



M Z U R I

**MZURI ESTATE OPERATIONAL  
ENVIRONMENTAL MANAGEMENT  
PLAN**

JUNE 2022

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# 1. INTRODUCTION

## 1.1. BACKGROUND

Ecosense has been appointed by Imbali Props 21 (Pty) LTD., the developers of the Mzuri residential development, to compile an Operational Phase Environmental Management Plan (OMP) dealing with the long-term environmental management and maintenance of the open space areas and stormwater management system of the development, situated on erven 18371 -18373, Somerset West (see **Figure 1** Site Locality Plan and Aerial View). The 5.7 ha site falls within the jurisdiction of the City of Cape Town: Helderberg Region.



Base photo sourced from Google Earth

The development consists of the following principal components:

- approximately 236 residential units (68 houses, 32 town houses and 136 apartments);
- internal private road;
- Private Open Space areas;
- On-site waste water treatment plant; and
- Perimeter security walling and fencing and 2 gate houses, off Summerhill Drive and Bizweni Avenue respectively.

(See Site Layout Plan – Appendix 1).

During the installation of services and the construction of the residential units on the site, a Construction phase Environmental Management Plan (CEMP) (Ecosense, June 2017), prescribing environmental management requirements related to construction activities, was implemented. In conjunction with this, the operational phase Environmental Management Plan (OMP) will strive to ensure that the ongoing potential negative impacts of the development on the existing natural surroundings and systems are minimized and that all parties understand their responsibilities in managing the development, based on environmentally sound policies, in the future.

This document deals with ongoing management and maintenance aspects of specifically the following aspects of the development, as required by the City of Cape Town:

- Public and private open space areas;
- tree retention;
- stormwater system including the collector pond on site and the off-site bio-retention cells and Waterkloof attenuation pond, that receives the overflow of the development's stormwater.

While providing guidelines as to how these aspects should be managed in the long term, this document should be regarded as open-ended, requiring regular review and updating for it to remain relevant to the requirements of the site and the environment.

## **1.2. Site Characteristics**

### **1.2.1. Topography and Stormwater Drainage**

The property slopes downhill from east to west with a grade, averaging 8%.

There is no evidence of a significantly shallow/exposed water table. There were/are no natural drainage lines, dams or ponds on the site, but there is a small constructed stormwater collector pond at the south-western end of Mzuri which also functions as a silt trap/ forebay, before any excess stormwater leaves the site and ultimately drains into the Waterkloof stormwater attenuation pond, off site, situated near adjacent to the Old Sir Lowy's Pass Road and Reunion Drive intersection. Stormwater must be managed on site so that it is not contaminated resulting in pollution of the receiving environment (attenuation ponds) or causes erosion. This is addressed in OMP section 3.1.

### **1.2.2. Flora**

No areas of originally occurring natural vegetation are incorporated into this development, nor were there any mature trees on the pre-development site that must be retained or protected.

This OMP thus focusses on the management of landscaped areas - this is addressed in section 3.2 of this OMP.

### 1.2.3. Fauna

The estate is located in a built-up area with no direct connection to adjacent natural areas. Thus, the potential to encounter wildlife on site, apart from small aquatic fauna that might colonize the stormwater collector pond and visiting birdlife, is regarded as small.

### 1.2.4. Heritage resources

No heritage resources have been recorded on this site.

## 1.3. Objectives of the OMP

The OMP aims to achieve the following objectives:

- To set out the mitigation measures and environmental specifications which are required to be implemented during the operational life of the development to manage and minimise the extent of negative environmental impacts and, where possible, to improve the condition/value of the environment.
- To provide a structure or framework within which the environmental management requirements will be implemented, audited and reported on.
- To state standards and guidelines that are required to be achieved in terms of environmental legislation and authorization conditions.
- To provide a clear indication of the environmental management requirements of each of the role players involved.

## 1.4. FORMAT AND STRUCTURE OF THE OMP

This OMP has been divided into a number of Sections, as indicated in Table 1 below.

**Table 1: Structure of the OMP**

<b>Section 1</b>	<b>Introduction</b>	Provides background information regarding the OMP.
<b>Section 2</b>	<b>Implementation of the OMP</b>	Provides details regarding implementation of the OMP e.g., organisational structure, financing of interventions and legal standing and enforcement.
<b>Section 3</b>	<b>Management Requirements</b>	Provides environmental management requirements for the HOA and residents at Mzuri Estate.

Supporting documents are attached as appendices to the OMP.

