



# AAN DE WIJNLANDEN



**LANDSCAPE  
MANAGEMENT & MAINTENANCE  
GUIDELINES**



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# SECTION 1: INTRODUCTION

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## 1.1 VISION & PURPOSE

The vision for Aan de Wijnlanden is that of an environmentally and ecologically sensitive conservation estate, that will create sensitivity and harmony between the development and the surrounding nature.

The Renosterveld Conservation Area and series of wetlands creates an ecological corridor throughout the estate that aims to encourage indigenous birds, small mammals and reptiles making it an ecologically sustainable area.

This Landscape Management & Maintenance guideline document aims to manage the creation of the distinct landscape identity of the Aan de Wijnlanden Estate, without inhibiting the individual owner's gardening creativity and style within their own properties.

The purpose of the guidelines is therefore:

1. To create a quality environment for the enjoyment of the residents.
2. To ensure environmental sustainability, ecological diversity and balance of the natural systems of the site. This is achieved by creating an environment, which has a feedback mechanism of installation, preservation, conservation, protection and restoration.
3. To outline the responsibilities of the Home Owners Association (HOA) and residents regarding the above.
4. To outline the management & maintenance practices of the estate to ensure a quality environment that aspires to the principles of Aan de Wijnlanden Estate

## 1.2 MANAGEMENT OF THE ESTATE

Aan de Wijnlanden Estate is managed by the Aan de Wijnlanden Home Owners Association. The Landscape Manager is appointed by the Aan de Wijnlanden Home Owners Association and manages the day to day running of the landscaped areas of the Estate. The Landscape Manager reports directly to the Estate Manager and is not accountable to any Homeowner or resident.

### AAN DE WIJNLANDEN HOA OFFICE

NAME:

TEL:

CELL:

EMAIL:

### 1.3 INTERPRETATION

**"the/this Guide"** means this "design control document" which contains the written rules (which are enforceable) and guidelines (which are suggestions and not enforceable) both of these may be further explained and amplified by sketches where applicable;

**"Property"** means the property sold by Aan de Wijnlanden to the Purchaser or a resale erf forming part of the various developments undertaken;

**"the HOA"** means the Home Owners' Association created in terms of Section 29 of Ordinance 15 of 1985 on approval by the relevant authorities of the development which the Property forms part of;

**"Landscape Manager"** means the person appointed by the HOA to manage the Aan de Wijnlanden grounds and the landscaping team.

**"Homeowner"** means the purchaser of the Property in terms of the Deed of Sale;

**"Resident"** means the person/s living in the Property either as the Homeowner or as a Lessee.



## SECTION 2: BACKGROUND

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### Climate

Aan de Wijnlanden falls in the winter rainfall area of South Africa, with strong south easterly winds that blow in summer and north westerly winds in winter that bring the rains.

### Vegetation

There are two important vegetation types that originally existed here, namely Swartland Shale Renosterveld and the Cape Flats Sand Fynbos. These vegetation types are both critically endangered.

As part of the general estate planting palette of Aan de Wijnlanden, the aim would be to use plant species from these vegetation types, together with other indigenous water-wise species, to maintain some of the original natural integrity & biodiversity of the area.

