE	Psoralea imbricata			Oct - Jan	7-6-2013
FABACEAE	Tephrosia capensis			July-Apr	23-8-2013
FABACEAE	Trifolium angustifolium	Alien			10-1-2014
FABACEAE	Vicia sativa		Common Vetch	Aug-Dec	23-8-2013
FABACEAE	Xiphotheca lanceolata	EN	Silver Pea	July-Sept	23-8-2013
FUMARIACEAE	Fumaria muralis		Duiwelskerwel	May-Oct	23-8-2013
GENTIANACEAE	Chironia baccifera				10-1-2014
GENTIANACEAE	Sebaea exacoides		Naeltjesblom	Aug-Oct	23-8-2013

GERANIACEAE	<i>Pelargonium elongatum</i>			July - Nov	7-6-2013
GERANIACEAE	<i>Pelargonium proliferum</i>			Oct - Dec	7-6-2013
GERANIACEAE	<i>Pelargonium myrrhifolium</i>		fynblaar Malva	peak in spring	7-6-2013
GERANIACEAE	<i>Pelargonium rapaceum</i>)			Oct - Feb	7-6-2013
GERANIACEAE	<i>Pelargonium triste</i>		Kaneeltjie	Aug-Feb	23-8-2013
HAEMODORACEAE	<i>Wachendorfia paniculata</i>		rooi Kanol, Koffiepit	Aug-Oct	7-6-2013
HAEMODORACEAE	<i>Wachendorfia parviflora</i>		klein rooi Kanol	Aug-Sept	23-8-2013
HEMEROCALLIDACEAE	<i>Caesia contorta</i>				10-1-2014
HYACINTHACEAE	<i>Albuca spiralis</i>		Tamarak	Aug-Oct	7-6-2013
HYACINTHACEAE	<i>Drimia exuviata</i>		Gifbol	Sept-Oct	23-8-2013
HYACINTHACEAE	<i>Drimia media</i>		Jeukbol	Jan-Mar	23-8-2013
HYACINTHACEAE	<i>Lachenalia cf arbutnotiae</i>	CR		Aug-Oct	7-6-2013
HYACINTHACEAE	<i>Lachenalia unifolia</i>			Sept-Oct	23-8-2013
HYACINTHACEAE	<i>Ornithogalum hispidum</i>		Growwetjenk	Nov-Feb	23-8-2013
HYACINTHACEAE	<i>Ornithogalum cf thyrsoides</i>		Chinkerinchee	Oct-Dec	23-8-2013
HYPOXIDACEAE	<i>Empodium plicatum</i>		ploegtyd Sterretjie	April-June	7-6-2013
HYPOXIDACEAE	<i>Spiloxene aquatica</i>		Watersterretjie	June - Oct	7-6-2013
HYPOXIDACEAE	<i>Spiloxene capensis</i>		Poublom	Aug-Oct	23-8-2013
HYPOXIDACEAE	<i>Spiloxene schlechteri</i>			June - Aug	7-6-2013
IRIDACEAE	<i>Aristea cf africana</i>			Aug-Jan	23-8-2013
IRIDACEAE	<i>Aristea capitata</i>		Blouvuurpyl	Oct - Dec	7-6-2013
IRIDACEAE	<i>Babiana ambigua</i>		Bobbejaantjie	Aug-Sept	23-8-2013
IRIDACEAE	<i>Babiana cf fragrans</i>	NT	Bobbejaantjie		23-8-2013
IRIDACEAE	<i>Bobartia indica</i>		Biesroei	Oct-Mar	23-8-2013
IRIDACEAE	<i>Chasmanthe aethiopica</i>		Cobra Lily, Suurknol	Apr - June	7-6-2013
IRIDACEAE	<i>Ferraria sp</i>			Aug - Oct	7-6-2013
IRIDACEAE	<i>Geissorhiza aspera</i>		blou Sysie	Aug-Sept	23-8-2013
IRIDACEAE	<i>Geissorhiza cf purpureolutea</i>	VU		June-Sept	23-8-2013
IRIDACEAE	<i>Gladiolus alatus</i>		Kalkoentjie	Aug-Sept	23-8-2013
IRIDACEAE	<i>Gladiolus cf brevifolius</i>		Herfspydie	Mar - May	7-6-2013
IRIDACEAE	<i>Gladiolus carinatus</i>		Sandpydie	July-Sept	23-8-2013
IRIDACEAE	<i>Gladiolus recurvus</i>	VU	Voorloperdjie	June - Oct	7-6-2013
IRIDACEAE	<i>Hesperantha radiata</i>		windhond Aandblom	Aug-Oct	23-8-2013
IRIDACEAE	<i>Micranthus cf junceus</i>			Nov - Jan	7-6-2013
IRIDACEAE	<i>Moraea flaccida</i>		groot Tulp	Aug-Oct	23-8-2013

IRIDACEAE	Moraea fugax		Soetuintjie	Sept-Nov	23-8-2013
IRIDACEAE	Moraea galaxia		Horlosieblom	Jul-Sept	7-6-2013
IRIDACEAE	Moraea gawleri			Aug-Sept	23-8-2013
IRIDACEAE	Moraea tricolor	EN		July - Sept	7-6-2013
IRIDACEAE	Moraea tripetala		Blou-uintjie	Aug-Sept	23-8-2013
IRIDACEAE	Romulea cruciata			July-Sept	23-8-2013
IRIDACEAE	Romulea hirsuta		Froetang	Aug-Sept	23-8-2013
IRIDACEAE	Romulea rosea		Rooiknikkertjie	Aug-Sept	23-8-2013
IRIDACEAE	Sisyrinchium graminoides	Alien			10-1-2014
IRIDACEAE	Sparaxis villosa			Aug-Sept	23-8-2013
IRIDACEAE	Tritonia undulata (=crispa)			Oct - Dec	7-6-2013
IRIDACEAE	Watsonia spp				7-6-2013
ISOETACEAE	Isoetes cf stellenbossiensis	NT	Quillwort		23-8-2013
JUNCACEAE	Juncus cf rigidus		Biesie		7-6-2013
LAMIACEAE	Salvia africana caerulea		Bloublomsalie	Aug - Dec	7-6-2013
LAMIACEAE	Salvia chamelaeagnea				10-1-2014
LAMIACEAE	Stachys aethiopica		Katbossie	Aug-Sept	23-8-2013
LOBELIACEAE	Cyphia bulbosa		Bergbaroe	Aug - Sept	7-6-2013
LOBELIACEAE	Cyphia digitata		Baroe	Aug-Oct	23-8-2013
LOBELIACEAE	Cyphia volubilis		Bosbaroe	Aug-Sept	23-8-2013
LOBELIACEAE	Monopsis debilis			Sept - Dec	7-6-2013
MALVACEAE	Hermannia alnifolia		Poprosie	Aug - Sept	7-6-2013
MALVACEAE	Hermannia cf cuneifolia		Poprosie	Aug - Oct	7-6-2013
MALVACEAE	Hermannia hyssopifolia		Pokkiesblom	Aug - Sept	7-6-2013
MALVACEAE	Hermannia cf prismatocarpus		Poprosie	Aug - Nov	7-6-2013
MALVACEAE	Hermannia cf rugosa	VU	Poprosie	Aug-Oct	23-8-2013
MOLLUGINACEAE	Adenogramma glomerata		Muggiesgras	Aug-Oct	23-8-2013
MONTINIACEAE	Montinia caryophyllacea		Peperbos	May - Oct	7-6-2013
OLEACEAE	Olea europaea africana		Olienhout	Oct-Feb	7-6-2013
ORCHIDACEAE	Corycium orobanchoides		Baster-trewwa	Aug-Oct	23-8-2013
ORCHIDACEAE	Holothrix sp		Wollie	Aug-Nov	7-6-2013
OXALIDACEAE	Oxalis glabra			May - Aug	7-6-2013
OXALIDACEAE	Oxalis hirta			Apr - Aug	7-6-2013
OXALIDACEAE	Oxalis luteola			May - Aug	7-6-2013
OXALIDACEAE	Oxalis monophylla			Apr - June	7-6-2013
OXALIDACEAE	Oxalis obtusa		geeloog Suring	Jul - Oct	23-8-2013

OXALIDACEAE	<i>Oxalis pes-caprae</i>		Geelsuring	May-Oct	7-6-2013
OXALIDACEAE	<i>Oxalis purpurea</i>		groot Suring	Apr-Sept	7-6-2013
OXALIDACEAE	<i>Oxalis tenuifolia</i>			May - Aug	7-6-2013
PHYTOLACCACEAE	Phytolacca octandra				10-1-2014
POACEAE	<i>Aristida junciformis</i>		Wire grass	Nov-May	10-1-2014
POACEAE	<i>Cymbopogon cf marginatus</i>		Narrow leaved Turpentine grass	Oct-May	10-1-2014
POACEAE	<i>Ehrharta calycina</i>		Polgras, Rooigras	July-Dec	23-8-2013
POACEAE	<i>Hyparrhenia hirta</i>		Thatch grass	Nov - May	7-6-2013
POACEAE	Melinis repens		Bergrooigras	Oct - Feb	7-6-2013
POACEAE	Paspalum dilatatum		Dallis grass	Oct - May	7-6-2013
POACEAE	<i>Pennisetum macrourum</i>				10-1-2014
POACEAE	<i>Pentameris pallida (=Pentaschistis)</i>				10-1-2014
POACEAE	<i>Sporobolus africanus</i>		Ratstail dropseed		10-1-2014
POACEAE	<i>Tenaxia stricta (=Merxmullera)</i>				10-1-2014
POACEAE	<i>Themeda triandra</i>				10-1-2014
POACEAE	<i>Tribolium uniola</i>				10-1-2014
POLYGALACEAE	<i>Muraltia macropetala</i>	VU		July-Nov	23-8-2013
POLYGALACEAE	<i>Polygala bracteolata</i>			July-Dec	23-8-2013
POLYGALACEAE	<i>Polygala garcinii</i>			Aug - Dec	7-6-2013
POLYGALACEAE	<i>Polygala recognita</i>			Sept-Dec	23-8-2013
POLYGONACEAE	<i>Persicaria decipiens</i>			Jan - Dec	7-6-2013
PROTEACEA	<i>Leucadendron salignum</i>		Common Sunshine Conebush	Apr - Nov	7-6-2013
PROTEACEA	<i>Protea repens</i>		Sugar Bush	June - Aug	7-6-2013
RANUNCULACEAE	<i>Anemone tenuifolia</i>		Cape Anemone	June - Feb	14-7-2011
RESTIONACEAE	<i>Calopsis viminea</i>				10-1-2014
RESTIONACEAE	<i>Ischyrolepis capensis</i>				10-1-2014
RESTIONACEAE	<i>Ischyrolepis cf gaudichaudiana</i>				7-6-2013
RESTIONACEAE	<i>Ischyrolepis monanthos</i>				7-6-2013
RESTIONACEAE	<i>Ischyrolepis sieberi</i>			Jan - Mar	7-6-2013
RESTIONACEAE	<i>Staberoha distachyos</i>			Feb - Dec	7-6-2013
RESTIONACEAE	<i>Thamnochortus cf bachmannii</i>			June	7-6-2013
RHAMNACEAE	<i>Phylica sp</i>				10-1-2014
RHAMNACEAE	<i>Phylica strigulosa</i>	VU		Mar-July	23-8-2013
ROSACEAE	<i>Cliffortia juniperina</i>			Sept - Mar	7-6-2013
ROSACEAE	<i>Cliffortia ruscifolia</i>		Climber's Friend, Steekbossie	Aug - Oct	7-6-2013

RUBIACEAE	Anthospermum spathulatum			June - Feb	7-6-2013
RUSCACEAE	Eriospermum capense		Cotton seed	Nov - Mar	7-6-2013
RUSCACEAE	Eriospermum lanceifolium		Cotton seed	Mar - Apr	7-6-2013
RUTACEAE	Agathosma cf ciliaris		Bergboegoe	June-Nov	23-8-2013
RUTACEAE	Diosma hirsuta		Wild Buchu, Kanferbos	Feb - Sept	7-6-2013
SANTALACEAE	Thesium carinatum			Jan - Dec	7-6-2013
SANTALACEAE	Thesium funale			Jan - Dec	7-6-2013
SANTALACEAE	Thesium cf nudicaule			Aug - Jan (Feb)	7-6-2013
SANTALACEAE	Thesium strictum		Teringbos	Sept - Feb	7-6-2013
SAPINDACEAE	Dodonaea viscosa		Sand Olive	July - Oct	7-6-2013
SCROPHULARIACEAE	Diascia elongata		Horinkies	Aug-Oct	23-8-2013
SCROPHULARIACEAE	Dischisma capitatum		Basterslakblom	Aug-Sept	23-8-2013
SCROPHULARIACEAE	Dischisma ciliatum		Basterslakblom	Aug-Nov	23-8-2013
SCROPHULARIACEAE	Hebenstretia repens		Slakblom	July-Oct	23-8-2013
SCROPHULARIACEAE	Manulea cheiranthus		Vingertjies	May - Feb	7-6-2013
SCROPHULARIACEAE	Nemesia barbata			Aug-Sept	23-8-2013
SCROPHULARIACEAE	Oftia africana		Sukkelbossie	Jan - Dec	7-6-2013
SCROPHULARIACEAE	Phyllopodium heterophyllum		Opslag	Aug-Sept	23-8-2013
SCROPHULARIACEAE	Pseudoselago spuria		Powderpuff	Aug-Feb	23-8-2013
SCROPHULARIACEAE	Zaluzianskya divaricata			Aug-Oct	23-8-2013
SOLANACEAE	Datura stramonium		Common thorn apple		7-6-2013
SOLANACEAE	Solanum nigrum		Nightshade	Dec - Feb	7-6-2013
TECOPHILAEACEAE	Cyanella hyacinthoides		blou Raaptol	Sept-Nov	7-6-2013
THYMELAEACEAE	Gnidia laxa			Jan-Dec	7-6-2013
THYMELAEACEAE	Passerina corymbosa		Gonnabos	Oct - Nov	7-6-2013
THYMELAEACEAE	Struthiola ciliata		Katstertjie, Featherhead	Jan-Dec	7-6-2013
ZYGOPHYLLACEAE	Zygophyllum sessilifolium		Witspekbos, Twinleaf	July-Sept	23-8-2013