## 1.5. INTERPRETATIONS

For the purposes of this document the following abbreviations and definitions shall apply:

**Table 2: OMP Abbreviations and Definitions**

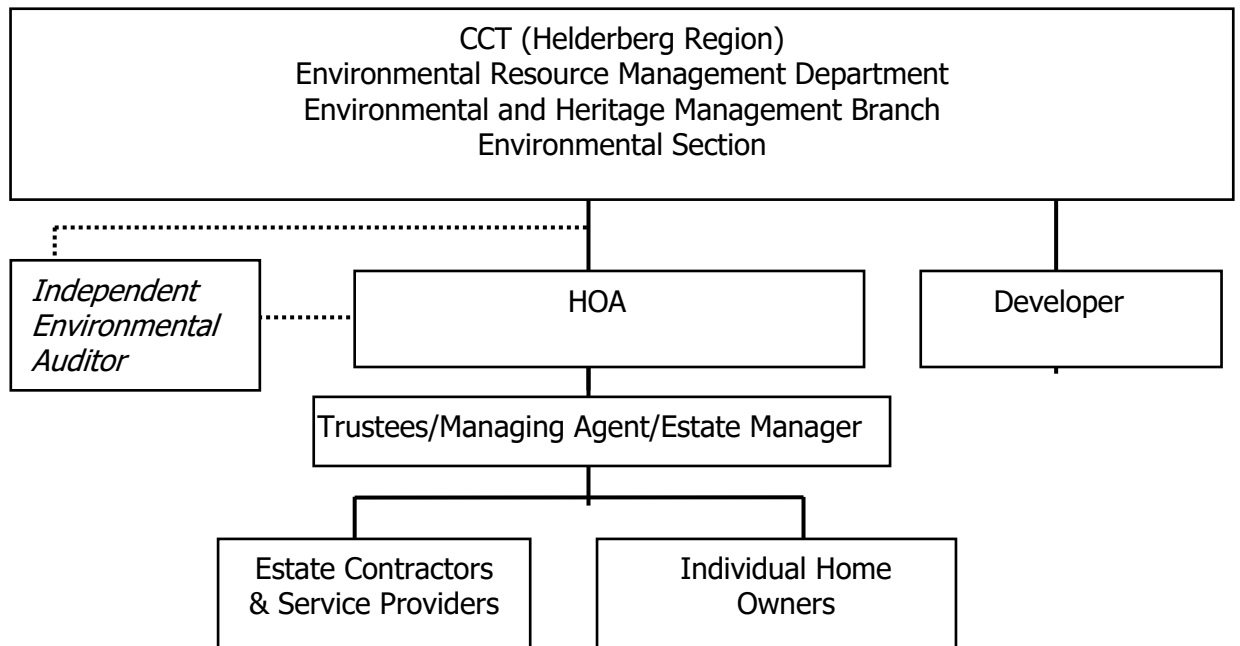
<b>CCT</b>	City of Cape Town (Helderberg Region)
<b>CCT: ERMD</b>	City of Cape Town: Environmental Resource Management Department
<b>MSDS</b>	Material Safety Data Sheet
<b>HOA</b>	Mzuri Estate Property Owners Association, created with effect from the date on which the transfer of the first erf arising from the subdivision of the land or part thereof occurs.
<b>OMP</b>	Operational Phase Environmental Management Plan
<b>POS</b>	Private Open Space, includes landscaped park areas and stormwater collector pond and any open vegetated stormwater channels within the estate.
<b>Common Property</b>	Portions of land registered in the name of the HOA / areas which fall inside of the estate and are not subject to an exclusive right in favour of a member of the HOA. This includes private and public open spaces, private streets, internal engineering services, visitor parking bays, gardens etc.
<b>Constitution</b>	Constitution document of the Mzuri HOA, as approved by the City of Cape Town, and binding on the HOA and its members.
<b>Council</b>	Refers to the City of Cape Town (Helderberg Region)
<b>Developer</b>	Imbali Props 21 (PTY) Ltd. or its successor/s in title
<b>Environment</b>	The aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms.
<b>Estate</b>	Mzuri residential development, situated on erven 18371 - 18373, Somerset West.
<b>Stormwater</b>	Water resulting from natural precipitation and/or accumulation and includes rainwater, groundwater and spring water, but excludes water in a water or wastewater reticulation system.

## 2. IMPLEMENTATION OF THE OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

### 2.1. RESPONSIBILITIES AND ORGANISATIONAL STRUCTURE

The organisational structure for the Estate is depicted in **Figure 2** that follows:

**Figure 2: ENVIRONMENTAL MANAGEMENT ORGANISATIONAL STRUCTURE**



**KEY:**

..... - Advisory Role

———— - Reports/Responsible to

The implementation of this OMP is the responsibility of the HOA. In terms of section 4.2.8 of the Constitution of the HOA, the HOA shall comply with and monitor and ensure compliance by Members with the OMP, including but not limited to the monitoring and enforcement of compliance thereof by Members, and by the Association itself for the ongoing management of the Estate. The maintenance specifically of the common property and engineering services becomes the HOA's responsibility only once the Developer has handed over the completed services and landscape installation, after the agreed maintenance/establishment period has been undertaken by the Developer.