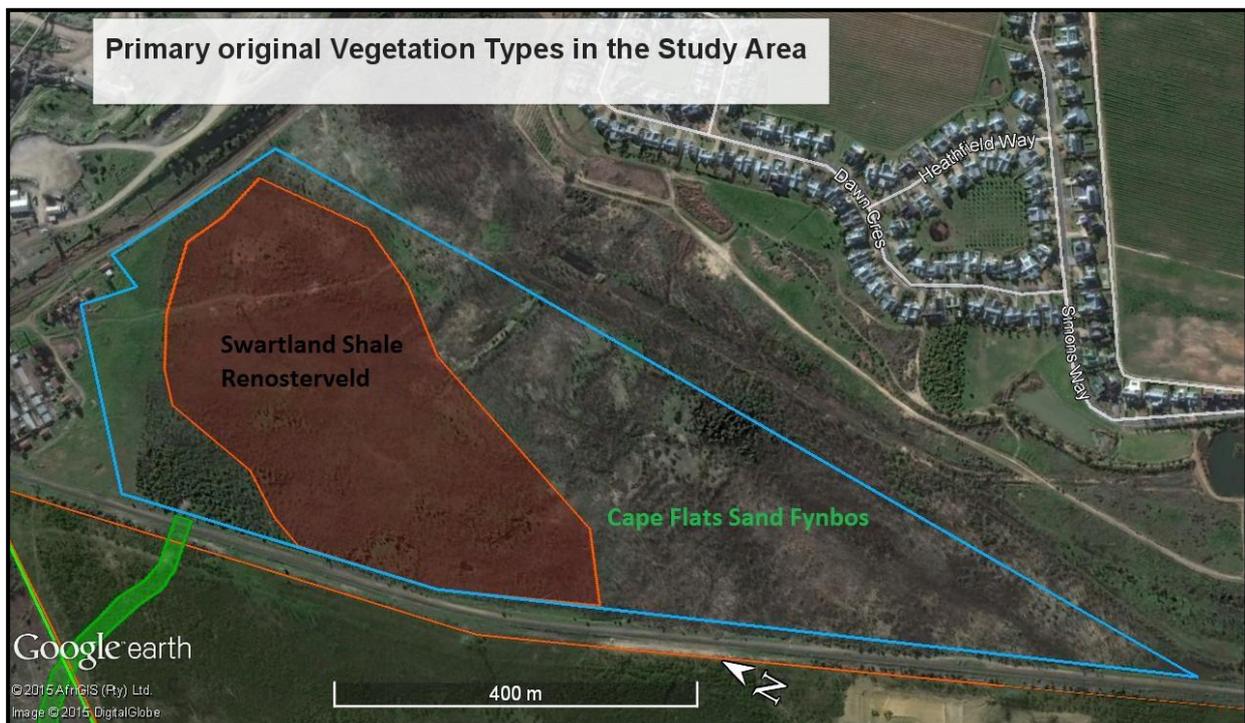


Figure 1: Map showing probable original extent of the two main vegetation types on site.

**Cape Flats Sand Fynbos (CFSC)**

This is the predominant naturally occurring veld type in the Aan de Wijnlanden Estate.

This used to be the most widespread veld type in Cape Town. It was not important for agriculture or grazing, but was easily drained and is suitable for housing. Following the World War II, rapid urbanization eradicated most of this vegetation type.

Generally CFSF is a lowland veld type, occurring at altitudes of 20–200 m and occurs in moderately undulating and flat sandy plains. Historically, it was a series of wetlands during winter, with dry soft sands in summer. These are acid sands of tertiary origin, and are dunes and alluvial sands that are old and have leached, so that they have been stripped of all seashells and nutrients.

Approximately 108 threatened and near-threatened Red List plant species occur on the remnants of this vegetation type. The endemics include six species which are listed as extinct in the wild.

Plant species of these vegetation types typically include proteas, leucodendrons, ericas, restios, *salvia* species, *rhus* species, *helichrysum* species, vygies and bulbs to name a few. See Appendix 3 for the indigenous plant list containing species from the vegetation types.

**Swarthland Shale Renosterveld (SSR)**

This vegetation type occurs mainly in the Conservation Area in the Aan de Wijnlanden Estate, overlapping into some of the adjacent areas of Phases 4 & 5.

Generally SSR occurs in moderately undulating plains and valleys and consists of low & tall shrubland of varying canopy cover, as well as low open shrubland dominated by renosterbos. The soils are clay from the Malamesbury Group of shales.

Plant species of these vegetation types typically include *Olea europea*, *Leucodendron* species, *Rhus* species, *Chrysanthemoides*, *Euryops* species, *Helichrysum* species, *Elegia tectorum*, *E. capensis*, *E. recta*, *Eriocephalus africana*, and various bulbs such as *Aristea africana*, *Lachenalia* and *Oxalis* species.



## SECTION 3: MANAGEMENT & MAINTENANCE GUIDELINES

## SECTION 3: MANAGEMENT & MAINTENANCE

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### 3.1 MANAGEMENT PRINCIPLES:

- To promote a balance between the natural ecology and the man-made environment.
- Creating and maintaining a connection to the surrounding natural areas, in terms of planting, recreational routes & natural spaces. Maintaining these routes through the development that is emphasized by paving types - formal & natural.
- Creating a unified & consistent planting palette throughout the development that creates a space hierarchy. For example, more formal “statement” planting at the main entrances; street planting that softens the road areas; more natural planting in the public open spaces and wetland spaces that connect to the natural area.
- To promote diversity of endemic and indigenous species based on aesthetic and ecological requirements, by creating a planting palette that is indigenous & water wise, and that enhances the biodiversity of the area.
- To promote water conservation by allowing rain – and storm water to infiltrate back into the ground. Creating vegetated storm water ponds / ‘wetlands’ that perform the function of rainwater infiltration and aesthetic planting.
- To ensure a high level of biodiversity in order to promote a sustainable natural environment that is self-sufficient and self-supporting.

### 3.1.1. SOFT & HARD LANDSCAPING MANAGEMENT GUIDELINES

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#### PLANTING

- **GENERAL**

##### **HOA & Landscape Manager**

Good management by the HOA & Landscape Manager will ensure the unique identity of the Estate as well as keeping the landscape appearance in a neat and tidy condition.

Good management will also ensure that the landscaping team maintains a low profile whilst working in the residential areas.

It is recommended that the Landscape Manager attends a SAGIC Invasive Species Course to become a certified Herbicide Operator.

It is recommended that a Nursery Area be allocated to the Landscape Manager for storing and growing plants (from cuttings and otherwise) for the Estate, as well as storage for composting and mulching materials ie grass cuttings.