	Declining
	Near Threatened
	Vulnerable
	Endangered
	Critical

Bold = not South African

C2: Birds**Expected Bird Species as according to Sinclair *et al.* (1993)**

SPECIES	STATUS	COMMON NAME
<i>Bostrychia hagedash</i>	LC	Hadedda Ibis
<i>Alopochen aegyptiacus</i>	LC	Egyptian Goose
<i>Accipiter tachiro</i>	LC	African Goshawk
<i>Falco peregrinus</i>	NT	Peregrine Falcon
<i>Pternistes capensis</i>	LC	Cape Spurfiowl
<i>Numida meleagris</i>	LC	Helmeted Guineafowl
<i>Burhinus capensis</i>	LC	Spotted Thick-knee
<i>Columba guinea</i>	LC	Speckled Pigeon
<i>Columba arquatrix</i>	LC	African Olive-pigeon
<i>Streptopelia semitorquata</i>	LC	Redeyed Dove
<i>Streptopelia capicola</i>	LC	Cape Turtle Dove
<i>Streptopelia senegalensis</i>	LC	Laughing Dove
<i>Chrysococcyx klaas</i>	LC	Klaas's Cuckoo
<i>Buro africanus</i>	LC	Spotted Eagle Owl
<i>Caprimulgus pectoralis</i>	LC	Fiery-necked Nightjar
<i>Colius colius</i>	LC	White-backed Mousebird
<i>Urocolius indicus</i>	LC	Red-faced Mousebird
<i>Upupa africana</i>	LC	African Hoopoe
<i>Hirundo cucullata</i>	LC	Greater Striped Swallow
<i>Hirundo fuligula</i>	LC	Rock Martin
<i>Oriolus oriolus</i>	LC	European Golden Oriole
<i>Pycnonotus capensis</i>	LC	Cape Bulbul
<i>Turdus olivaceus</i>	LC	Olive Thrush
<i>Cossypha caffra</i>	LC	Cape Robin-chat
<i>Muscicapa adusta</i>	LC	African Dusky Flycatcher
<i>Sigelus silens</i>	LC	Fiscal Flycatcher
<i>Batis capensis</i>	LC	Cape Batis
<i>Motacilla capensis</i>	LC	Cape Wagtail
<i>Lanius collaris</i>	LC	Fiscal Shrike
<i>Telophorus zeylonus</i>	LC	Bokmakierie
<i>Sturnus vulgaris</i>	LC	Common Starling
<i>Onychognathus morio</i>	LC	Red-winged Starling
<i>Promerops cafer</i>	LC	Cape Sugarbird
<i>Nectarinia famosa</i>	LC	Malachite Sunbird
<i>Cinnyris chalybeus</i>	LC	Southern Double-collared Sunbird
<i>Zosterops virens</i>	LC	Cape White-eye
<i>Passer domesticus</i>	LC	House Sparrow
<i>Ploceus capensis</i>	LC	Cape Weaver
<i>Estrilda astrild</i>	LC	Common Waxbill
<i>Coccygria melanotis</i>	LC	Sweet Waxbill
<i>Serinus canicollis</i>	LC	Cape Canary
<i>Crithagra sulphuratus</i>	LC	Brimstone Canary

C3: Reptiles

Expected Reptile Species as according to Branch (1994)

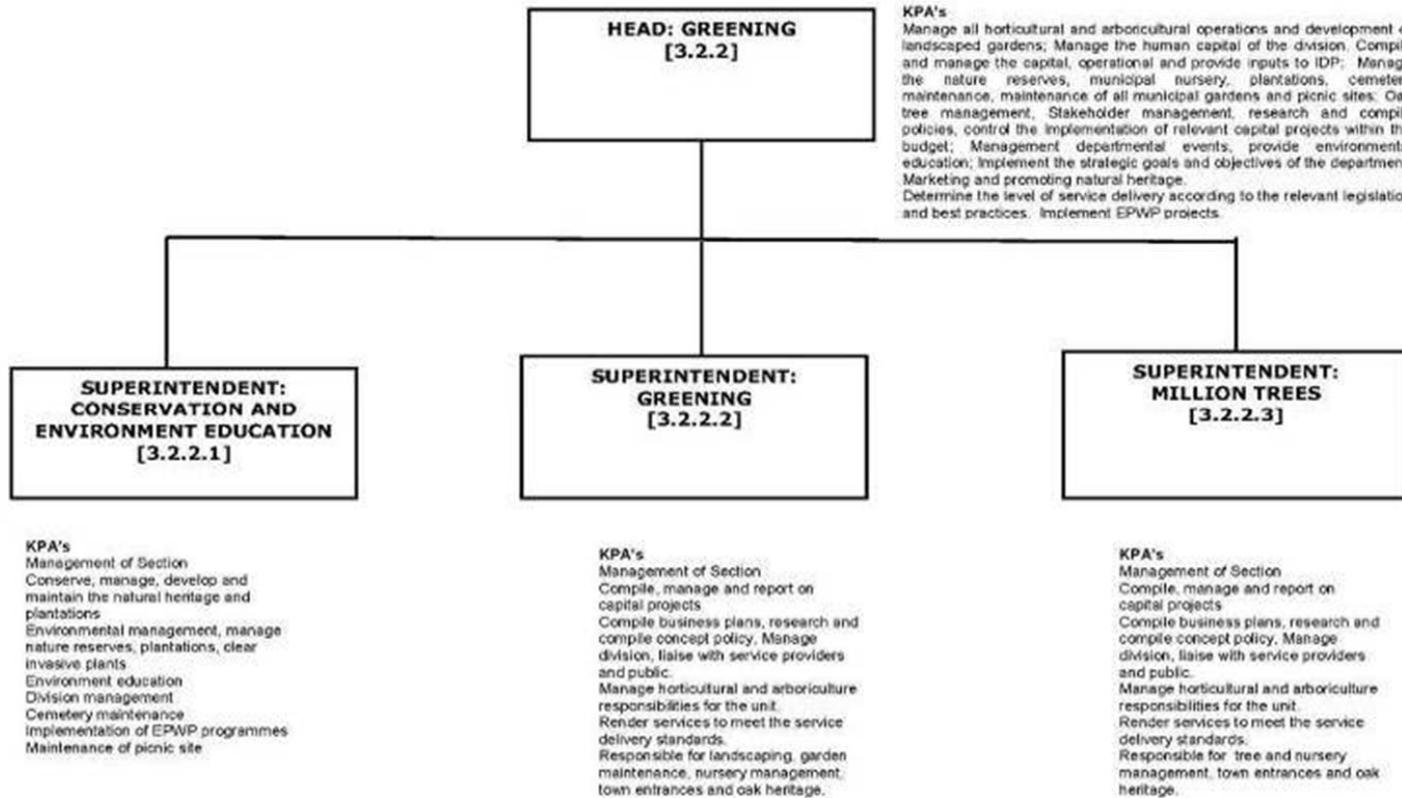
SPECIES	STATUS	COMMON NAME
<i>Bitis arietans</i>	LC	Cape Puff-adder
<i>Naja nivea</i>	LC	Cape Cobra
<i>Duberria lutrix lutrix</i>	LC	Slug Eater
<i>Lamprophis capensis</i>	LC	Brown House Snake
<i>Lamprophis inornatus</i>	LC	Olive House Snake
<i>Lamprophis aurora</i>	LC	Aurora House Snake
<i>Psammophis crucifer</i>	LC	Cross-marked Sand Snake
<i>Psammophylax rhombeatus</i>	LC	Rhombic Skaapsteker
<i>Dispholidus typus</i>	LC	Boomslang
<i>Pseudaspis cana</i>	LC	Mole Snake
<i>Homoroselaps lacteus</i>	LC	Spotted Harlequin Snake
<i>Afrogecko parphyreus</i>	LC	Marbled Gecko
<i>Trachylepis homalocephala</i>	LC	Red-sided Skinks
<i>Trachylepis capensis</i>	LC	Cape Three-striped Skink
<i>Acontias meleagris</i>	LC	Cape Legless Skink
<i>Bradypodion pumilum</i>	LC	Cape Dwarf Chameleon
<i>Homopus areolatus</i>	LC	Common Parrot-beaked Tortoise
<i>Stigmochelys pardalis</i>	LC	Leopard Tortoise
<i>Chersina angulata</i>	LC	Angulate Tortoise

APPENDIX D: Other Documents

D1: Stellenbosch Municipality Jan Marais Reserve Staff Organogram



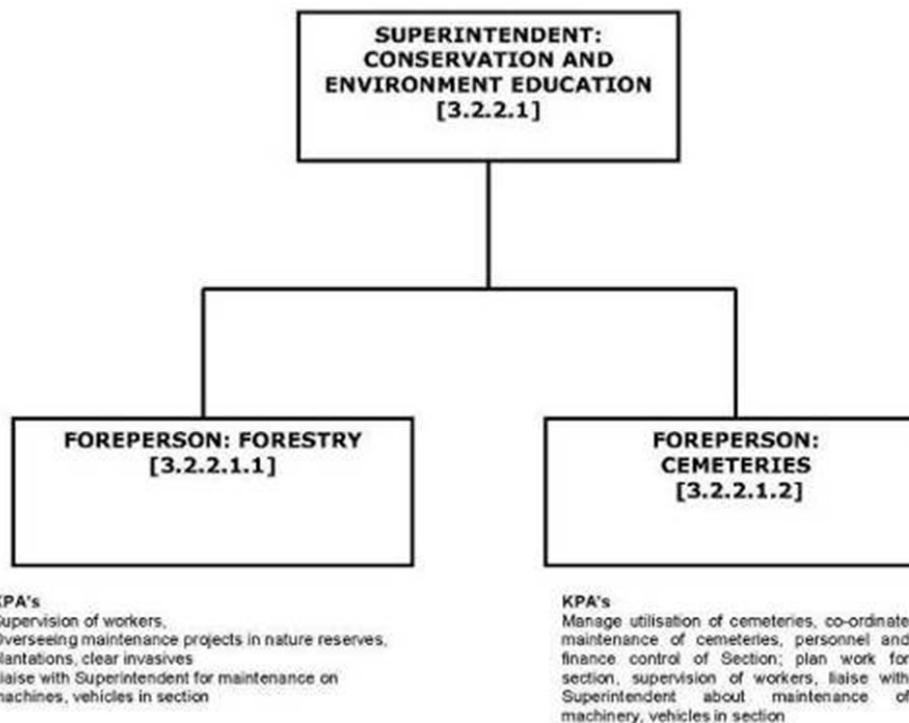
DIRECTORATE: COMMUNITY SERVICES



APPROVED BY MUNICIPAL MANAGER: _____

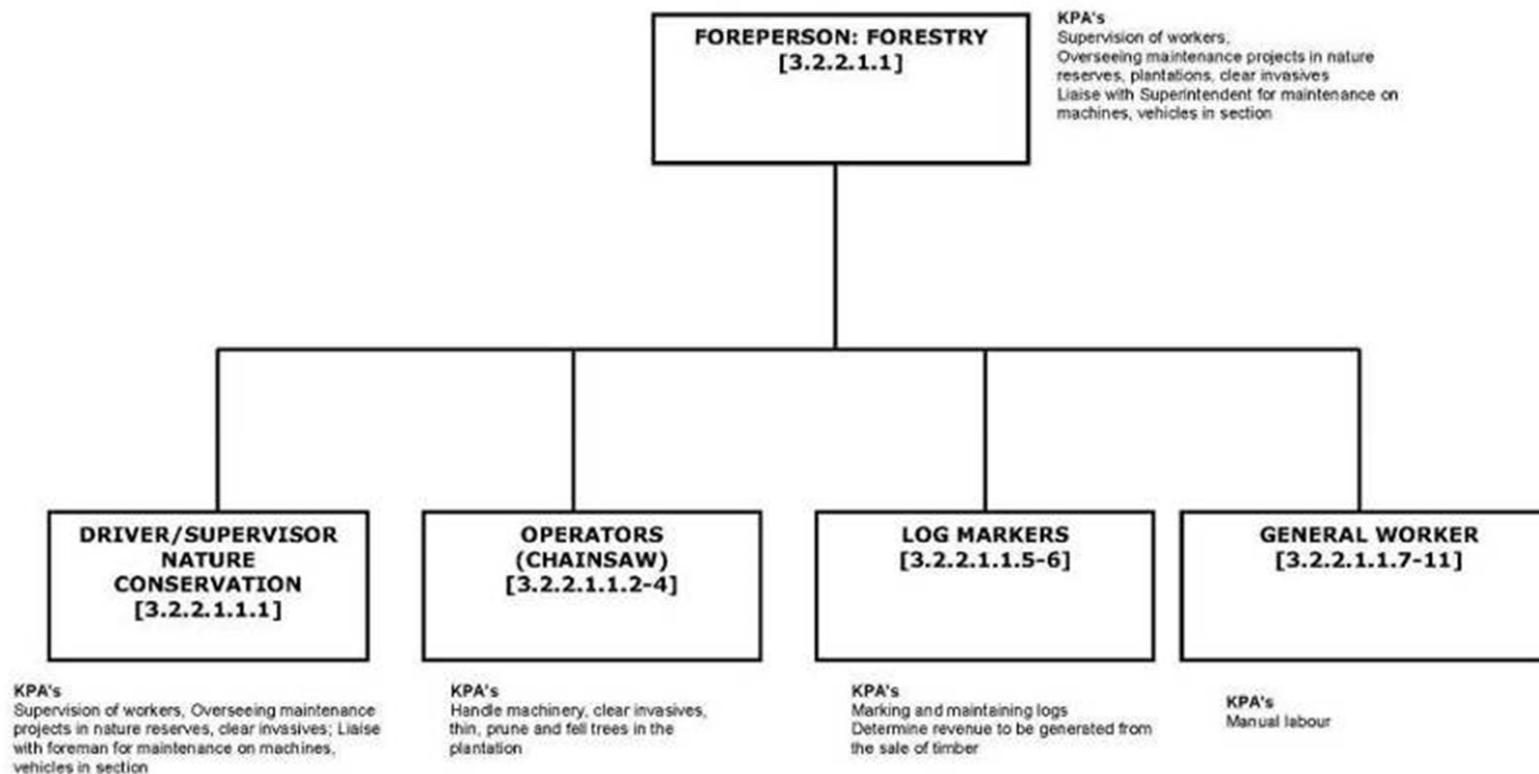


DIRECTORATE: COMMUNITY SERVICES

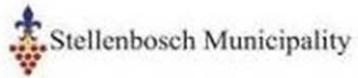


APPROVED BY MUNICIPAL MANAGER: _____

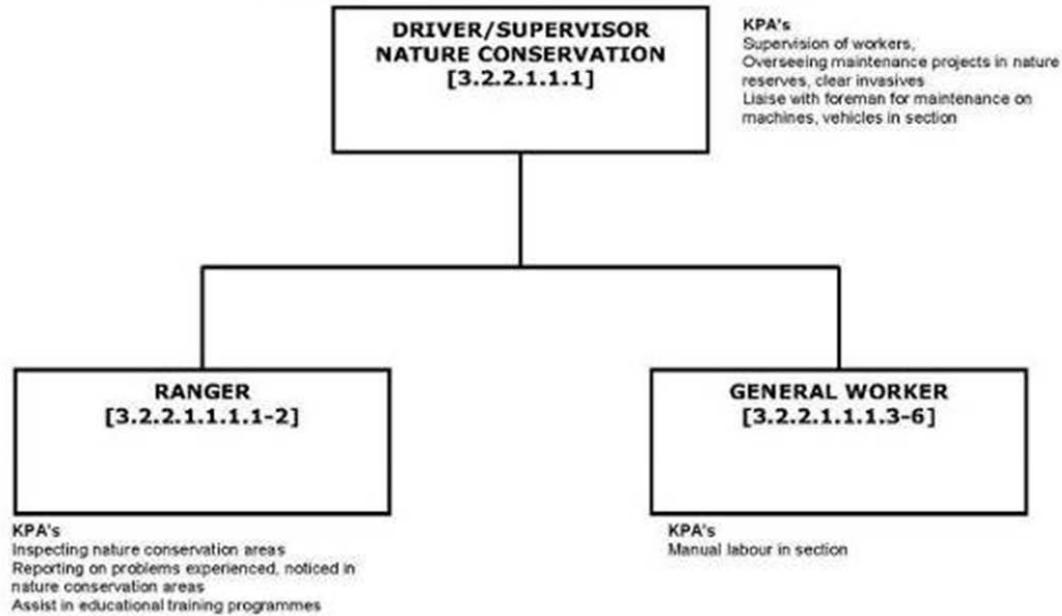
DIRECTORATE: COMMUNITY SERVICES



APPROVED BY MUNICIPAL MANAGER: _____



DIRECTORATE: COMMUNITY SERVICES



APPROVED BY MUNICIPAL MANAGER: _____

D2: Latest Safety and Security Audit of Reserve Play Equipment

NACO  NACO	STELLENBOSCH PREMIER MANUFACTURERS <small>T/A</small>	PO Box 773 Stellenbosch 7599 Tel: (021) 883 8531 Fax: (021) 883 8907 e-mail: bernard@naco.co.za
	STELLENBOSCH NACO	
	Reg No: 96/08038/07 Vat No: 4230176226	

Re: Mechanical condition of JS Marais Play park items:

Scope:

On 5 August 2013 Naco Engineering did the annual inspection of the play park equipment at JS Marais Park in Stellenbosch. The mechanical working, corrosion and general safety of the equipment were inspected. Because of the previous two years of inspections and photo's collected of the items, the history of the equipment are available and serves as a good reference to determine any deterioration of equipment.