## **2.2. FINANCING OF ENVIRONMENTAL CONTROL**

Financing of environmental control requirements outlined in this document, as they relate to the long-term management of the common property of the site, is the responsibility of the HOA. These funds are to be raised by the HOA as part of the owners' monthly levy (refer to the Mzuri Estate HOA Constitution, and in particular clause 22 thereof, regarding collection of levies and the responsibility of the HOA to fund the management and maintenance of the Estate, including the OMP).

Any remedial actions required by the HOA specifically because of detrimental actions by individual homeowners that impact the common property will be cost recoverable or chargeable to the offending party (refer to section 2.5 of this OMP as well as clause 38.1.4 of the HOA Constitution).

## **2.3. REVIEW OF OPERATIONAL PHASE EMP**

The OMP document is to be reviewed by an environmental management consultant on a need basis as requested by the HOA, but as a minimum 1 year after the date on which the Developer has handed over the POS area (installation and maintenance) to the HOA, to ensure that the environmental management requirements of the document remain relevant to the site conditions and ensure continued awareness of OMP requirements. OMP reviews shall be recorded for audit purposes. The City of Cape Town's ERMD department is responsible for the final approval of any changes made to the OMP.

All such approved amendments to the OMP will be in the form of an appendix, to be attached to the original document. CCT, estate management, homeowners and any other individual or organization in possession of the document, are to be provided with a copy of any such appendices produced. These appendices are to provide a clear reference to which sections/specifications within the document have been updated.

## **2.4. MONITORING AND AUDITING**

The Estate manager/ caretaker (if and when appointed) or appointed trustee will carry the responsibility of monitoring the implementation of the OMP on site on an on-going basis. In this regard, the relevant party will report back to the Managing Agent and HOA trustees at HOA Trustee meetings with regards to any problems pertaining to compliance with the OMP.

An external audit of the implementation of the OMP shall be undertaken by suitably qualified and experienced environmental consultants appointed by the trustees on behalf of the HOA, 1 year after the date on which the Developer has handed over the POS area (installation and maintenance) to the HOA. The purpose of this exercise is not only to audit compliance with the environmental management requirements set out in this document, but also relevance of the OMP to the site conditions and environmental management requirements at the time.

Following the audit, the Auditor is to produce an audit report which:

- Evaluates environmental management on site in terms of the requirements of the OMP,
- Provides recommendations for improved environmental management on site,
- Identifies requirements of the OMP which are no longer relevant or applicable,
  
- Identifies new environmental concerns on site, and provides additional management specifications, where required.



The audit report is to be presented to the HOA trustees for comment and to check for accuracy and the final report is to be submitted by the Auditor to the CCT Environmental Resource Management Department (ERMD) for their records and information. This submission should include any proposed changes to the OMP as contemplated in section 2.3. for the approval of the CCT.

Note that CCT ERMD may require further external audits at any time after the initial audit if compliance to the OMP is questionable.

## **2.5. LEGAL STATUS & ENFORCEMENT**

By virtue of the fact that this document has been compiled to fulfil a specific condition of the planning approval for the development (refer to page 9, clauses (li-iii) contained in the approval issued by the CCT on 16/02/2016 – extract provided in **Appendix 2**) there exists a legal obligation for the specifications of this OMP (including all relevant documentation contained or referred to within it) to be complied with and significant non compliances can be pursued and addressed by the Council.

The HOA constitution binds all its management and members to comply with all the requirements of the CCT approved OMP. In terms of HOA Constitution and per the Mzuri Estate Rules, the Managing Agent and/or trustees may take or implement measures to enforce non compliances with the OMP by individual homeowners through notices to remedy the breach, taking action to remedy the breach and recovering costs thereof or imposing fines on a member. Further to this, homeowners are bound to comply with the requirements of the OMP that relate to their activities (as opposed to collective HOA management responsibilities) as part of the Offer to Purchase.

### 3. MANAGEMENT REQUIREMENTS

The following environmental management specifications shall apply to the operational life of the development. Each procedure/management section is divided up as follows:

- 1. Legislated Requirements**  
Some of the most pertinent legislation, but not necessarily a comprehensive list, that applies to each management section.
- 2. Background**  
Background to site specific conditions and/or the environmental impact being mitigated.
- 3. Objectives**  
What the management specifications are trying to achieve.
- 4. Procedures**  
The actual management specifications that aim to avoid or mitigate potential negative environmental impacts and promote positive ones.
- 5. Performance Indicators**  
Identifies indicators that demonstrate the level of compliance with a procedure.
- 6. Monitoring and Reporting**  
Describes the frequency and type of monitoring of each management section and how and in what form this is reported on.
- 7. Responsibilities**  
Describes who is responsible for what in terms of implementing the management specifications.
- 8. Related Documents**  
Describes related documents that may exist containing guidelines or requirements related to the environment. E.g., Mzuri Estate Landscape Guideline, HOA Constitution or Mzuri Estate Rules.

EMP SECT 3	3.1. STORMWATER MANAGEMENT		
Version no	01	Date	July 2017
<p><b>1. Legislated requirements</b></p> <ul style="list-style-type: none"> <li>• National Water Act (No 36 of 1998)</li> <li>• CCT Stormwater Management By-law: Sections 3, 4, 5, 7</li> <li>• CCT Management of Urban Stormwater Impacts Policy</li> </ul>			
<p><b>2. Background</b></p> <ul style="list-style-type: none"> <li>• The City of Cape Town requires that the Estate employs SUDS (Sustainable Urban Drainage Systems) principles in managing stormwater generated on the site. SUDS practices involve preventing pollution and reducing the effects of catchment hardening at the source. This usually involves a combination of swales, wetlands and detention ponds that help remove pollutants, promote rainwater infiltration and reduce downstream flooding effects. These principles have been incorporated into the stormwater management systems design of the Estate as follows.</li> <li>• Most of the stormwater generated on the site will be retained and infiltrated on the site. Only the larger stormwater events may result in discharge from the site, via the small collector pond at the south-western corner of the site (which also functions as a forebay/silt trap) and then into the new bulk stormwater pipe in Summerhill Road.</li> <li>• The existing Waterkloof attenuation pond has been resized and modified to provide a treatment facility to treat stormwater runoff from Mzuri. This includes a bio-retention facility.</li> <li>• There exists a potential for pollution of stormwater draining from the development site and thus the receiving piped system and ponds on and off site. Careful attention will need to be given to avoiding/minimizing potential contamination of such stormwater. This is the responsibility of both the homeowners, residents, and the HOA.</li> <li>• Water pollution refers not only to toxic chemicals but also to nutrient-rich effluents such as sewage, fertilizer-enriched runoff and “grey” water from domestic sources as well as sediment and chemically treated pool water.</li> </ul>			
<p><b>3. Objectives</b></p> <ul style="list-style-type: none"> <li>• Prevent contamination of storm water run-off from the Estate to prevent pollution of the receiving environments e.g., collector pond, piped system, bio-retention areas and the Waterkloof attenuation pond beyond.</li> <li>• Prevent localised flooding in the Estate by ensuring that the stormwater system is not impeded e.g., through sediment build up and remains functional as designed.</li> <li>• Maintain drainage systems and pond on site and the functioning of the bio-retention facilities and attenuation facilities off-site to ensure that these effectively encourage natural ground water recharge through maximized infiltration of stormwater on site, slow down stormwater runoff and reduce stormwater quantities leaving the site and improve the quality of any stormwater generated on the site through a natural filtering and pollution trapping process.</li> </ul>			

#### 4. Procedures

- Activities on the estate e.g., construction and maintenance shall not lead to blockages, disruption or pollution of the storm water system.
- Erosion that could result in sediment runoff clogging the storm water system on site shall be minimised.
- Any litter/foreign material/vegetative debris/excessive vegetative growth is to be removed from the Estate stormwater channels, catch pits and pond, including the exit headwalls and drain pipes into the estate collector pond, regularly (increasingly in winter) so that function is maintained at all times. See the Routine Maintenance Schedule Table that follows.
- It is imperative that there is control of pollutants entering stormwater system. The stormwater outlets into the collector pond shall be monitored regularly for evidence of any foreign substances, particularly during and after heavy rain events. Residents, estate staff and outside contractors are to be made aware that no foreign substances are to be disposed of into the stormwater system including hazardous substances of any nature e.g., paints, oils, pool backwash etc. Should such substances be detected in the outgoing stormwater, the Managing Agent/Trustees are to follow the possible cause of the pollution and have the situation rectified as quickly as possible.
- Fuel and oil spills anywhere on site are to be treated immediately with an appropriate mop-up or bio-remedial products as directed by manufacturers to prevent contamination of stormwater runoff and groundwater.
- The fouling of any estate road that will lead to the contamination of the stormwater and system by any person is prohibited.
- No harsh detergent e.g., for car washing or solvents or effluent from painting activities shall be allowed to enter any stormwater drainage system, including the POS area, but should be directed into the sewer system. Residents can visit <http://www.capetowngreenmap.co.za/go-green/eco-cleaning> for a list of suppliers of detergents that are less harmful to the environment.
- No cement, concrete, mortar, plaster etc. wastes or washings are to be disposed of anywhere on the Estate.
- No paints, paint wash water or any other chemicals shall be disposed of anywhere except at a licensed landfill site and must not be allowed to contaminate the stormwater system.
- Fertilizers and pesticides, including wash water from fertilizer/pesticide containers or application equipment, must not be allowed to enter the stormwater system.
- No dumping of garden or other waste or accumulation of debris is to take place within or near stormwater channels/catch pits/drainage outlets.
- The following routine maintenance schedule (Table 3) shall be followed (applicable for on-site infrastructure):