Swings:

- All bearings in good working order
- Connecting bolts all secure and in place
- Anchors to ground secure
- No damage to seat material
- The connecting links and chains did not show noticeable wear from the previous inspection. The D-shackles were still in good order.
- Rust was again noticed on the steel frames. It looks as if some paint was allied, but it does not have good corrosion protection abilities. We will suggest doing a corrosion treatment according to the addendum.
- No damage to structural integrity noticed.

Igloo:

- Anchors to ground secure

- No excessive rust noticed. The structural steel is galvanized to protect against corrosion. The paint serves only a decorative function.
- No damage to structural steel noticed

Slide:

- Anchors to ground secure
- No excessive rust or paint damage noticed
- No damage to structural steel noticed
- All connecting bolts in place and secure
- The entrance to the slide have potential sharp edges

Mary-go-round:

- Anchors to ground secure
- No excessive rust noticed
- No damage to structural steel noticed
- All connecting bolts in place and secure
- The rotating assembly in good working order. The play on the outer ring is $\pm 10\text{mm}$ and this is the same as the previous inspection.

Addendum 1:

Corrosion protection specification:

- Remove debris and rust in affected areas until clean. Wire brush should be efficient for this application.
- Apply a coat of Aluminium flake epoxy to a d.f.t. of at least 100µ (Carbomastic 15 from Stoncor)
- A polyurethane top coat to match the existing colour.


Carbomastic-15-15F
C.pdf

Regards,



.....
BJ v Niekerk

D3: Description and Characteristics of Indigenous Vegetation Types Present in the Reserve

Boland Granite Fynbos

Distribution Western Cape Province: Upper slopes and summits of Paardeberg and Paarl Mountain as well as the lower slopes of mountains spanning the Groenberg and Hawequasberge (western foothills near Wellington), Priel (Simonsberg and Groot Drakenstein Mountains and Klappmutskop), Franschhoek (Middelberg, Dassenberg, Skerpheuwel, Middagkransberg), Stellenbosch (Jonkershoek Valley and northern side of the Helderberg) and Helderberg Municipality (including lower south- and west-facing slopes of Haelkop and the Hottentots Holland Mountains and also the free-standing Skapenberg). It also occurs in the Du Toitskloof and Wemmershoek Valleys, Kaaimansgat and lower Stettynskloof, with outcrops on the Bottelary Hills and Kanonkop (near Pella). Altitude 150–650 m, reaching 850 m in places.

Vegetation & Landscape Features Moderately undulating plains and hills, varying from extensive deep soils, to localised deep soils between large granite domes and sheets. A fairly dense, 1–2 m tall closed shrubland with occasional low, gnarled trees dotted through the landscape. A diverse type, dominated by scrub, asteraceous and proteoid fynbos (with *Protea repens*, *P. burchelli*, *P. laurifolia* with *Leucadendron rubrum* and *L. daphnoides* as dominants on drier slopes, *Leucospermum grandiflorum* or *L. gueinzii* dominant in seepage areas, and *P. neriifolia* and *Leucadendron sessile* on moist slopes), but with patches of restioid and ericaceous fynbos in wetter areas. Waboomveld is very typical and very extensive within this unit.

Geology & Soils Cape Granite Suite rocks (Paardeberg, Paarl, Stellenbosch and Wellington Plutons). Soils usually of Glenrosa, Mispah forms, or red-yellow apedal. Freely draining soils are dominant, with exposed dome rock and large boulders. Land types mainly Fa, Ic and Ac.

Climate Mean daily maximum and minimum temperatures 26.6°C and 5.9°C for February and July, respectively. Frost incidence 2 or 3 days per year. The mean rainfall for this type is well below the 1 400 mm limit suggested by Campbell (1985) for fynbos on granite. Mists are common in winter.

Important Taxa (^TCape thickets, ^WWetlands) Small Trees: *Protea nitida* (d), *Brabejum stellatifolium*^T, *Heeria argentea*^T, *Leucospermum conocarpodendron* subsp. *viridum*, *Podocarpus elongatus*^T. Tall Shrubs: *Cliffortia cuneata* (d), *Diospyros glabra*^T (d), *Euclea racemosa* subsp. *racemosa*^T (d), *Leucadendron rubrum* (d), *Olea europaea* subsp. *africana*^T (d), *Protea neriifolia* (d), *P. repens* (d), *Putterlickia pyracantha*^T (d), *Rhus angustifolia*^T (d), *R. laevigata*^T (d), *Cassine schinoides*^T, *Chrysanthemoides monilifera*, *Cliffortia phillipsii*, *Cunonia capensis*^T, *Dodonaea viscosa* var. *angustifolia*, *Euryops abrotanifolius*, *Gymnosporia buxifolia*, *Halleria lucida*^T, *Maytenus acuminata*^T, *Montinia caryophyllacea*, *Myrsine africana*^T, *Passerina corymbosa*, *Podalyria myrtillifolia*, *Protea burchellii*, *Rapanea melanophloeos*^T, *Rhus glauca*^T, *R. lucida*^T, *R. tomentosa*^T, *Wiborgia obcordata*. Low Shrubs: *Anthospermum aethiopicum* (d), *Berzelia lanuginosa*^W (d), *Brunia nodiflora* (d), *Cliffortia ruscifolia* (d), *Elytropappus rhinocerotis* (d), *Erica muscosa* (d), *E. plukenetii* subsp. *plukenetii* (d), *Eriocephalus africanus* var. *africanus* (d), *Helichrysum teretifolium* (d), *Leucadendron salignum* (d), *Osmitopsis asteriscoides*^W (d), *Salvia lanceolata* (d), *Agathosma imbricata*, *A. serpyllacea*, *Aspalathus bracteata*, *A. elliptica*, *A. lebeckioides*, *Cliffortia dentata*, *Clutia pubescens*, *Erica abietina* subsp. *aurantiaca*, *E. hispidula*, *E. imbricata*, *E. sphaeroidea*, *Eriocephalus africanus* var. *paniculatus*, *Euclea tomentosa*^T, *Euphorbia genistoides*, *Euryops thunbergii*, *Helichrysum zeyheri*, *Hermannia cuneifolia*, *H. scabra*, *Leucadendron daphnoides*, *L. sessile*, *Microdon dubius*, *Muraltia decipiens*, *Otholobium obliquum*, *O. rotundifolium*, *Pelargonium tabulare*, *Phyllica thunbergiana*, *Printzia polifolia*, *Protea acaulos*, *P. scorzonerifolia*, *Salvia africana-lutea*, *Serruria kraussii*, *Stoebe plumosa*, *Ursinia paleacea*, *Xiphotheca lanceolata*. Succulent Shrubs: *Aloe perfoliata*, *Antimima granitica*, *Lampranthus spiniformis*, *Tetragonia spicata*. Woody Climbers: *Asparagus scandens*, *Microloma sagittatum*, *Secamone alpini*, *Zygophyllum sessilifolium*. Semiparasitic Shrub: *Thesium funale*. Herbs: *Annesorhiza macrocarpa*, *Corymbium scabrum*, *Galium mucroniferum*, *Gazania ciliaris*, *Helichrysum crispum*, *Knowltonia vesicatoria*, *Lichtensteinia obscura*, *Mairia burchellii*, *Nemesia affinis*, *Polycarena capensis*, *Pseudoselago serrata*, *Senecio arenarius*, *Tripteris tomentosa*, *Wimmerella bifida*^W. Geophytic Herbs: *Aristea capitata* (d), *Pteridium aquilinum* (d), *Blechnum australe*, *Bobartia indica*, *Cyphia phyteuma*, *Lachenalia aloides*, *Lapeirousia corymbosa*, *Moraea galaxia*, *Oxalis bifida*, *Romulea hirsuta*, *Rumohra adiantiformis*, *Spiloxene serrata*, *Trachyandra filiformis*, *Wachendorfia paniculata*, *Watsonia borbonica* subsp. *borbonica*, *Zantedeschia aethiopica*^W. Herbaceous Climber: *Cynanchum*

africanum. Graminoids: *Cymbopogon marginatus* (d), *Ehrharta calycina* (d), *E. villosa* var. *villosa* (d), *Elegia asperiflora* (d), *Ischyrolepis capensis* (d), *I. gaudichaudiana* (d), *Merxmüllera cincta* (d), *M. rufa* (d), *M. stricta* (d), *Restio filiformis* (d), *Tetraria fasciata* (d), *Aristida vestita*, *Cannomois virgata*, *Ehrharta ottonis*, *Eragrostis curvula*, *Ficinia indica*, *F. nigrescens*, *F. trichodes*, *Hyparrhenia hirta*, *Ischyrolepis sieberi*, *Neesenbeckia punctoria*, *Pentaschistis aristidooides*, *Platycaulos depauperatus*, *Schoenoxiphium ecklonii*, *S. lanceum*, *Tetraria bromoides*, *T. burmannii*, *T. sylvatica*, *Themeda triandra*, *Willdenowia incurvata*.

Endemic Taxa Tall Shrub: *Leucospermum grandiflorum*. Low Shrubs: *Aspalathus cephalotes* subsp. *cephalotes*, *A. stricticlada*, *Erica fausta*, *E. hippurus*, *E. lerouxiae*, *E. setosa*, *Leucospermum lineare*, *Lobostemon hottentoticus*, *Psoralea gueinzii*, *Pteronia centaurooides*, *Serruria gracilis*, *Xiphotheca elliptica*. Succulent Shrubs: *Erepsia lacera*, *Lampranthus leptaleon*, *L. rupestris*, *Oscularia paardebergensis*. Herb: *Argyrobium angustissimum*. Geophytic Herbs: *Babiana noctiflora*, *Ixia cochlearis*, *Lapeirousia azurea*, *Watsonia amabilis*. Succulent Herb: *Conophytum turrigerum*.

Conservation Endangered. Target 30%. Some 14% statutorily conserved in the Hawequas, Hottentots Holland and Paarl Mountain Nature Reserves, with a further 34% found in Hawequas, Hottentots Holland mountain catchment areas and Helderberg and Paardenberg Nature Reserves. More than half of the area has been transformed for vineyards, olive groves and pine plantations. Most common woody aliens include *Pinus pinaster*, *Hakea sericea* and *Acacia saligna*. Erosion very low and moderate.

Remark 1 Many species common to this unit are shared with Cape Winelands Shale Fynbos, to which this unit is closely related—the two share many endemics (e.g. *Leucadendron daphnoides*, *Leucospermum gueinzii*, *Serruria kraussii*). Although many species are shared, granite fynbos extends to lower rainfall than shale fynbos does (although the mean is higher due to higher relief of granite), so that species found in narrow, upper zones within shale fynbos are often quite widespread in granite fynbos.

Remark 2 Cape thicket and occasionally also forest patches occur within fire-protected sites against the granite outcrops, on sandstone rock-fall screes and in steeper river courses. Succulent and geophytic 'gardens' (*Oscularia* and *Crassula* are well represented here) are found on extensive granite domes and slabs which also support epilithic lichen flora. (Mucina & Rutherford 2006)

Swartland Shale Renosterveld

Distribution Western Cape Province: Large, generally continuous areas of the Swartland and the Boland on the West Coast lowlands, from Het Kruis in the north, southwards between the Piketberg and Olifantsrivierberge, widening appreciably in the region around Moorreesburg between Gouda and Hopefield, and encompassing Riebeek-Kasteel, Klipheuwel, 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 leptophyllous 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 trifurcata* and *Otholobium hirtum*. Patches of *Cynodon dactylon* 'grazing lawns' also occur in abundance.

Geology & 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 prisma-cutanic and pedocutanic diagnostic horizons and Glenrosa and Mispah forms are predominant. Land types mainly Db, Fb and Da.

Climate Winter-rainfall regime, peaking from May to August. Mean daily maximum and minimum temperatures 29.6°C and 6.3°C for February and July, respectively. Frost incidence 3 or 4 days per year. Mists are common in winter.

Important Taxa (^WWetlands) Tall Shrubs: *Aspalathus acuminata* subsp. *acuminata* (d), *Olea europaea* subsp. *africana* (d), *Rhus angustifolia* (d), *R. incisa* (d), *Chrysanthemoides monilifera*, *Euryops speciosissimus*, *E. tenuissimus*, *Gymnosporia buxifolia*, *Lebeckia cytisoides*. Low Shrubs: *Anthospermum aethiopicum* (d), *A. spathulatum* subsp. *tulbaghense* (d), *Elytropappus rhinocerotis* (d), *Eriocephalus africanus* var. *africanus* (d), *Euryops thunbergii* (d), *Galenia secunda* (d), *Helichrysum cymosum* (d), *H. teretifolium* (d), *Osteospermum spinosum* (d), *Otholobium hirtum* (d), *Agathosma glandulosa*, *Aspalathus aculeata*, *A. pinguis* subsp. *pinguis*, *A. spinosa* subsp. *flavispinosa*, *A. tridentata* subsp. *staurantha*, *A. varians*, *Asparagus rubicundus*, *Athanasia trifurcata*, *Cliffortia marginata*, *Diosma hirsuta*, *Euclea acutifolia*, *Felicia filifolia* subsp. *filifolia*, *F. hyssopifolia*, *Galenia africana*, *Lebeckia cinerea*, *Leucadendron lanigerum* var. *lanigerum*, *Marasmodes polycephala*, *Metalasia dregeana*, *M. octoflora*, *Muraltia decipiens*, *M. ononidifolia*, *Oftia africana*, *Passerina truncata* subsp. *truncata*, *Phyllica gracilis*, *Plecostachys serpyllifolia*, *Pteronia divaricata*, *P. incana*, *Rhus dissecta*, *Senecio pubigerus*, *Stoebe plumosa*. Succulent Shrubs: *Euphorbia burmannii* (d), *E. mauritanica*, *Lampranthus elegans*. Woody Climber: *Microloma sagittatum*. Herbs: *Berkheya armata* (d), *B. rigida*, *Cotula turbinata*, *Echiostachys spicatus*, *Lichtensteinia obscura*, *Manulea cephalotes*, *Senecio laxus*, *Stachys aethiopica*. Geophytic Herbs: *Cyanella hyacinthoides* (d), *Melasphaerula ramosa* (d), *Albuca maxima*, *Aristea africana*, *Babiana melanops*, *Cheilanthes capensis*, *Disa physodes*, *Geissorhiza imbricata* subsp. *bicolor*^W, *G. inflexa*, *G. juncea*, *G. purpureolutea*, *G. tulbaghensis*, *Lachenalia longibracteata*, *L. pallida*, *L. polyphylla*, *Mohria caffrorum*, *Ornithogalum thyrsoides*, *Oxalis pes-caprae*, *Romulea flava*, *R. leipoldtii*, *R. rosea*, *R. tabularis*, *Watsonia marginata*. Graminoids: *Cynodon dactylon* (d), *Ehrharta calycina* (d), *Elegia capensis* (d), *E. recta* (d), *E. tectorum* (d), *Ficinia brevifolia* (d), *Ischyrolepis capensis* (d), *Merxmuellera stricta* (d), *Ehrharta delicatula*, *E. thunbergii*, *Hordeum capense*, *Merxmuellera 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*, *Hesperanthera pallescens*, *H. spicata* subsp. *fistulosa*, *Lachenalia liliflora*, *L. mediana* var. *rogersii*, *L. orthopetala*, *Lapeirousia fastigiata*, *Moraea gigandra*, *M. tulbaghensis*, *Oxalis fragilis*, *O. involuta*, *O. leptocalyx*, *O. levis*, *O. macra*, *O. perineson*, *O. strigosa*, *Pelargonium vicifolium*.