**Table 3: Routine Stormwater System Maintenance Schedule**

Infrastructure description	Activity	Schedule
<b>Grid and kerb inlet catch pits</b>	<ul style="list-style-type: none"> <li>• Clean and remove debris and litter</li> <li>• Remove sand [SEP]</li> <li>• Inspect for damages and repair as [SEP] required [SEP]</li> </ul>	As required but not less than annually before winter
<b>Pipe work</b>	<ul style="list-style-type: none"> <li>• Clean and remove debris and litter</li> <li>• Remove sand [SEP]</li> <li>• Remove obstruction [SEP]</li> </ul>	As required but not less than annually before winter

<b>Manholes</b>	<ul style="list-style-type: none"> <li>• Clean and remove debris and litter <sup>[1]</sup><sub>[SEP]</sub></li> <li>• Remove sand <sup>[1]</sup><sub>[SEP]</sub></li> </ul>	As required but not less than annually before winter
	<ul style="list-style-type: none"> <li>• Inspect for damages</li> </ul>	As required but not less than annually before winter
<b>Head walls and litter traps</b>	<ul style="list-style-type: none"> <li>• Clean and remove debris and litter <sup>[1]</sup><sub>[SEP]</sub></li> <li>• Remove sand <sup>[1]</sup><sub>[SEP]</sub></li> <li>• Inspect for damages and repair as <sup>[1]</sup><sub>[SEP]</sub>required <sup>[1]</sup><sub>[SEP]</sub></li> </ul>	Ongoing but not less than fortnightly
<b>Grassed channels</b>	<ul style="list-style-type: none"> <li>• Remove debris and litter</li> <li>• Mow grass to maintain a height of 50mm-75mm</li> </ul>	Ongoing but not less than fortnightly or as required seasonally
	<ul style="list-style-type: none"> <li>• Remove sediment from the bottom of the channel once it reaches a height of 30mm from channel invert</li> </ul>	As needed
	<ul style="list-style-type: none"> <li>• Inspect grassed area and plant new grass species if the original does not establish successfully</li> <li>• Inspect embankment of erosion, repair and replant where required</li> </ul>	After 6 months Annually (1 <sup>st</sup> year every 6 months)
<b>Bio-retention areas and swales</b>	<ul style="list-style-type: none"> <li>• Remove trash and debris</li> </ul>	Ongoing but not less than fortnightly
	<ul style="list-style-type: none"> <li>• Pruning and weeding to maintain appearance</li> <li>• Mulch replacement in cases of erosion</li> </ul>	1 to 2 times a year
	<ul style="list-style-type: none"> <li>• Inspect outlet point and remove possible debris, sand and clogging objects</li> <li>• Inspect shrubs to evaluate their health and replace dead vegetation with new listed shrubs</li> </ul>	Every 6 months
<b>Detention ponds</b>	<ul style="list-style-type: none"> <li>• Clean and remove debris and litter from inlet and outlet structures</li> <li>• Mow side slopes</li> </ul>	Fortnightly or as required seasonally
	<ul style="list-style-type: none"> <li>• Inspect inlet and outlets to ensure they are free from debris or potential clogging material</li> </ul>	Fortnightly or as required seasonally

	<ul style="list-style-type: none"> <li>Inspect grassed slopes and plant new grass species if the original does not establish successfully</li> <li>Inspect embankment for erosion, repair and replant where required</li> </ul>	<p>After 6 months</p> <p>Annually (1<sup>st</sup> year every 6 months)</p>
	<ul style="list-style-type: none"> <li>Monitor sediment accumulation and remove as required (a sediment marker would be placed to indicate)</li> </ul>	<p>Annually</p>

### 5. Performance Indicators

- Stormwater drains/catch pits/channels/outlets on the estate and in the receiving stormwater system off site are free of significant litter, sediment, oil, paint residues and other contaminants.
- No evidence of floating/deposited pollutants e.g., oils/paints in the stormwater collector pond on the estate.
- Routine Maintenance undertaken per provided schedule, for infrastructure on site and the receiving facilities off site.
- Maintenance of the off-site stormwater facilities as per the agreed Maintenance Agreement entered into with the CCT.
- Stormwater attenuation and polishing provided by the external site drainage, bio-retention and attenuation network/facilities is functioning per design.