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 lowlands—all ranking among the most threatened Cape habitats and housing many endemic taxa. (Mucina & Rutherford 2006)

D 4: Previous Reserve Management Plan as Compiled by the Reserve Advisory Board Dated March 2008

(NOTE: IF WE ADD THE PREVIOUS MP WITH APPENDICES ITS TOO LARGE TO MAIL AS A WORD DOCUMENT FOR YOU TO AMEND THEREFORE PLEASE ADD THE PREVIOUS MP WITH APPENDICES HERE TO COMPLETE THE DRAFT IRMP TO BE DISTRIBUTED FOR THE PPP)

7.8	PROTECTION SERVICES: [PC: CLLR Q SMIT]
7.8.1	ADDITION OF SMOKE ALARM TO FIRE KIT

1. PURPOSE OF REPORT

To obtain approval from Council to include a photoelectric smoke detector as an addition to the current fire kit. This innovative technology is an added fire mitigation strategy. **(See APPENDIX 1).**

2. BACKGROUND

Stellenbosch has one of the oldest fastest growing informal settlements in the Western Cape with devastating and severe fires annually. In the Greater Stellenbosch Municipal Area we have approximately 26 informal areas and backyard dwellers with the biggest informal areas in Kayamandi, Langrug and Mandela City.

Many of these structures within the informal settlements were constructed without proper planning or any consideration of safety precaution. Due to the absence of proper infrastructure and safety measures, such as adequate spacing around the shacks and access roads, the communities have suffered unnecessary losses and damages to their belongings and in some cases fatalities were registered.

During the past 12 months approximately 259 informal structures were lost due to fires. The replacement costs incurred by Council, excluding the calculation of the expenses for manpower, food and the usage of council property, calculated to approximately well over R1,1 million.

3. DISCUSSION

Fire Prevention is a statutory function of the Fire and Rescue Services in South Africa. The incidence of fire within the informal settlements is at an unacceptably high level in terms of frequency and loss or life.

The Western Cape Government has recognized that a strategic shift is required to proactively manage fire prevention interventions that will meet the immediate and longer-term needs of society, preserve a healthy environment and to protect lives and property. Destruction of the environment, homes, property and lives due to fire are preventable. Research and international experience clearly indicate that most of these incidents could be prevented through a more coordinated and systematic approach. The benefits of such an approach include not only reductions in fire losses, environmental impact, burn injury rates, longer life, and less disability, but also cost savings for all spheres of government and the private sector, reduced demands on the health care system, improved emergency response systems and healthier communities. The Western Cape Government's Disaster Management, Fire and Rescue Services initiated an innovative smoke alarm installation programme for High Fire Risk Communities. The Minister of Local Government, Environmental Affairs and Development Planning, Anton Bredell, launched the ground-breaking new initiative aimed at combating fires in informal settlements across the Western Cape.

The new project is a critical component of the Western Cape's Strategic Framework for Fire and Burn Prevention known as the "Fire is Everyone's Fight" campaign. The project has been successfully piloted in the Breede Valley district and was rolled out using a team of trained fire-fighters from the Breede Valley Fire. The product stood the test of time and an audible alarm sounded soon after exposure to smoke in the makeshift shack.

The smoke alarm installation programme will help municipal fire and rescue services protect high risk residents from fire by:

1. Ensuring that occupants have properly installed smoke alarms in all high risk occupancies
2. Reducing fire deaths, injuries and property losses
3. Educating residents about the importance of installing and maintaining smoke alarms
4. Assisting residents to develop and practice an effective home fire escape plan
5. Assisting the municipality in meeting its legislative requirements under the Municipal Structures, Disaster Management and Fire Brigade Services act.
6. Creating positive public relations between the community and the municipal fire department.

4. FINANCIAL IMPLICATIONS

An additional cost per unit of R192.21 (Vat incl.) will be added to the current cost of the fire kit which is R4200.00. Also see quotation (**APPENDIX 2**)

5. COMMENTS FROM OTHER DEPARTMENTS

5.1 Legal Services

Supports the item.

5.2 Strategic and Corporate Services

Supports the item.

5.3 Integrated Human Settlements and Property Management

Supports the item. The department request that the scope of the item should also include the provision of wendy houses that Council issues to backyard dwellers and any informal structure which is for the account of this institution. This serves to indicate that any and all initiatives aimed at alleviating the frequent occurrences and severity of fire emergencies in Informal Settlements is fully supported by this Directorate. The Informal Settlements Department has engaged with the Fire Chief on the matter and we're convinced that it would be one of the most proactive measures so far.

5.4 Financial Services

Supports the item. Finance supports the inclusion of a smoke alarm as standard component of the so called Fire Kit. Before any actual purchases of the items are made, a proper procurement process will have to be followed.

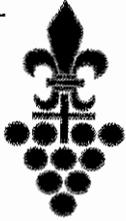
5.5 Engineering Services

Supports the item. Good initiative to help with the early detection of fire.

MAYORAL COMMITTEE MEETING: 2017-05-17: ITEM 5.8.1**RECOMMENDED**

- (a) that Council approves in principle the addition of the smoke alarm to the existing fire kit;
- (b) that a Supply Chain Management process be followed to procure the smoke alarms; and
- (c) that an investigation be launched to do a phased implementation to all informal settlements, including the financial implications.

<i>Meeting:</i>	<i>9TH Council meeting: 2017-05-31</i>	<i>Submitted by Directorate:</i>	<i>Community and Protection Services</i>
<i>Ref no:</i>	<i>17/8/3/6</i>	<i>Author</i>	<i>Manager: Fire and Disaster Management</i>
<i>Collab:</i>	<i>513473</i>	<i>Referred from:</i>	<i>Mayoral Committee: 2017-05-17</i>



STELLENBOSCH
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Specification for temporary structure kits (fire kits)

ITEM	Amount of items	YEAR 1		YEAR 2		YEAR 3	
		Unit price	Total price (VAT incl.)	Unit price	Total price (VAT incl.)	Unit price	Total price (VAT incl.)
Fire Kits							
3.0 X 76 X 50 Timber Poles	12						
3.0 X 76 X 76 Timber Poles	8						
3.0 m X 68.5 cm X 0.3mm (standard) galvanised steel Sheeting	15						
3 X 15 X 250 Micron Plastic	1						
3 Inch Nails	1 Kg						
4 Inch Nails	1 Kg						
Clout Nails	½ Kg						
TOTAL							
ITEM	Amount of items	YEAR 1		YEAR 2		YEAR 3	
		Unit price	Total price (VAT incl.)	Unit price	Total price (VAT incl.)	Unit price	Total price (VAT incl.)
Flood Kits							
3 X 15 X 250 Micron Plastic	1						
Clout Nails	½ Kg						
TOTAL							



A Division of Chubb Fire & Security S.A. (Pty) Limited
Directors : LA Jones, S Oberholtzer, N Rothfus, L R Whiting
Chubb House, Cnr Pheasant & Pigeon Streets, Horison Park, Roodepoort. Company Registration No. 1950/036293/07
Registered as a security service provider by the Private Security Industry Authority, Registration No. 3352

Should you require any further information on our products and services, please visit our website: www.chubbfire.co.uk.

Please note:

Chubb Fire Standard Terms and Conditions apply to this sale.
This quotation is valid for a period of 7 (seven) days.
ROE: R 14.30 = £ 1.00
Payment Terms: 30 days from date of invoice.
All imported stock is subject to exchange rate fluctuations
Delivery Period: 3-6 weeks from date of official order placement.

Banking details are as follows:

Chubb Fire & Security SA (Pty) Ltd
FNB Corporate Account
Account Number : **62029937474**
Branch Code : **255005 Corporate**

Please use your company name as the reference number

Yours sincerely

Colleen Da Costa
Sales Consultant

Colleen.dacosta@chubb.co.za
082 379 6362

Date of Acceptance

Client Signature

* Standard Terms & Conditions available on request

Definitions

"the Act" means the Consumer Protection Act No. 68 of 2008

"Appointed Person" means a director or appointed manager of the Seller;

"Buyer" means the person, firm or company who purchases the Goods from the Seller;

"Consumer" means a consumer as defined in the Act

"Contract" means the contract for the sale of the Goods by the Seller to the Buyer in accordance with these Conditions;

"Force Majeure Event" means circumstances beyond the reasonable control of the Seller including, without limitation, acts of God, governmental actions, war or national emergency, acts of terrorism, protests, riot, civil commotion, fire, explosion, flood, epidemic, lock-outs, strikes or other labour disputes (whether or not relating to either party's workforce), accidents, plant breakdown, restraints or delays affecting carriers or liability or delay in obtaining supplies of adequate or suitable materials, and seizure or other action by or compliance with an order of an apparently competent authority;

"Goods" means the goods specified in the Order which are to be supplied by the Seller to the Buyer or any other goods that may be supplied by the Seller to the Buyer from time to time;

"Intellectual Property Right" means patents, utility models, trade or service marks, trade names, copyrights (including rights in computer software and databases) and moral rights, design rights, inventions, discoveries, confidential information, rights in know-how and all or any other industrial or intellectual property rights whether or not registered or capable of registration including, where the context allows, applications for the grant of any of the foregoing and the right to apply for any of the foregoing, and all rights or forms of protection having an equivalent or similar effect to any of the foregoing which may subsist in any part of the world;

"Loss" means loss, liabilities, claims, costs, charges, damages and outgoings of every description (including legal costs and expenses), compensation payable under contracts, loss of normal operating profits, loss of opportunity, loss of goodwill, loss of revenue from related contracts and pure economic loss, tracing and collection charges, costs of investigation, interest and penalties;

"Order" means the Buyer's order for the Goods, as set out in the Buyer's purchase order and the Buyer's written acceptance of the Seller's quotation, or overleaf, as the case may be.

"Seller" means CHUBB SECURITY SA (PTY) LIMITED, registration number 1950/036293/07.

1.1 A reference to a particular law is a reference to it as is in force for the time being taking account of any amendment, extension, application or re-enactment and includes any subordinate legislation for the time being in force made under it.

1.2 Words in the singular include the plural and in the plural include the singular.

Formation and Parties

2.0 These Conditions will apply to all Contracts between the parties.

2.1 Subject to any variation under Condition 2.2, the Contract will be on these conditions to the exclusion of any other terms and conditions (including any terms or conditions endorsed on, delivered with or contained in the Buyer's purchase order, confirmation of order, specification or other document). The conditions of any Contract between the parties will be the same as the conditions contained in this document.

2.2 The Contract may only be varied in writing by mutual consent of the parties.

2.3 Unless otherwise specified, quotations made by the Seller will automatically lapse if no order is received by the Seller within 30 days after the date of quotation. None of the Seller's distributors, agents or employees are authorised to conclude contracts orally or over the telephone, and quotations, statements in price lists, sales literature and/or advertisements do not constitute offers.

2.4 **The Buyer warrants that it has given to the Seller prior to entering into the Contract is true and correct and the Seller reserves all its rights where it subsequently discovers such information to be incorrect.**

2.5 **The Buyer confirms that the Seller may use any of the Buyer's information, that may be relevant, for purposes of credit vetting and to ascertain limits of credit, where applicable.**

2.6 Any typographical, clerical or calculation error or omission appearing in any sales literature, quotation, price list, acceptance of offer, invoice or other document or information issued by the Seller will be subject to correction without any liability on the part of the Seller.

Delivery

3.0 If any delivery time is specified in the Order, this period will commence on the later of the date of the Seller's written acknowledgement of order and the date the Seller receives all the information necessary to allow it to proceed without interruption, or if the Buyer requests any variation to the Contract, the date of the Seller's written confirmation of its agreement to such variation.

3.1 Any delivery time specified will (in any event) be extended by any period or periods equal to

3.1.1 the duration of Force Majeure Event during which the manufacture or delivery of Goods is delayed;

3.1.2 the duration of time of the Buyer not being able to accept delivery for whatever reason;

3.2 The Seller will be entitled to withhold delivery of any Goods if, the Buyer is in arrears with any payment, due by the Buyer to the Seller

3.3 Unless otherwise stated in the Order, delivery will be deemed to have taken place when the Goods are collected by, or on behalf of, the Buyer from the Seller's address specified in the Order.

3.4 The Buyer will inspect the Goods immediately on delivery thereof and will within ten days from such delivery give written notice to the Seller of any defect or error in delivery. **If the Buyer fails to give such notice, the Goods will be conclusively presumed to be in accordance with the Contract and free from any defect which would be apparent on reasonable examination of the Goods. The Buyer will, be deemed to have accepted the Goods accordingly.**

3.5 The Seller reserves the right to make delivery of the Goods in instalments. Each delivery will then be invoiced and payable separately.

Title and Risk

4.0 Risk of damage to or loss of all or any Goods will pass to the Buyer upon delivery of the goods.

5.0 Ownership in the Goods sold on account will pass to the Buyer only when all amounts due by the Buyer to the Seller will have been paid.

Price

6.0 Unless otherwise stated in the Order, and agreed to in writing by the Seller and the Buyer, the Contract price for the Goods will be:

(i) exclusive of any VAT, taxes or other duties that may be levied for whatever reason by any authority and the Buyer agrees to pay for any such taxes or duties;

(ii) "Ex-Works" Incoterms;

(iii) subject to increase by the Seller, to reflect any variation in the delivery schedule for or design, quantities or specifications of the Goods made at the request of the Buyer or any delay caused by the failure of the Buyer to provide adequate information or instructions to the Seller; and

Payment

7.0 Unless otherwise specified, payment for the Goods will be in South African Rand and made in full within 30 days of the date of invoice. No payment will be deemed to have been received until such payment has been cleared by the Seller's bankers

8.0 If the Buyer fails to make any payment on the due date then, without prejudice to any of its rights, the Seller will be entitled to suspend any further deliveries to the Buyer, appropriate any payment made by the Buyer to such of the Goods (or the Goods supplied under any other contract between the Buyer and the Seller) as the Seller may think fit (notwithstanding any purported appropriation by the Buyer), and exercise a lien over any property of the Buyer then in its possession, until payment in full is made.

8.1 The Buyer will not be entitled to make any deduction or withhold any sum from the payment from time to time due from it whether by way of set-off, counter claim, discount, abatement or otherwise.

Proof of Inebtedness

8.2 A certificate signed by one of the Seller's duly authorised managers, whose authority need not be proved, as to the amount owing by the Buyer to the Seller, the amount of interest accrued and payable thereon will be proof (on the face of it). Such certificate will be deemed a liquid document for the purpose of provisional sentence, or summary or default judgment or any other legal proceedings against the Buyer in any competent court.

Enforcement

8.3 If the Buyer defaults in its obligations under this Contract it will be charged enforcement expenses (subject to the amounts allowed in terms of the prevailing Law) which are incurred by the Seller in the enforcement of this Contract.

8.4 **The Buyer will be liable for collection costs incurred by the Seller in exercising the Seller's rights arising out of the breach of the Buyer's obligations under this Contract. This includes tracing fees, attorneys fees on the attorney and own client scale and registered debt collectors costs will be recovered.**

Cancellation

8.5 Subject to any right of cancellation the Buyer may have under the Act, the Contract may be cancelled by the Buyer only with the Seller's written consent which, if given, will be on the express condition that the Buyer will pay to the Seller a cancellation charge commensurate with the Seller's costs incurred up to the date of cancellation plus the Seller's loss of profit or, at the Seller's option, a sum equal to ten per cent of the Contract price.

Warranty and Quality of Goods under the Act

9.0 Subject to 9.6 and 9.7, the Seller warrants (subject to the other provisions of these Conditions) for a period of 12 months from invoice date that, in so far as the Goods are of its own manufacture, they will be free from defects in workmanship or materials at the time of delivery. If any Goods do not conform to that warranty the Seller will at its option:

(a) replace the Goods found not to conform to the warranty and such replacements will be supplied subject to these Conditions; or

(b) take such steps as the Seller deems necessary to bring the Goods into a state where they are free from such defects; or

(c) take back the Goods found not to conform to the warranty and refund the appropriate part of the purchase price.

PROVIDED THAT:

(i) the liability of the Seller will not arise unless the Buyer demonstrates to the Seller's reasonable satisfaction that the Goods have, at all times, been properly stored and handled and subsequently have not been used or maintained in any unusual or abnormal way or in a manner contrary to any instructions or recommendations for use or maintenance provided by the Seller;

(ii) the Seller will be under no liability in respect of any defect in the Goods arising from any drawing, design or specification supplied by or at the request of the Buyer (not being a drawing, design or specification of the Seller);

(iii) the Seller will be under no liability in respect of any defect or failure of the Goods to operate in accordance with specifications, illustrations, descriptions or other particulars due to the combination or use of the Goods with any incompatible equipment or product;

(iv) if the Buyer is not a Consumer then the liability of the Seller will in no event exceed the purchase price of the Goods;

(v) performance of any one of the above options (a) to (c) (as limited by (iv) above) will constitute an entire discharge of the Seller's liability under this warranty.

9.1 The warranty is conditional upon:

(1) the Buyer giving written notice to the Seller of the alleged defect in the Goods, such notice to be received by the Seller within 7 days of the time when the Buyer discovers or ought to have discovered the defect and in any event within one year of delivery of the Goods;

(2) the Buyer affording the Seller a reasonable opportunity to inspect the Goods and, if so requested by the Seller, returning the allegedly defective Goods to the Seller's works, carriage pre-paid, for inspection to take place there;

(3) the Buyer making no further use of the Goods that are alleged to be defective after the time at which the Buyer discovers or ought to have discovered that they are defective; and

(4) the Buyer not altering or attempting to repair the Goods without the written consent of the Seller.

9.2 In so far as the Goods are not of its own manufacture, the Seller will endeavour to transfer to the Buyer the benefit of any guarantees or warranties given to it in respect of such Goods.

9.3 It is hereby expressly declared that any statements as to quality made by the Seller do not form part of the description of the Goods.

9.4 For the avoidance of doubt, the Seller does not represent that the Goods may not be compromised or circumvented, furthermore due to the nature of the Goods, that the Goods will prevent any personal injury or property loss by fire, explosion or otherwise; or that the Goods will in all cases provide adequate warning or protection. The Buyer understands that properly installed and maintained fire and/or explosion safety equipment may only reduce the risk of fire, explosion or other events occurring, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result.

9.5 No other representations or warranties relating to the Goods or advice or recommendation on the use of the Goods are binding on the Seller unless confirmed by an Appointed Person, the Seller in response to a written request of the Buyer specifically referring to this Condition

9.6 If the Buyer is a Consumer and finds the Goods to be defective, unsafe or of a bad quality, then conditions 9.0 (a) to (c), 9.1 and 9.5 will not apply during the first 6 (six) months following delivery of the Goods and instead the Buyer may within that 6 (six) months period, return the Goods to the Seller, and the Seller will comply with the directions of the Buyer in line with section 56 of the Act, and either:

9.6.1 repair or replace the failed, unsafe or defective Goods; or

9.6.2 refund to the Seller the price paid for the Goods.

9.7 **The rights referred to in 9.6 will not apply in the following situations:**

9.7.1 where the Goods have been altered contrary to the instructions, tampered with, misused or abused or used for a purpose for which they were not intended;

9.7.2 the instructions have not been followed (as contained in the instruction manual received with the Goods); or

9.7.3 where the Goods are in a particular condition on delivery and the Seller has expressly informed the Buyer of that condition and the Buyer has expressly agreed to accept the Goods in that condition or acted in such a manner that it is consistent with accepting the Goods in that condition.

9.8 If the Seller has a complaint and wishes to return the Goods pursuant to 9.6, the Seller must contact the Buyer at the above address.

9.9 In the event of the Buyer exercising its rights to return the Goods under condition 9.6, the Seller will still be entitled to charge a reasonable fee for use of those Goods in the meanwhile in terms of its rights to do so as set out in the Act.

Limits of Liability

10.0 The Buyer will be responsible for the suitability of the Goods for the purposes for which they are purchased, and must comply with any directions, instructions or warnings as to the use storage or handling of the Goods given by the Seller. The Buyer must also ensure that the Goods comply with all local approvals and standards relating to the use to which they are to be put.

10.1 **Save to the extent of any obligations of the Seller in terms of the Act or any other Law in respect of the supply of the Goods which it cannot in Law exclude or limit liability for, the Seller shall not be under any liability (other than for gross negligence or wilful default by the Seller) for any Loss suffered by the Buyer whatsoever, arising from the sale of the Goods in terms of this Agreement, whether direct or indirect, consequential or contingent and whether foreseeable or not**

10.2 Subject to Conditions 10.0 and if the Buyer is not a Consumer:

(i) **The Seller's total aggregate liability in contract, delict (including negligence and breach of statutory duty whatsoever arising), misrepresentation (whether innocent or negligent), restitution or otherwise, arising in connection with the performance or contemplated performance of this agreement shall in all circumstances be limited to the purchase price of the Goods; and**

(ii) **the Seller will not be liable to the Buyer in connection with the Contract for any loss of income, loss of actual or anticipated profits, loss of business, loss of contracts, loss of goodwill or reputation, loss of anticipated savings, loss of damage to or corruption of data, or for any indirect or consequential loss or damage of any kind, in each case however arising, whether such loss or damage was foreseeable or in contemplation of the parties and whether arising in or for breach of contract, delict (including negligence), breach of statutory duty or otherwise.**

10.3 **Nothing in these Conditions or in the Order will affect or limit the validity or application of any customer warranty with the benefit of which any of the Goods are sold and if the Buyer, being an end-user, is able to benefit from such a warranty the terms thereof will prevail over the terms of these Conditions and the Order.**

Breach

11.0 If the Buyer commits any act of insolvency (or appears to the Seller to be about to do so) contemplated in the Insolvency Act, 1936 or is sequestrated (or appears to the Seller to be about to be and whether provisionally or finally) or is placed under administration in terms of section 74 of the Magistrates' Courts Act, 1944 or become subject to debt review, suspends payment of debts or makes any arrangement with creditors, fails to pay in accordance with the terms of the Contract, or is in any way in breach of any other term of the Contract; then and without prejudice to any other right or remedy available to the Seller, the Seller will be entitled to:

11.1.1 cancel the Contract; or

11.1.2 suspend any further deliveries under the Contract without liability to the Buyer, or

Intellectual Property

12.0 The Buyer acknowledges that any and all Intellectual Property Rights used or embodied in or in connection with the Goods or any parts thereof in which the Seller has an interest is and will remain vested at all times in the Seller. The Buyer will not at any time in any way question or dispute the ownership of any such rights.

12.1 The Buyer acknowledges that all Intellectual Property Rights created in the performance of, or as a result of the Contract (whether new or by way of development of an existing right) will belong to the Seller unless otherwise agreed in writing by an Appointed Person.

12.2 The Buyer will indemnify the Seller fully against all liabilities, costs and expenses which the Seller may incur as a result of work done in accordance with the Buyer's specifications (including specifications of third parties used at the request of the Buyer) which infringe any Intellectual Property Right of any third party.

Compliance with Laws

13.0 The Buyer will be responsible for compliance with all South African local laws and regulations applicable to the installation, use, import, export and re-export of the Goods. The Buyer will also comply with all applicable export control laws and regulations of the country having proper jurisdiction, and will obtain all necessary export and re-export licenses in connection with any subsequent export, re-export, transfer and use of all Goods delivered under the Contract.

13.1 **Unless otherwise stated in the Order and to the fullest extent permissible by law, the financing of and collection, storage, processing, recycling and/or disposal of the Goods is the responsibility of the Buyer and the Buyer accepts such responsibility in accordance with all laws and regulations and will indemnify the Seller against all related costs, liabilities and expenses.**

Indemnities

14.0 The Buyer indemnifies the Seller in respect of all damage injury or loss occurring to any person or property and against all actions, suits, claims, demands, charges or expenses in connection therewith arising from the condition or use of the Goods in the event that the damage injury or loss will have been occasioned by (i) the carelessness of the Buyer and its servants, contractors or agents or (ii) by any breach by the Buyer of its obligations to the Seller hereunder or (iii) the combination or use of the Goods with any incompatible equipment or products that may be connected to or used with the Goods.

Notices

15.0 Any notice required or authorised to be given hereunder will be in writing and will be served by registered mail sent to the address specified in the Order or any other address notified for the purpose and will be deemed to be served seven days after proven despatch, provided that any other mode of service will be valid if the said notice or other communication is actually received by the addressee.

Force Majeure

16.0 The Seller reserves the right to defer the date of delivery or to cancel the Contract or reduce the volume of the Goods ordered by the Buyer (without liability to the Buyer) if the Seller is prevented from or delayed in the carrying on of its business due to a Force Majeure Event, provided that, if the event in question continues for a continuous period in excess of 120 days, the Buyer will be entitled to give notice in writing to the Seller to terminate the Contract.

Waiver

17.0 Failure or delay by the Seller in enforcing or partially enforcing any provision of the Contract will not be construed as a waiver of any of its rights under the Contract.

17.1 Any waiver by the Seller of any breach of, or any default under, any provision of the Contract by the Buyer will not be deemed a waiver of any subsequent breach or default and will in no way affect the other terms of the Contract.

Cession

18.0 The Seller may (or any person to whom its rights are ceded and/or its obligations are delegated) without notice to the Buyer, cede any or all of its rights and/or delegate its obligations under this Contract either absolutely or as security to any other person or persons (notwithstanding that a cession and/or delegation to more than one person may result in a splitting of claims against the Buyer which splitting of claims the Buyer hereby agrees to) and on any such cession and/or delegation taking place, the Buyer will, if so required by any cessionary, make all payments direct to such cessionary assign the Contract or any part of it to any person, firm or company.

18.1 The Buyer may not cede or encumber any of its rights nor delegate any of its obligations under this Contract.

Construction and Jurisdiction

19 Each right or remedy of the Seller under the Contract is without prejudice to any other right or remedy of the Seller whether under the Contract or not.

19.1 If any provision of the Contract is found by any court, tribunal or administrative body of competent jurisdiction to be wholly or partly illegal, invalid, void, voidable, unenforceable or unreasonable it will to the extent of such illegality, invalidity, voidness, voidability, unenforceability or unreasonableness be deemed severable and the remaining provisions of the Contract and the remainder of such provision will continue in full force and effect.

19.2 This Contract will be governed by the laws of the Republic of South Africa. The Seller will be entitled, but not obliged to institute any proceedings arising out of or in connection herewith in the appropriate Magistrates Court or High Court with jurisdiction

19.3 This edition of the Conditions of Sale dated November 2012 supersedes all previous editions.

Amendments to these Terms and Condition

20 The Seller has in the drafting of this Contract used its best endeavours in order to comply with applicable Laws, including without limitation, the Act. To the extent that this Contract may require further amendment in order to comply with the Act, the Buyer agrees to such amendment which will be set out in a Schedule to these Terms and Conditions to the extent applicable;

20.1 The amendments will be effected from the date of notice of amendment or the monthly statement setting out the amendments. Any amendments to the Terms and Conditions will be set out any invoice or by way of notice of amendment.

7.8.2	FUNERAL PROCESSION ASSISTANCE
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1. PURPOSE OF REPORT

To obtain approval to change the “free funerals escort service” to a “paid-for” service so that the Traffic Department can appoint part time officials to maintain the service.

2. BACKGROUND

It is common practice to assist families of deceased members of the community by escorting funeral processions free of charge from church to the relevant graveyards, especially when a large number of people are expected at the service.

This practice became a convention in our municipal area although lately it was limited to two escorting duties per day.

Funerals are mostly done during weekends to accommodate working family and friends of the deceased and due to increased traffic congestion the onus to provide an escorting service is impacting negatively on the Traffic Department day to day operations.

The Greater Stellenbosch is blessed in with a large number of VIP's; be-it Academic, Business or Community Leaders and it will be extremely difficult to refuse some of these people the benefit of a procession.

In the majority of our communities' processions is viewed as the last respect and honour for the deceased by the living.

3. DISCUSSION**3.1 Prioritizing our responsibilities:** It is no secret that the Traffic Department is under serious constraints such as staffing and resources. The demand for traffic regulation due to our popularity as a tourist destination and the economic activities in the WCO24 contributes greatly to pressures on the traffic flow.

The increase in responsibility of the Traffic Department is not complimented with sufficient resources and manpower for example the Saturday's work force are split in two shifts – five officers during the day and two at night time; to cover an area of 602 kilometres!

If there is a funeral(s) on a Saturday all manpower is occupied; one vehicle leads the convoy while the others rush from intersection to intersection to allow the procession through intersections which sometimes goes through a cycle two or three times.

Due to this, traffic is stationery for long periods of time and whilst most people have respect for the dead, some motorists do get frustrated and displays behaviour that causes a danger to other motorists.

When the procession moves on a single carriage way it is not possible to drive in the left lane and motorists then tend to overtake in the right lane

causing a danger of head-on collisions. It is also extremely dangerous for pedestrians on the side of the road.

3.2 Legislative Mandate of Traffic Services: In terms of the legislative mandate given to the Traffic Services we are obligated to enforce the following:

- a. Road Traffic Safety;
- b. Pedestrian Safety;
- c. Cyclist safety;
- d. Free flow of traffic;
- e. Public Education; etc.

During the escort of funerals various Road Traffic directives are being disregarded for instance speed limits, road traffic signs and signals although mandated to do so in terms of the National Road Traffic Act. These dangerous acts leads to the endangerment of road users inclusive of pedestrians, cyclists and motorists that in turn can lead to serious accidents and or serious injuries which will place the Municipality at risk of litigation and or civil action.

3.3 Perceptions of bias: With a population of 155,733 (Stats SA) and a crude mortality rate of 9.6 per 1000 people per annum, it means that approximately 1,500 pass away annually. This works out to an average of 29 deaths per week.

Whilst a portion of bodies is transported to the Eastern Cape and a considerable number of people is cremated, the official stats for Stellenbosch still shows anything between 15 and 20 funerals per week with an increase to 30 at times during the winter.

There are at least a dozen funeral undertakers that operate from Stellenbosch, four known operators from Franschhoek and an unknown number from Paarl that also does funerals in our area.

Competition is fierce and because funeral escorts are capped to two per day it often happens that the undertaker who booked the service first get the escort whilst an equally important funeral is refused because of the capacity problem.