### 6. Monitoring and Reporting

- Estate Manager/Caretaker/appointed Trustee** (as applicable) is to inspect the storm water system prior to the onset of the winter rains and at least fortnightly in winter thereafter for foreign matter/litter and shall report to the HOA trustees regarding the condition of the stormwater system, any pollution incidences and any maintenance activities planned or carried out.
- The **landscape maintenance team** is to advise on and monitor any stormwater maintenance activities required e.g., removal of accumulated litter, sediment, or vegetation that may be impeding the flow of stormwater in the collector and attenuation ponds.
- The **External Environmental Auditor** shall report on the condition of the stormwater system and check on the performance indicators in section 5 above to ascertain level of compliance/identify environmental concerns.

### 7. Responsibilities

- The HOA** is responsible for the management and maintenance of the stormwater system to promote the orderly discharge of storm water through the storm water system per the intended design and prevent pollution of the receiving environments of this stormwater
- Estate Manager/Caretaker/appointed Trustee:** To inspect the stormwater channels, catch pits frequently to ensure that these remain free of litter and pollutants or excess vegetation, to organise removal of pollutants/debris immediately when observed through the maintenance team and to find and stop the source of pollution when observed.
- Home Owners:** to ensure that no hazardous or harmful substances enter the stormwater system from their properties, e.g., harsh chemicals, paint products, fuels/oils, pesticides, fertilizers and pool water.

- The **City of Cape Town: Roads and Stormwater Branch** is to undertake any required maintenance of the bio-retention and Waterkloof Attenuation Pond off site, for which it is named the responsible party in terms of the Maintenance Agreement.

#### **8. Related Documents**

- Maintenance Agreement with the CCT pertaining to off-site stormwater infrastructure
- Mzuri Estate Rules of Conduct Section 3.2, 5.5 and 16.

EMP SECT 3	3.2. LANDSCAPE MANAGEMENT OF THE COMMON PROPERTY		
Version no	01	Date	July 2017
<ul style="list-style-type: none"> <li>• <b>Legislated requirements</b></li> <li>• Occupational Health and Safety Act (No 85 of 1993) (e.g., personal protective equipment required for pesticide and machine operators etc.).</li> <li>• NEM: Biodiversity Act (Alien and Invasive Species Regulations, 2014; National List of Invasive Species, 2014)</li> <li>• National Water Act (36 of 1998) – Section 21(a)- taking water from a water resource e.g., dam or borehole</li> <li>• CCT Integrated Waste Management By-law S 4,5,10,12,13, 14,15</li> <li>• CCT Water By- law: S 18, 41,42,43,63 and Schedule 1 (water restrictions and water wastage)</li> <li>• Nature Conservation Ordinance, 1974 (Ordinance 19 of 1974) and Western Cape Nature Conservation Laws Amendment Act, 2000</li> </ul>			
<p><b>1. Background</b></p> <ul style="list-style-type: none"> <li>• The developer is responsible for constructing and installing all hard landscaping, soft landscaping and irrigation elements on the common property as per initial sales agreements. After an initial agreed maintenance/establishment period, the common property landscaping will be handed over to the HOA for ongoing maintenance. On handover to each owner their property landscaping, the maintenance will become their responsibility.</li> <li>• It is recognized that over time individual owners or erven may want to alter the landscaping or add additional elements. In order to maintain continuity in the overall landscape character, owners of erven are required to submit a landscaping plan for approval to the HOA's Design Committee prior to commencing with any alterations, in line with the requirements of the Mzuri Estate Landscape Guideline.</li> <li>• The Landscape Master Plan of the Common Property (see <b>Appendix 1</b> of the OMP), which includes a species list, has been approved by the CCT. Subsequent planned significant alterations/deviations would need to be discussed with the CCT.</li> <li>• The estate has its own on-site water purification plant which will generate water for irrigation use on the common property and on private properties.</li> </ul>			
<p><b>2. Objectives</b></p> <ul style="list-style-type: none"> <li>• The landscaped/green common property areas are maintained to keep the original design intent/functioning as set out in the approved landscape plan (<b>Appendix 1 of this OMP</b>).</li> <li>• Prevent ecological degradation through pollution, erosion damage or invasion by alien plant/animal species.</li> <li>• Encourage and do not harm small wildlife.</li> </ul>			



### **3. Procedures**

#### **A. General**

- No significant deviations from the approved landscape plan (**Appendix 1 of this OMP**), e.g., significant increase (>10%) in hard surfacing, removal of street trees or inclusion of plant species not specified on the approved Landscape Master Plan or within the Mzuri Estate Landscape Guideline, shall be undertaken without prior approval from CCT.
- Prior to any landscape contractor commencing with maintenance in the area, the Estate Manager/Managing Agent/Landscaping trustee is to brief all members of the contractor team on their environmental management obligations while on site, and specify the procedures to be followed e.g., refuelling procedures for equipment and handling of pesticides etc.
- Litter shall be removed on a regular basis - at least weekly.