3.4 Terms and Conditions

The sentiment that escorted funeral processions are one of Stellenbosch's municipal services that puts our municipality in a different class carries a lot of truth. Also that it elevates us in the esteem of people and that it is retention of a tradition befitting the ambiance of the town.

3.5 The following rules are applicable with regards to the Traffic Departments assistance with funerals.

- 3.5.1 The Traffic Department must be informed by the family/ undertaker 4 days prior to the funeral
 - 3.5.1.1 A Valid death certificate must be provided.
 - 3.5.1.2 Proof of payment of the grave must accompany the request
 - 3.5.1.3 Under no circumstances may vehicles in the processions overtake

3.5.1.4 The general rules of the road must be obeyed.

3.5.2 Depending on circumstances the Traffic Department will provide a route map that must be adhere to by the whole procession.

3.5.2.1 Routes may change according to expect the traffic flows

3.5.2.2 No funeral assistance from home.

3.5.3 The Traffic Department will adhere to the following.

3.5.3.1 No sirens will be used.

3.5.3.2 Blue lights are not allowed

3.5.3.3 Staff members with radios will be deployed at busy intersections

3.5.3.4 All officers will be under the command of the A/Supt on duty.

Notwithstanding the above the traditions of all faiths will be respected.

3.6 Billing

Taking all of this into consideration fact remains that our budget still does not allow for the appointment of more staffs and the only way to continue with this service will be to enlist people especially for this purpose. It will have the following benefits;

3.6.1 People chosen for duty will have to pass the four week Basic Traffic Warden course presented by the Provincial Traffic authorities which will have the dual benefit of:

3.6.2 Creating a pool of new recruits for the Traffic Department

3.6.3 Empower community members with a life skill

3.6.4 Assist with the unemployment situation in the Greater Stellenbosch Municipal Area.

3.7 These people may be recruited from the EPWP data base but must have matric as a minimum qualification.

3.8 They will not be appointed as full time employees but as temporary staff and will be remunerated per funeral at a rate of R48 per hour, per official at an intersection.

3.9 Billing will thus depend on the number of temporary staff and the time of the funeral. No further escorting will be render after the funeral

3.10 Details of the amount to pay for the service, the training, remuneration, the availability of the recruits and other logistics can be worked out once a decision in principle is accepted.

4. CONCLUSION

Increased growth in the number of road users is a serious problem and there is no way that other traffic law enforcement duties can be compromised and funeral escort services consume most of our man-hours during Saturdays and cause regular problems on busy weekends.

Whilst Council and Staff of the municipality have the utmost respect and empathy for the passage rites of members of our communities, we have a responsibility to weigh the interest of the general public against that of a single family.

The general feeling is that the service should continue but the reality is that the municipality cannot afford to provide it as a freebie. A compromise is therefore proposed – a “pay-for” service as part of the total funeral package.

As it is Municipal policy to provide a discount for deserving cases the Municipal budget will still subsidise R24 of the prescribed R48 of the appointed employee per funeral.

5. COMMENTS FROM OTHER RELEVANT DEPARTMENTS

5.1 Director Corporate and Strategic Services: Legal Services

The Municipality must ensure that there is compliance with the Ministerial determination on EPWP workers as published in the Government Gazette No 35310. The project must be registered at Provincial government and the functions to be performed must be once of and relate to the specific project. The function should not be a continuous function.

The municipality must be mindful of the provisions of Section 198 of the LRA as amended. Item is supported if there is adherence to requirements stipulated.

5.2 Financial Services

It is common practice in many municipalities that these services are paid for. It might be considered though, that funeral escort services to registered indigents (being the deceased or immediate member of his/her family) still be rendered free of charge.

5.3 Engineering Services

Item is supported from road traffic engineering point of view.

MAYORAL COMMITTEE MEETING: 2017-05-17: ITEM 5.8.3

RECOMMENDED

- (a) that the principle of a “pay-for” service for funerals be re-introduced; and
- (b) that the Director: Community and Protection Services approves all applications for funeral processions.

Meeting:	9 th Council meeting: 2017-05-31	Submitted by Directorate:	Community and Protection Services
Ref no:	5/17/3	Author	Head: Traffic Law Enforcement
Collab:	513480	Referred from:	Mayoral Committee: 2017-05-17

7.8.3	DISASTER SECTOR PLAN
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1. PURPOSE OF REPORT

To provide a Sector Plan (**APPENDIX 1**) for disaster management, as prescribed by the Municipal Systems Act and as included in the IDP.

2. BACKGROUND

All Local Authorities are compelled by the Disaster Management Act to play a much more proactive and leading role with regard to the integration of Disaster Management in the Integrated Development Planning processes. For this purpose, knowledgeable capacity, competency and commitment at Local Authority level – as a support function for other lead agents (i.e. relevant Government Departments) – is considered crucially important to ensure environmental, social & economic sustainability.

3. DISCUSSION

It is significant that the Local Government: Municipal Systems Act, 2000 in section 26 identifies disaster management plan as a “core component” of the IDP. Disaster management legislation in South Africa therefore compels all three spheres of government to focus on prevention and mitigation measures. It will challenge in particular municipalities to plan and commit resources. The plan provides an overview of the risk profile of Stellenbosch; the various risk mitigation initiatives undertaken, the challenges faced by the section and most importantly, the resources needed to fulfill its mandate.

4. FINANCIAL IMPLICATIONS

As reflected under the projects listed 16.10.21.2 of the attached plan.

5. COMMENTS FROM OTHER DEPARTMENTS**Legal Services**

Item is supported.

Financial Services

Item is supported.

MAYORAL COMMITTEE MEETING: 2017-05-17: ITEM 5.8.1**RECOMMENDED**

that Council notes the Sector Plan for Disaster Management.

<i>Meeting:</i>	<i>9th Council meeting: 2017-05-31</i>	<i>Submitted by Directorate:</i>	<i>Community and Protection Services</i>
<i>Ref no:</i>	<i>17/8/4</i>	<i>Author</i>	<i>Manager: Fire and Disaster Management</i>
<i>Collab:</i>	<i>513501</i>	<i>Referred from:</i>	<i>Mayoral Committee: 2017-05-17</i>

CHAPTER SIX:

6.10 DISASTER MANAGEMENT PLAN (Shezayd Seigels / Wayne Smith)

Introduction

The Disaster Management Act 57 of 2002, the Municipal Systems Act (Act 108 of 1996), The Constitution of the Republic of South Africa (Act 108 of 1996), The Municipal Structures Act (117 of 1998), The Fire Brigade Services Act of 1999, The National Health Act 2003 forms the legislative basis upon which disaster management and related matters are dealt with. This mandate places a significant responsibility of the Department's role within Local Government.

Disaster Management has become the major challenge the entire world is faced with currently owing to the ever growing population, climate change, and the ever changing environment in general.

South Africa, the Western Cape, Stellenbosch faces increasing levels of disaster risks. It is exposed to a wide range of weather hazards, including severe storms and drought that can trigger widespread hardship and devastation, which is ever increasing. These Occurrences/disasters are also the ultimate test of emergency response capabilities.

Table 1: Abbreviated Risk Profile

FEATURE	RELEVANT INFORMATION and CONSIDERATIONS												
Climate & Weather	Summers are dry and warm to hot, with some February and March days rising to 40°C and beyond. Winters are cool, rainy and sometimes quite windy, with daytime temperatures averaging 16 C. Snow is usually seen a couple of times in winter on the surrounding mountains. Spring and autumn are colder seasons, when daytime temperatures hover in the twenties.												
Community Capacity	<ul style="list-style-type: none"> - Ranking number 70 by population size in the country - Population 155,733 <table border="1" data-bbox="509 1503 1155 1742"> <thead> <tr> <th data-bbox="515 1503 858 1541">Group</th> <th data-bbox="858 1503 1149 1541">Percentage</th> </tr> </thead> <tbody> <tr> <td data-bbox="515 1541 858 1579">Black African</td> <td data-bbox="858 1541 1149 1579">28,1%</td> </tr> <tr> <td data-bbox="515 1579 858 1617">Coloured</td> <td data-bbox="858 1579 1149 1617">52,2%</td> </tr> <tr> <td data-bbox="515 1617 858 1655">Indian/Asian</td> <td data-bbox="858 1617 1149 1655">0,4%</td> </tr> <tr> <td data-bbox="515 1655 858 1693">White</td> <td data-bbox="858 1655 1149 1693">18,5%</td> </tr> <tr> <td data-bbox="515 1693 858 1731">Other</td> <td data-bbox="858 1693 1149 1731">0,8%</td> </tr> </tbody> </table> <ul style="list-style-type: none"> - Unemployment rate 15,2% - Rapidly becoming urbanized - Differing levels of education <p data-bbox="509 1888 1399 2022">As such it is almost certainly understated, as the Stellenbosch region also includes a number of informal settlements. The population of Stellenbosch is primarily Afrikaans speaking (70%), with English (10%) and Xhosa (20%) speaking minorities.</p>	Group	Percentage	Black African	28,1%	Coloured	52,2%	Indian/Asian	0,4%	White	18,5%	Other	0,8%
Group	Percentage												
Black African	28,1%												
Coloured	52,2%												
Indian/Asian	0,4%												
White	18,5%												
Other	0,8%												

<p>Public buildings, spaces and events</p>	<ul style="list-style-type: none"> - National monuments, such as Dorp Street - Heritage buildings/Museums: <ul style="list-style-type: none"> The Village museum The Rupert Museum Stellenbosch University Museum - Reserves: Stellenbosch University Botanical Garden <ul style="list-style-type: none"> Jonkershoek Nature Reserve Assegaaibosch Nature Reserve <p>Stellenbosch offers an eclectic mix of entertainment/activities, i.e.</p> <ul style="list-style-type: none"> - Butterfly World Tropical Garden at Klapmuts - Le Bonheur Crocodile Farm - Giraffe House Wildlife Awareness Centre - The Villiera Wildlife Sanctuary <p>Annual events on the calendar include:</p> <ul style="list-style-type: none"> - US Vensters - Food and Wine festival - Bastille Festival - Champaign Festival - Die Woordfees - Impi fitness challenge
<p>Critical Infrastructure</p>	<ul style="list-style-type: none"> - Water - Electricity - Road network - Rail network - Hazardous Site - High Volume Alcohol storage Petroleum depots

6.10.1 Legislative mandate

The Constitution of the Republic of South Africa, Act 108 of 1996 places a legal obligation on the Government of South Africa to ensure the health (personal and environment) and safety of its citizens. In terms of section 41(1) (b) of the Constitution, all spheres of Government are required to “secure the well-being of the people of the Republic”. Section 152(1) (d) also requires that local government “ensure a safe and healthy environment”.

Section 26(g) of the Municipal Systems Act, act no 32 of 2000 as well as sections 52 and 53 of the Disaster Management Act, act 75 of 2002 compels each municipal entity to develop a disaster risk management plan as part of and an integrated part of their Integrated Development Plans.

It is therefore imperative to realise that *Disaster Management is the primary responsibility of Stellenbosch Municipality* as this collaborative process involves all spheres on the political and administrative levels, which include all sectors of society, NGOs and CBO’s, hence the slogan “*Disaster Management is everybody’s business*”;

6.10.2 Institutional capacity

The Department of Disaster Management currently consists of two persons. It is seriously understaffed if viewed from the ever challenging environment, daily increase of risks and the vast area of concern. It barely deals with the pro-active component, which is required from it.

Despite the serious shortcomings this unit co-ordinates relief efforts and brings normality back to communities throughout the jurisdiction.

The Municipality must review and make provision for the urgent upgrading of the Disaster Management Department and bring it in line with the needs of our fledgling and progressive democracy, wherein our communities within the 22 wards of WCO24 deserve the constitutional right to a safe and healthy environment.

6.10.3 Participation of volunteers through the EPW Programme

Volunteers play a critical partners of and participants in societies and enable the Municipality to conform too and uphold a reasonable standard of service and to attain departmental goals. It is imperative to ensure capacity of the department by appointing volunteers to develop skills and help move an organization's mission forward.

The Department enrolled individuals through the Expanded Public Works Program (EPWP) to build the required capacity. Unfortunately, time, energy and skills transfer embedded into these individuals is of great loss due to contractual obligations as instability prevails in the department.

In order to provide a more effective and efficient service, the Disaster Management Plan must be professionally reviewed by an external service provider as the DM department does not have the capacity to perform this task.

6.10.4 Nodal points

The Department is assigned the task of directing and facilitating the Disaster Management process. Each Municipal Department within the Municipality must assign a person/s or section within the department to be the nodal point for disaster risk management activities. Nodal points will be empowered and supported by their departments to establish, manage, and participate in departmental planning.

6.10.5 Advisory Forum

6.10.5.1 District Advisory Forum

Cape Winelands District Municipality has a well-oiled Municipal Disaster Management Advisory Forum in place as prescribed by section 51 of the DM Act where the B-municipalities engage on a quarterly basis. In addition the B's participating in the Bi-annual Advisory forum where various external entities partake.

6.10.5.2 Municipal Disaster Management Advisory Forum (MDMAF)

In terms of Part 3: Powers and duties of municipalities and municipal entities (Section 51 (1)), there is no mandatory requisite for a Local Municipality to establish a Municipal DM Advisory Forum.

Consequently, Stellenbosch Municipality has elected to establish the necessary institutional arrangements to give effect to the principles of co-operative governance, integrated and co-ordinated Disaster Management participation at local level.



Table 2: Inter-departmental activities clearly indicated on the diagram

Although experiences has proven that the interest of internal role-players is lacking, the Municipality aims to strengthen ties with all stakeholders, including the private sector, NGOs, technical experts, communities, traditional leaders and volunteers for their active participation. During the first quarter of 2017 interested parties will be invited to nominate members of the community to serve on the MDMAF.

6.10.5.3 A Municipal Disaster Management Advisory Forum (DMAF)

INTERNAL (STELLENBOSCH MUNICIPALITY)	EXTERNAL ENTITIES
<ul style="list-style-type: none"> - Executive Mayor - Municipal Manager - Internal Auditor - Dir.: Financial Services - Dir.: Engineering Services - Dir.: Strategic & Corporate Service - Dir.: Planning & Economic Development - Dir.: Community and Protection Services - Dir.: Human Settlement & Property Management - Chief: Law Enforcement - Disaster Management - Chief: Fire & Disaster Management - Chief: Traffic Services - All relevant Head of departments 	<ul style="list-style-type: none"> - Eskom - EMS - Stellenbosch University - Provincial Disaster Management Centre - Dept.: Agriculture - Dept.: Education - Dept.: Cape Nature - Dept.: Health Services - Dept.: Social Development - Dept.: Correctional Services - Dept.: Water Affairs - Dept.: Environmental Affairs & Development Planning - Dept.: Social Development - Cape Winelands District Municipality: DM - South African Police Service - Cape Nature - Community Based Organizations - Non-Governmental Organizations - Any other person or body so co-opted as a Secondary Stakeholder

Table 3: Structure of a Municipal Disaster Management Advisory Forum (DMAF)

Bi-annual meetings were held during April and November 2016 where various entities were able to demonstrate support, highlight achievements, their challenges and align opportunities.

Key note speakers presented other important issues such as:

- The recent drought at hand and the importance of understanding climate change, the impact it has on communities, especially the poor and vulnerable.
- The Safety initiative by investing in smoke alarms in especially hot spots throughout the municipal area.
- The Pro-active programme launched by the Provincial Disaster Management Centre i.e. Flood/Fire awareness at school, crèches, etc.

6.10.5.4 Other Sub-committees

Due to the dynamic nature of disaster management, the Department is continuously engaging with established NGO Forums responsible for the development of their own Term of Reference for the fulfilment of a specific task assigned to them.

6.10.6 Partners for Projects and Allies

The Department engages at numerous platforms through partnering with other NGOs and the public sector to gain access to new resources, information, expertise and skills to facilitate service delivery.

Table 4: Key Partnerships

NAME OF PARTNER/ PARTNERSHIP	PURPOSE
Community Organization i.e. faith based	Objectives: <ul style="list-style-type: none"> - Share knowledge among stakeholders around formal and informal settlement upgrading strategies. - Develop close collaborative bonds by designing and carrying out projects together. - Availing assistance/support (manpower, facilities, and resources) during a crisis.
Safety Forum	An advisory forum to the Executive Mayor on all safety issues as well as remedial measures implemented to address and alleviate threats.
DMISA (Disaster Management Institute of Southern Africa)	The Annual Conference provides opportunity for a diverse range of stakeholders in disaster management from across Africa to gather and share skills, knowledge and experience.
Stellenbosch Feeding Action	Providing relief aid to the affected during an incident / disaster within the jurisdiction of Greater Stellenbosch.
SA Red Cross	A partnership focusing on relief aid to especially informal areas, or assistance during an incident / disaster.

NAME OF PARTNER/ PARTNERSHIP	PURPOSE
University of Stellenbosch <ul style="list-style-type: none"> - Student Council - Research Alliance for Disaster and Risk Reduction (Dep. of Geography & Environmental Studies) - Maties Sport Community Interaction 	Provide: <ul style="list-style-type: none"> - Relief aid (clothing, food) - Placement of students to assist during incidents/disasters - Research - Awareness programs - Sport activities
Working on Fire (WOF)	Provide awareness and training programs
Spektrum Children's Theatre	Provide awareness programs
Volunteer Working on Fire	Provide awareness and training programs
Provincial Department	Social Development: Relief Aid SASSA: Grant and Aid

6.10.7 Municipal Disaster Management Framework

Both the Municipal Frameworks and Policy was compiled and submitted during April/May 2016 and the municipality is awaiting further comment.

Stellenbosch Disaster Management Policy must be read in conjunction with the DM Act, National and Provincial DM Frameworks, 2005 and 2014 respectively as well as the Cape Winelands District Municipal Framework. The policy allows for the establishment of DM organizational structures and capability at municipal level.

Inter Governmental Committee  IGRFA	Advisory Forum  Section 37 Section 51	Framework  Section 28 Section 42	Disaster Management Centre  Section 29 Section 43	Appoint Head of Centre  Section 31 Section 45	Disaster Management Plans  Section 38 Section 52
Disaster Forum (Politicians)	Disaster Forum (Officials)	Policy Document	Powers & Functions (Facility)	Administration (Personnel)	Powers & Functions, Declaration of a Disaster/s (IDP's)

Table 5: Six Focal Areas of Disaster Management

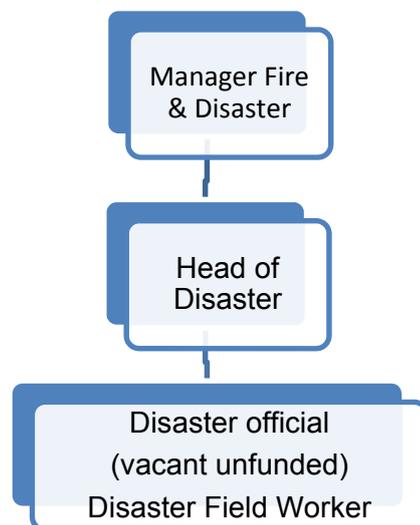
6.10.8 Disaster Management Centre

Stellenbosch Municipality is not legally obliged to establish a Disaster Management Centre as it is applicable to districts only. Yet a fully established and functioning Municipal Disaster Management Centre (DMC) is a key element of this plan.

The Municipality is in the planning phase of upgrading the existing infrastructure to an equivalent, e.g. Joint Operating Centre (JOC))

□ Who is the head of the centre and what is the staff profile (district municipality); or, what is the disaster management staff profile (local municipality)?

Disaster management profile of Stellenbosch municipality:



□ What is needed to ensure efficient Centre/disaster management operational requirements (minimum standards)? (hardware / software / equipment / staff / other resources)

Reflected under projects in section 16.10.21.2 of the plan.

6.10.9 Risk assessment

Unfortunately, no one can turn a blind eye from the good living within this environment without seeing the vulnerability and the need for resilience.

The Research Alliance for Disaster and Risk Reduction (Dep. of Geography & Environmental Studies) based at the University of Stellenbosch made huge inroads with engaging through comprehensive risk assessments in vulnerable areas as identified by the DM Department.

6.10.9.1 Back yard dwellings Survey (A hazard and vulnerability assessment

Most of the risks identified among the backyards of the formal housing survey area were also commonly found in informal settlements. High levels of unemployment and constrained household income among backyard dweller's and landlord households alike resulted in a lack of resources. The limited capacity to reduce risks by taking preventative or mitigative action was of major concern to the emergency fraternity, which could result in injury or even fatality should a fire occur.

By analyzing vulnerabilities and current response capacity, Stellenbosch Municipality could more effectively plan and respond to emergencies. As a result build safer, more resilient communities by implementing municipal policy development and risk reduction interventions and strategies, providing some final reflections.

6.10.9.2 Ward 5: Idas Valley - A hazard and vulnerability assessment

In terms of legal prescriptive, i.e. the DM Act as well Regulations on the Safety of Dams of the National Water Act, 36 of 1998; a contingency plan for any emergencies arising at the dam is required. This plan is also necessary for inclusion into the Municipal DM Plan.

It is imperative that all role-players get together to firstly share the contingency plans of each discipline in order to consolidate the different contingencies into a DM Plan, which would largely aid co-ordination and co-operation with the operations of the DMOC (Disaster Management Operations Centre) and also Control Point in event of any potential disaster management incident of disaster potential occurring at the Idas Valley Dam.

The purpose of a desk top/simulation exercise is to empower and prepare the Municipality to have a better understanding of the response required from each relevant role-player.

Prior on embarking on the above, a Door-to Door survey to acquire the total of occupancy per erven from the foothill of the Idas Valley dam along the Kromme River till Distell (Adam Tas Road). After which the Department in collaboration with Working on Fire (WOF) conducted a hazard and vulnerability assessment in the area of the dam flow in aid to understand.

Table 7: Risk identified by members of the community during a workshop in Ward 5, Idas Valley

ORIGIN	PHENOMENA / EXAMPLES
Geological hazards	- Mass earth movements e.g. landslides, rockslides, rock-falls
Hydro meteorological hazards	- Floods, debris and mudflows - Storm surges, rain and windstorms, and other severe storms - Veldt fires
Biological hazards	- Outbreaks of epidemic diseases - Plant contagion - Extensive infestations

Environnemental dégradation	<ul style="list-style-type: none"> - Deforestation - Veldt fires - Loss of biodiversity - Water and air pollution
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Numerous safety and awareness campaigns with self-elected individuals from the concerning ward providing valuable information with regard to past occurrences, challenges, etc. as many were of age.



Table 8: Fire Safety training – WOF, DM Volunteers, Members of the Men’s League, Methodist Church, Idas Valley

Fire Safety demonstrations were conducted where individuals could handle fire extinguishers under supervision in aid of life orientation yet advocating safety. Door-to-door campaign was done where information pamphlets regarding floods and fires were dispersed.

The group were scheduled an opportunity to engage with scholars of the neighboring Bruckner De Villiers Primary School presenting a fire awareness programme. The feedback received was very positive and set the platform to implement the same school of thought in other vulnerable areas of concern.



Table 9: Learners from Bruckner De Villiers Primary School, WOF, Disaster Management officials

6.10.9.3 Ward Based Risk assessment for the WCO24

The Directorate: Community and Protection Services has initiated the process advertising the Recruitment and Procuring a qualified service provider to conduct a Risk Assessment in the twenty two (22) wards within the Stellenbosch Municipality. The outcomes of the SCM process will kick-start the project which will be completed by the mid 2017.

The scope of work

Phase 1: Background research and municipal official and stakeholder interviews

This phase will entail:

- *Introduction of the Project to relevant role-players*
- *Background research and the population of the provided Ward Based Risk Assessment template*
- *Conducting interviews with municipal officials and other identified departments and stakeholders*

Phase 2: Interviews with Ward Councilors and Ward Committees (22 Wards)

This phase will entail:

- *Conducting focus group interviews with ward councillors and ward committees using participatory risk assessment methods in each ward*

- Writing up of information gathered

Phase 3: Public participation:

This phase will entail:

- Conducting focus group interviews with community members using participatory risk assessment methods from each ward
- Door to door community survey using field workers
- Writing up of information gathered

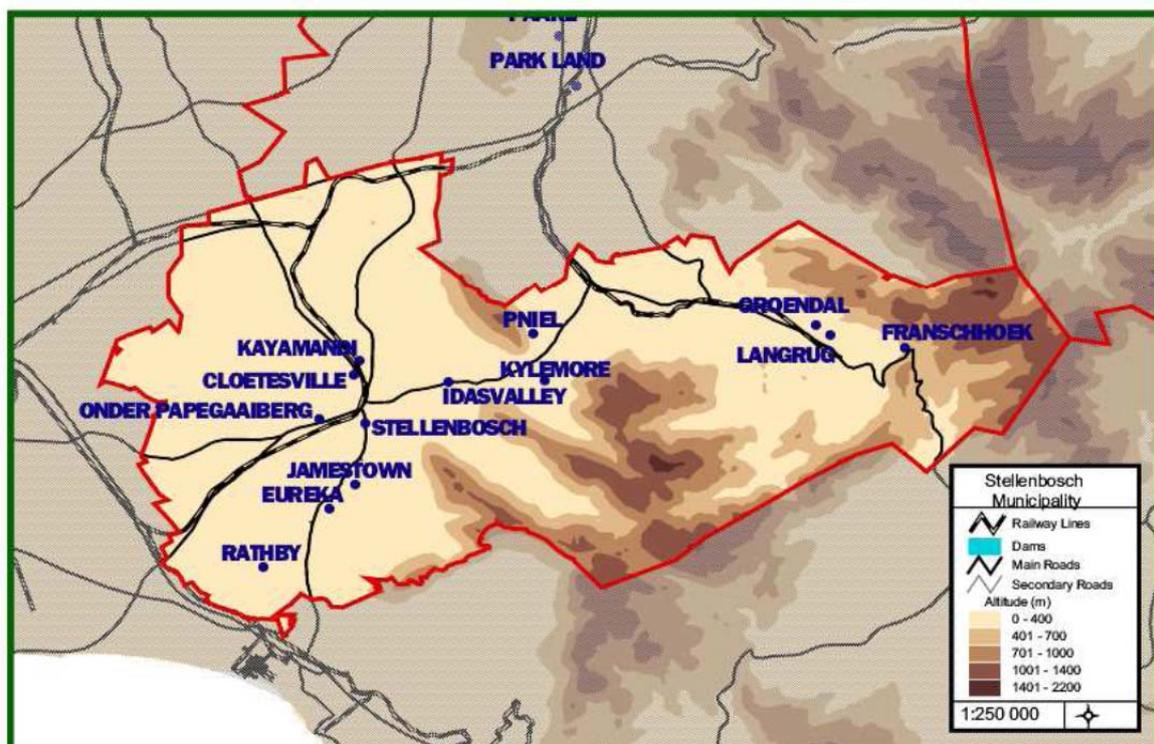
Phase 4: Submission

- Writing and consolidation of all information

In order to complete the above phases, the successful service provider will be required to recruit suitably qualified individuals to facilitate the Ward Based Risk Assessment. At least one graduate with the knowledge concerned will supervise the process in phases 1-4.

Fieldworkers residing in the WCO24 with the minimum requirement of Grade 12 will be recruited to complete door-to-door questionnaires in wards during phase 3.

- What were the main identified risks (what is the disaster risk profile of the municipality)?



Hazards identified which posed a risk on the WCO24

1.	Fire – Veld & Runaway Fires
2.	Dam Wall Failure: Idas Valley
3.	Floods
4.	Chemical spills: Hazmat incidents
5.	Explosive storage: (fuel, gas)
6.	Environmental pollution: (air, water, ground contamination, pesticides)
7.	IT – Failure of system: Access to info
8.	Infrastructure Decay : No / dysfunctional infrastructure / service delivery (sewerage, toilets, grey water, electricity)
9.	Transport incidents (road, railway accidents)
10.	Rock Falls
11.	Aircraft accidents
12.	Seismic: Earthquakes
13.	Erosion
14.	Communicable disease: (H1N1 Influenza (Swine Flu)
15.	Insufficient hydrants
16.	Power failure
17.	Strikes / Social conflict
18.	Climate change: (high/strong winds, severe heat/cold)
19.	Poverty
20.	Chlorine stations
21.	Drought
22.	Structural decay
23.	Population density – informal areas
24.	Crime
25.	Substance abuse
26.	High Winds

Should the risks be re-assessed in the next planning cycle? If not, when is the next date for review?

6.10.10 Fires

Mountain and Veld fires, fires in informal areas as well as backyard dwelling fires form the general basis of fires in accordance with fire statistics. Integrate disaster risk reduction activities into the day-to-day planning and operations of DM include various awareness campaigns.

6.10.11 Floods

Due to effects of Global Warming and Climate changes with resultant „cut-off low’s”, it has become increasingly difficult to forecast or predict critical time periods and/or affected areas.

Constant monitoring the urban settlement was to be strengthened considering population that are at risk, resilience and vulnerability, condition of exposure and assumption of damages and loss when floods occur.

Furthermore flood mitigation and prevention such as construction of ditch, clearing of debris and waste at building canals, rivers and blockage storm water. Despite the preparedness, flooding may still occur and cannot completely be prevented as rainfall often exceeds the capacity of the storm water system.

6.10.12 Drought/water scarcity

- Water restrictions implemented throughout the jurisdiction
- Regular updates to internal and external role-players in terms of water saving tips, dam levels throughout the province are disseminated via
 - SmS
 - Bulk Email release
 - Local newspaper release
 - Message alert printed on the utility bill
 - Awareness programmes
 - Weather Forecast via TV

6.10.13 Risk Reduction Strategies

While hazards are inevitable, and the elimination of all risk is impossible, there are many technical measures, traditional practices, and public experience that can reduce the extent or severity of economic and social disasters. Hazards and emergency requirements are a part of living with nature, but human behaviour can be changed. It is imperative for all to shift from a culture of reaction to a culture of prevention. Prevention is not only more humane than cure; it is also much cheaper...".

Disaster **Risk Reduction** (DRR) aims to **reduce** the damage caused by natural hazards like earthquakes, floods, droughts and cyclones, through an ethic of prevention. Disasters often follow natural hazards. A disaster's severity depends on how much impact a hazard has on society and the environment.

Objectives	
Provide an advocacy platform for all through the Municipal Advisory Forum	All governments, Disaster Management practitioners, NGOs, civil society groups, businesses, academic and scientific institutions, and other interested groups will be able to demonstrate support, highlight achievements and challenges in so doing with a particular focus on life-saving measures.
Provide innovate thinking to achieve goals	Apply innovative approaches to disaster risk reduction through effective strategies to enable communities to be more resilient, should an occurrence/disaster strike.
Develop community participation programmes	Provide community level awareness raising through education, training and involvement to building a professional level cadre at all levels. Change community norms and values, which are often tied to risk and protective factors and in turn create a wider base of support for changing behaviour.
Develop multi-disciplinary relationships	Engage and reinforce through increased partnership and expanded risk reduction networks.