#### **B. Fertilisation**

- Preferably only organic fertilizers (as opposed to concentrated chemical agricultural fertilizers) shall be applied to landscaped areas in the Estate. This is best suited to the indigenous landscape and reduces the potential nutrient load in the groundwater/stormwater runoff.
- Fertilizer shall be applied at rates not exceeding those prescribed by the manufacturer and care shall be taken to minimise the potential of fertilizer rich runoff entering the stormwater system and receiving environments where this can cause algae and other problems related to eutrophication (*i.e., the process by which a lake, pond, or stream becomes eutrophic, typically as a result of nutrient rich mineral and organic runoff from the surrounding land e.g., fertilizers and detergents. The increased growth of plants and algae that accompanies eutrophication depletes the dissolved oxygen content of the water and often causes a die-off of other organisms*).

#### **C. Compost and Mulching**

- Imported compost, lawn dressing and mulch must be “clean”, meaning it is not to contain foreign matter such as plastics and other litter, and be free of seed of exotic plants and weeds.
- The application of mulch to landscaped areas is encouraged, to reduce water loss from soils and prevent growth of weeds.

#### **D. Cutting and Trimming**

- Plants that are overgrown may be pruned from time to time to maintain their aesthetic appeal and continued healthy growth.
- All cuttings from the Estate, must be removed from the site immediately by the HOA maintenance team or appointed landscaping contractor. Where feasible, cuttings may be chipped and used as a mulch material in landscaped areas.
- Trimming and cutting of trees and shrubs should be limited to winter months where possible/feasible.
- Street trees, as indicated on the Landscape Master Plan, shall be retained on site. Where these have died or have been significantly damaged, they shall be replaced.

#### **E. Irrigation**

- Irrigation with municipal water shall be undertaken strictly according to the CCT water restrictions applicable at the time.

- Irrigation with purified water shall be via an automated irrigation system.
- Treated effluent irrigation water shall be tested by the HOA per the frequency and requirements stipulated in licences issued by the DWS and shall meet the water quality parameters stipulated therein/per relevant legislated standards for treated effluent use. Treated effluent may not be directed to the municipal sewer.
- Irrigation with non-potable water sources, e.g., grey water or collected stormwater, shall be filtered/treated such that no pollutants are introduced to the common property landscaping.
- No irrigation shall take place during the hottest times of the day (from 10 am to 4 pm).
- All required CCT and Department of Water and Sanitation registrations and approvals are required prior to the estate sinking any boreholes/well points on site.

#### F. Use of Pesticides

- Use of insecticides or fungicides is to be avoided. Where absolutely necessary, wildlife friendly variants shall be used.
- Use of snail bait on the Estate shall be avoided. If used only wildlife safe variants such as Biogrow Ferramol may be used. Note that many birds e.g., Hadedas are attracted to and known to eat snail bait.
- Herbicides may only be used under controlled conditions where mechanical removal of invasive weeds is not effective e.g., for kikuyu grass. In such cases extreme caution must be exercised to avoid spray drift onto non target species/areas or any contact with standing or flowing water e.g., at the stormwater pond.
- Only staff wearing the appropriate protective clothing and using well maintained equipment designed for the purpose and supervised by an experienced horticulturist/landscaper may apply pesticides.
- Any pesticides used must be applied per the manufacturer's specifications and must be registered for the target plants or pest species. The following resources will assist in identifying the correct herbicide and application method for identified plant target species:
  - A 2007 publication by the Registrar (Act No. 36 of 1947): *A Guide to the Use of Herbicides of Bush Encroachment, Noxious Plants and Aquatic Weeds*
  - The Working for Water Programme's website  
[www.dwaf.gov.za/wfw/Control/docs/controltables.doc](http://www.dwaf.gov.za/wfw/Control/docs/controltables.doc)
- Empty pesticide containers shall be properly disposed of to a landfill site and no pesticide residue or equipment wash water may be deposited on site or directed to the stormwater system on site.

#### G. Plant Species

- Only indigenous plant species, as specified in the approved Landscape Master Plan (**Appendix 1 of this OMP**) or the Mzuri Estate Landscape Guideline, may be planted.
- No species listed under the National Environmental Management: Biodiversity Act (Alien and Invasive Species Regulations, 2014), or any amendments thereto, may establish anywhere on site.

#### H. Removal of Alien Invasive Plants

- The publication, "*Alien Weeds and Invasive Plants*" by Leslie Henderson, Plant Protection Research Institute, Agricultural Research Council (ISBN 1-86849-192-7 and available online at

<https://www.wits.ac.za/media/migration/files/cs-38933-fix/migrated-pdf/pdfs-7/Alien%20Weeds%20and%20Invasive%20Plants%20A%20Complete%20guide%20to%20declared%20weeds%20and%20invaders%20in%20South%20Africa%20Author%20Lesley%20Hendersoncompressed.pdf>

is an invaluable resource to identify alien invasive and weed species listed for removal/control in South Africa. This includes problematic garden escapees such as *morning glory*, *nasturtiums* and *pickrel weed* that become weeds in natural areas.

- All Category 1, 2 and 3 alien invasive vegetation as directed by the National Environmental Management: Biodiversity Act, or any amendments thereto, must be removed from the common property on a continuous basis (minimum annually).
- No Kikuyu lawn planting (*Pennisetum clandestinum*) will be allowed.
- Alien/weed plants should preferably be pulled by hand while young. Seedlings should not be allowed to grow to a size where they have reached seed bearing age or requiring expensive mechanical or chemical controls.
- Seedling removal will be most effective after rains when the soil is wet.
- It is important to ensure that the roots are pulled out of the ground, and that the seedling is not snapped off at ground level, as it will re-grow.
- Stems of all species under 50mm in diameter can be removed by Treepopper to reduce the need for chemical treatment and the risk of coppicing (re-growth).
- Large alien plants should be cut as close to ground level as possible to prevent re-sprouting.
- Where required, as determined by the qualified landscape contractor, stumps will need to be treated with herbicides to prevent re-sprouting.
- All alien plant material removed from the site is to be disposed of at an approved green waste disposal site (e.g., at Gordon's Bay Waste transfer site), licence landfill site or chipped for mulch material.
- The burning or burying of this material on site will not be allowed.
- Mechanical equipment e.g., brush cutters and chainsaws used in manual removal operations is to be refuelled in an area which is suitably protected (e.g., plastic sheeting) to prevent contamination of the ground.

#### **I. Erosion Control/Flood repair**

- Where significant erosion/damage has taken place after a heavy rain, the area will need to be repaired and stabilised as soon as possible.

#### **J. Protection of Wildlife**

- No disturbance of small wildlife found on the common property is permitted, unless the animal is in danger or the residents are in danger because of its presence e.g., a venomous snake.
- Such wildlife shall be relocated without harming the animal, by an experienced person. The Helderberg Nature Reserve can be contacted for advice in this regard (Tel. 021 851 4060; 10h00 – 16h00).
- Where maintenance tasks could cause disturbance, this shall be scheduled to avoid the breeding cycles of the animal species e.g., nesting birds or breeding season of frog species in pond.

#### **4. Performance Indicators**

- Landscaping of the common property is in line with the design intent of the latest CCT approved Landscape Master Plan.
- Only new indigenous plant species are introduced.
- The area is free of weeds and litter and aesthetically pleasing.
- Street trees, as per the CCT approved Landscape Master Plan, retained on site.

- No exotic plant species, not listed as permissible per the approved Landscape Master Plan or Mzuri Estate Landscape Guideline, including kikuyu Grass or alien invasive plant species, are present in the common property.
- No damage/pollution to the environment (e.g., herbicide killing non-target planting, eutrophication through undue fertiliser use) observed.
- Irrigation not in contravention of municipal water restrictions/ no evidence of unnecessary irrigation or water wastage.
- Irrigation with non-potable water sources does not result in pollution of the common property.
- Quality of purified water used for irrigation to meet legislated and permit/licence condition standards, as evidenced by water quality testing undertaken by the HOA at the required intervals.
- Irrigation with purified water via an automated irrigation system.
- No purified water directed to the municipal sewer.
- No indication of unrepaired erosion damage on the estate.
- No wildlife harmed.

## 5. Monitoring and Reporting

- The **Estate Manager/Caretaker/appointed Trustee (as applicable)** shall inspect the common property minimum monthly to check for any problems - pollution, alien weed species, landscape maintenance requirements etc.
- The **External Environmental Auditor** shall report on the condition of the common property and check on the performance indicators in section 5 above to ascertain level of compliance/identify environmental concerns.

## 6. Responsibilities

- The **Developer** is responsible for the initial landscape installation and initial agreed maintenance/establishment period of the common property landscaping.
- The **HOA** is responsible for the ongoing maintenance (after the Developer's initial establishment period) and improvement of the common property landscaping/green areas in accordance with the approved Landscaping Master Plan and this OMP.
- The **Estate Manager/Caretaker/appointed Trustee (as applicable)** is to ensure that any contractors employed for management or maintenance of the common property are aware of their obligations in terms of the OMP/approved Landscape Master Plan.

## 7. Related Documents

- CCT approved Landscape Master Plan (**Appendix 1 of this OMP**)
- Mzuri Estate Mzuri Estate Landscape Guideline
- Mzuri Estate Rules.

#### 4. Appendix 1: Landscape Master Plan

## 5. Appendix 2: Planning Approval Extract

## 6. Appendix 3: Stormwater Management Plan Layout