Mitigation projects per Directorate/Departments

As Disaster Management is multi-sectorial in approach, it is only logical that this will reflect *all* disaster prevention/mitigation projects

The mitigation projects, multi-sectorial, deemed as Disaster Mitigation Projects have been primarily included in the 2016/2017 financial year (CAPEX) (three year budget) These items will be submitted and re-considered during the IDP and Budgetary Process.

Directorate: Community and Protection Services

Department: Disaster Management

Directorate: Engineering Services

Disaster Mitigation Projects 2016/2017 Financial Year	
Water	
Bulk Water Supply Improvements	R 1 000 000.00
Bulk water supply pipeline & reservoir Jamestown	R 3 119 000.00
Bulk water supply pipe & 2 X 2MI Reservoir: Johannesburg & Kylemore	R 6 000 000.00
Bulk water supply pipe: Idas Valley/Pappegaaiberg & surrounding areas	R 1 000 000.00
Water Treatment Works: Idas Valley & Surrounding area	R 1 000 000.00
New 5MI Reservoir: Cloetesville & surrounding areas	R 5 500 000.00
New Reservoir: Polkadraai	R 400 000.00

Disaster Mitigation Projects 2016/2017 Financial Year	
Storage dam & Reservoir Upgrade	R 1 000 000.00
Chlorination Installation	R 1 000 000.00
Water conservation & demand management	R 500 000.00
Reservoirs & Dam safety	R 500 000.00
Waterpipe replacement	R 3 000 000.00
Water telemetry Upgrade	R 200 000.00
Bulk Sewer Outfall: Jamestown	R 1 000 000.00
Bulk Sewer Outfall: Jamestown	R 11 451 629.00
Bulk Sewer Outfall: Jamestown	R 8 548 371.00
New Stellenbosch Main Sewer Outfall	R 10 272 160.00
New Stellenbosch Main Sewer Outfall	R 10 000 000.00
New Stellenbosch Main Sewer Outfall	R 7 727 840.00
Sewer Pumpstation & Telemetry Upgrade	R 100 000.00
Sanitation	
Upgrade of WWTW: Pniel & Decommissioning of Franschhoek	R 1 000 000.00
Extension of WWTW Stellenbosch	R 104 349 810.00
Extension of WWTW Stellenbosch	R 58 667 000.00
Refurbish Plant & Equipment Raithby WWTW	R 500 000.00
Roads & Storm water	
Upgrade Gravel Roads - Mooiwater section 2	R 4 500 000.00
Reconstruction of Roads WC024	R 5 000 000.00
Reseal Roads Onder Pappegaaiberg & Surrounding	R 2 250 000.00
Reseal Roads Cloetesville & Surrounding	R 2 250 000.00
Reseal Roads Idas Valley & Surrounding	R 2 000 000.00
Reseal Roads Kylemore & Surrounding	R 1 700 000.00
Reseal Roads Paradyskloof & Surrounding	R 2 000 000.00
Upgrade Stormwater	R 1 000 000.00
Stellenbosch Rivers - Rehabilitation-Planning & Design	R 200 000.00
River rehabilitation	R 1 000 000.00
Streetlighting : Kylemore entrance	R 750 000.00
Braak Switchgear (11Kv)	R 3 000 000.00
Markotter 66/11Kv, 7.5MVA Transfrs	R 2 000 000.00
System Control Centre & Upgrade Telemetry	R 1 000 000.00
Energy Efficiency and Demand side Management	R 10 000 000.00
Network cable replace 11Kv	R 3 000 000.00
Franschhoek Cable Network	R 500 000.00
General system improvements Franschhoek	R 1 500 000.00
Replace Switchgear Franschhoek	R 1 000 000.00
Smart Grid	R 50 000.00
Solid Waste Management	
Major drop-offs Franschhoek	R 3 000 000.00
Major drop-offs Stellenbosch	R 7 000 000.00
Upgrade Refuse Disposal site - Rehab	R 6 000 000.00
Refuse Satellite Station Raithby	R 500 000.00

Disaster Mitigation Projects 2016/2017 Financial Year	
Stellenbosch WC024 MRF	R 6 000 000.00
Traffic Engineering	
Main Road intersection improvements: R44/Bird Street	R 1 500 000.00
Main Road intersection improvements: R44/Helshoogte	R 1 000 000.00
Main Road intersection improvements: R44/Molteno	R 600 000.00
Main Road intersection improvements: Franschhoek Circles	R 2 000 000.00
Main Road intersection improvements: Pniel/Kylemore	R 200 000.00
Helshoogte Pedestrian Crossings	R 250 000.00
Kayamandi Pedestrian Crossing	R 200 000.00
Road Safety Improvements	R 250 000.00
New Housing	
New Housing: Jamestown	R 250 000.00
New Housing: Kylemore	R 500 000.00
New Housing: Longlands, Vlottenburg	R 2 450 000.00
New Housing: Kayamandi (Watergang & Zone O)	R 4 900 000.00
New Housing: Idas Valley (Erf 10860-11008)	R 2 900 000.00
New Housing: Idas Valley (Erf 11330)	R 2 900 000.00
New Housing: La Motte 9GAP)	R 500 000.00

6.10.14 Recovery & Rehabilitation

Each disaster presents emergency services with the opportunity to review, improve and learn from our experiences. It also provides the opportunity for the various departments and stake holders to work together as partners, and provide the opportunity where improvements could be made and how to further consolidate partnerships.

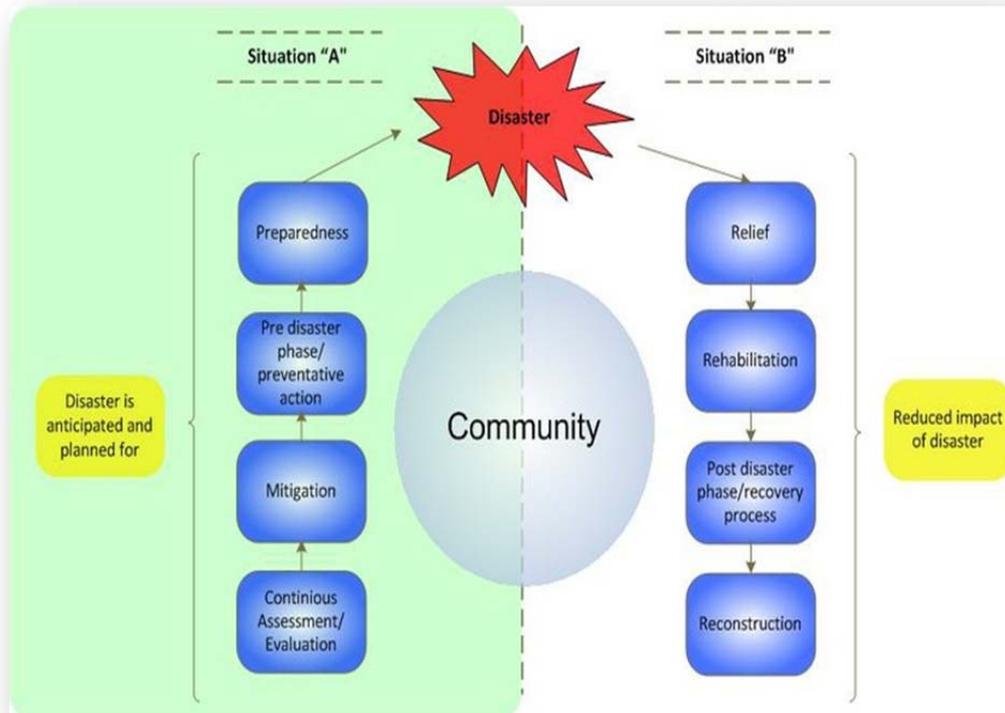


Table 12: Action steps during an occurrence

Formal agreements exist regarding the Action Performance indicator matters related to business continuity and human resource management in order to ensure limited duplication.

6.10.14 Information Management and communication

Early Warning systems and information dissemination currently in use and are:

- Landline
- Mobile
- PA System
- Loud haling
- Bulk SmS system
- Telemetry System
- Radio trunking
- Siren
- GIS

6.10.15 Training, education and awareness

Awareness programs and the creation of widespread understanding about disaster reduction have always been crucial elements in risk management strategies. The Disaster Management Department has through its on-going community outreach programmes cemented its roots amongst various communities, especially the vulnerable.

By changing the mode of our concept of teaching, active participation and requests is on the increase by taking it to the community, their centres and even to the street. This has removed barriers and has become much more accessible.

On-going programs	
Shack Fire Response Team	Recruit and training groups in vulnerable areas to be on alert and avail themselves to assist DM during an occurrence/disaster/programmes.
Flood Response Team	Recruit and training groups in vulnerable areas to be on alert and avail themselves to assist DM during an occurrence/disaster/programmes.
Signage	Provide Information Safety Signage at Critical Points i.e. assembly points, emergency contact numbers.
Recruit Wardens	Recruit, train and select Wardens (team leaders) in various communities throughout the WCO24 to assist DM.
Safety Programmes at Schools/ ECD Centres / Old Age Home/ Religious Fraternities, other	Develop sustainable programs to disseminating information on risk avoidance, hazards and their effects and disaster prevention activities.
Fire Safety	Engage with informal trade and owners of Spaza shops in combatting fires which could occur at their premises.
Own a hydrant	Identify and maintain fire hydrants in the WCO24
Streets outreach	These activities include canvassing, setting up information tables, or distributing information or supplies By introducing sporting codes as part of the outreach provide coalition between emergency services and the target audience
Youth outreach	Based on the principle “We teach a child, we reach a household” has become the norm in Stellenbosch and is an effective way to transfer knowledge and empower the young, fragile, disabled and vulnerable.

6.10.16 “Fire Safety Awareness Campaign”

The reality is that Informal Settlements live in a state of constant emergency experiencing one disaster after another. The social impact of disasters is difficult to measure ranging from storms, floods in low-lying areas, wildfire that had environmental impact. Potential fire hazards in informal settlement with inadequate fire-prevention continued to be the serious concern in the areas of Stellenbosch.

Identified community structures within Greater Stellenbosch were involved in drafting up their itinerary program. Scheduled awareness activities were performed at various premises.



Table 10: Disaster Management Volunteers marking Fire Hydrants for clear identification by emergency services

YOU ARE APPROACHING A SHACK FIRE ZONE BEWARE!!!

SHACK FIRE RESPONSE TEAM

#TAG: Tips

If you see a fire in this area you must call for help quickly!
Phone the Fire Department immediately on

021 808 8888

Tell the Fire Department:

Your telephone number and Name
Where the Fire is: Which Road? Which building? Any landmarks?
How big the fire is: How many buildings/shacks? Any people hurt?

Stay on the phone until the operator tells you that you can go
Quickly alert your Shack Response Team & Community Ward Committees

Help if possible, stay out of danger!

6.10.17 Emergency Number

The 24-hr Fire Services Emergency Number in laminated form including rubber wrist bands for the youth clearly displaying the emergency number has sparked huge interest amongst the crowd. The project and programs proved to be a best practise in achieving success.



Table 11: A5 size print distributed to households

16.10.18 Research

The Department encourages research as Disaster Risk Management has become a subject matter to many. Honour Students from the University of Stellenbosch and the Free State often engage with the Department as Climate Change top the chart amongst the risk fraternity. It's continuous search is to provide local government with possible risk reductions solutions in building resilient communities

16.10.19 Evacuation drills

These projects are often linked with fire drills and evacuation processes. The identification of various crèches in Stellenbosch sees the Disaster Awareness campaigns taken to Early Childhood forums with the idea to train educators and crèche owners, whether formal or informal; about preventative measures against incident that cause disasters.

16.10.20 Table-top exercise / Simulation exercises

By implementing these table-top exercises Stellenbosch Municipality will be able to access, rectify and improve:

- Roles and responsibilities,
- Effective and efficient Procedures,
- Safeguard the premises and personnel, and
- Safeguard individuals visiting the premises.

Weekly exercises are conducted throughout Stellenbosch i.e. Financial institutes, Commerce and Industry, Schools, Old Age Homes, Provincial Departments (Dept. of Agriculture Forestry and Fisheries

Large scale exercises are conducted on an B-annual basis, i.e. Muldersvlei National Key point, Eikestad Mall, Cape Winelands District municipal Complex where all relevant emergency role-players



Table 12: Eikestad Mall: Risk Management, Stellenbosch Municipal Disaster Management including EMS, Traffic, SAPS, Security and Fire Services

16.10.21 CAPACITY BUILDING

16.10.21.1 Events Management Workshops

Disaster Management partakes in several workshops which aim:

- to promote better communication
- to promote better coordination
- to inform current and future Events Organizers of the municipal requirements/by-laws when applying for an event.

These engagements provide the criteria to develop implement and maintain a program to mitigate, prepare for, and respond to and any other situation that may pose a threat to the normal functioning of Stellenbosch Municipality and its broader community.

16.10.21.2 Fire Safety Workshops

The Department Fire Safety in collaboration with Disaster Management and Working on Fire (WOF) facilitate community based sessions

The following Projects have been identified for consideration during the IDP and Budgetary Process.

Project	Amount	Capex	Opex
Disaster Management Ward Based Risk Assessment	R250 000		Y
Public Awareness & Training	R100 000		Y
Gazebo	R30 000	Y	
Trailer (Mobile) transportation of material	R15 000	Y	
Burners (LPG) and tri-pods	R50 000	Y	
Training (First Aid)	R80 000		
Mascot used during awareness	R40 000	Y	
Awareness: Fold up tables	R3 000		
Awareness: Camping chairs	R2 000		
Fire Readiness Campaign – wrist bands display emergency number	R60 000		
Winter Readiness Campaign – Winter Warm Blanket Drive, Reflector bands for scholars (rural)	R60 000		
Annual International Disaster Risk Reduction Day (13 October)	R30 000		
Annual Disability Awareness Month Campaign (3 November till 3 December)	R20 000		
Water tankers	R80 000		
Emergency Awareness Day – April/May			

Additional Funding			
Review Disaster Management Plan			
DMISA (Disaster Institute of Southern Africa)			

Linking Development Planning with Disaster Management in the IDP's DM Chapter

Disaster Risk Register (for high-risk developmental projects)

The table below allows for a municipality to capture and institute any required risk reduction interventions where a planned development faces an intolerable risk

Directorate: Community & Protection Services

Department: Disaster Management

1. Project Reference (in IDP)	2. Project Description	3. Primary & Secondary Stakeholders	4. Risk Description/Rating	5. Risk Reduction (Prevention/ Mitigation/ Preparedness) actions to be taken	6. Additional comments by Disaster Management

Volunteers motivating for increased budgets for components of the program which prove to be successful.

the EPWP is not a solution to the unemployment problem has been stressed in this paper. The employment creation which will result from the EPWP is small in comparison to the scale of the unemployment problem. The EPWP has been designed within the budgetary constraints of the medium term expenditure framework (MTEF). In conclusion, the EPWP has the potential to make a modest contribution to employment creation, poverty alleviation and skills development. The immediate challenge is to ensure that the programme's current targets are met. Once the programme is established and is shown to be economically effective, then motivations may be made for increased funding levels to take the programme to a larger scale.

7.9	YOUTH, SPORTS AND CULTURE: [PC: XL MDEMKA (MS)]
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NONE

8.	CONSIDERATION OF REPORTS, COMMUNICATIONS, PETITIONS AND APPLICATIONS SUBMITTED BY THE MUNICIPAL MANAGER
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NONE