##### **Home owners / Residents**

The integration of the landscape design of open spaces and street reserves with that of private property is encouraged. The following measures are to be applied in the landscape design of each erf:

- Homeowners are encouraged to enhance and to keep within the framework of species and the landscape character of the public landscape adjoining an erf.
- The landscape layout, in terms of lawn and bed areas, at the interface between public spaces and private property are to be harmoniously integrated.
- The streetscapes in the Estate shall conform to the Landscape Master Plan as drawn up by the Landscape Architect. However, should a Homeowner wish to establish any detailed planting on a sidewalk immediately adjacent to his erf and other than that which may have been provided by the Developer or any landscape design layout and choice of plants that do not conform with the guidelines, the Homeowner may submit detailed plans to the HOA for consideration and written approval where after the planting may be installed to the terms of the approval. The HOA is, however, under no obligation to accept any such proposals and will not be responsible for any costs incurred in preparing such an application. The Homeowner will be responsible for the establishment and maintenance of such an installation to an acceptable standard which will not detract from the general standards of the maintenance of the parks and surrounding areas and as laid down by the Aan de Wijnlanden Estate HOA. Such an

installation will be irrigated by the owner utilizing his own water. Under no circumstances will Homeowners be permitted to alter the street tree regime as installed by the Developer.

- No trees, which existed on plots at their date of acquisition, can be felled or removed by owners/builders/landscapers without the prior approval of the Home Owners Association and Landscape Manager.
- Homeowners may not prune/cut back any trees on the streets or Public Open Spaces of the Estate and will approach the Landscape Manager if any pruning is required. The pruning of trees will be at the discretion of the Landscape Manager.
- Planting of trees with invasive root systems is advised against as could damage roads, affect services and foundations of the houses. Please consult with the estate Landscape Manager for advice.
- No hard landscape/structures other than approved paving will be permitted on the sidewalks.
- the Estate Irrigation System may not be tampered with or altered other than as approved by the Landscape Manager.
- In order to achieve the vision of creating a distinctive and harmonious landscape in accordance with the estate theming and to extend the planting framework, Home Owners are encouraged, as far as is practical, to select plants for their gardens from the recommended plant palette which may be extended from time to time so as to enhance the overall vision and quality of this lifestyle.
- Home Owners may use *Paspalum vaginatum* (Seashore paspalum), *Cynodon dactylon* (Fyn kweek) or *Stenotaphrum secundatum* (Buffalo) in their private gardens. Private garden lawns will not be allowed to encroach into the natural vegetation areas.
- Fruit trees and grapevine planting in allocated areas and within private gardens is permitted. Invasive fruit species are not permitted. These include Prickly Pear cacti, Dragon Fruit cacti etc.
- It is the home owner's responsibility to ensure that their plot is kept clear of weeds and invasive species.
- The planting of invasive plants (see Appendix 2) is not permitted. This is to avoid alien infestation through seed dispersal and is strictly forbidden. Homeowners should also refrain from the planting of palms, conifers and cacti (particularly jointed cacti).
- Storm-water and water run-off from roofs and paving is to be directed to the natural vegetation areas.

The suggested Tree & Plant List (Appendix 1) specifies indigenous tree & plant species that are permitted on the Estate.

Using the plant list promotes:

- biodiversity of species, which results in a healthy, balanced regenerative environment;
- low-maintenance, largely self-sufficient appropriate landscape that requires little support;
- Sustainability by using water-wise plant species, thus minimising the need for irrigation and supporting water conservation efforts.

## **PATHWAYS**

All pathways to have a natural character. This can be a Hoggin natural gravel, a G4 to G6 type gravel layer or a rolled clay layer. These will need to be checked annually for erosion and fixed or replenished when thinning out.

### 3.1.2 AREA LANDSCAPING MANAGEMENT GUIDELINES

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- **ENTRANCES**

The entrances to the estate should always be well maintained and be the showcase of the estate. They introduce the planting palette and materiality of the estate. The entrance should be more formal than the rest of the estate using lines and accent planting such as *Vachellia xanthophloea* (Fever Trees) and Aloes (*Aloe cryptopoda*) to emphasize the avenue effect of the entrance.

The Circle, at the southern entrance, is an important entrance feature that needs to be maintained regularly, following these Maintenance Guidelines. The Circle should be planted with accent plants, bulbs and groundcovers that flower seasonally.

- **STREETS**

The streets should preferably be tree lined creating avenues, as well as creating shade and softening the streetscape. (See Appendix 1).

The trees lining the streets and along the fence line need to be regularly maintained ie pruned and kept neat.

The verges of streets should be kept neat and planted within the plant palette specified to enhance the theme of the estate. Road verges adjacent to property boundaries are to be landscaped and maintained by the relevant Home owner / Resident.

To maintain the avenue effect, trees of the same type should be planted, in consultation with the Landscape Manager. At present, these are predominantly *Searsia pendulina*.

- **COMMUNAL AREAS**

Aan de Wijnlanden HOA is obliged to maintain all common landscaped areas, public open spaces and wetland / retention pond spaces.

All communal areas are used at the Homeowner's/ Resident's risk.

- **CLUBHOUSE**

The clubhouse is a communal facility to be utilized by the Home owners / Residents. The lawns and landscaping should be kept neat at all times.

- **PUBLIC OPEN SPACES**

The public open spaces are ideal for safe play spaces for children. The lawn to be mowed and weeded regularly. Any play equipment and outdoor furniture to be regularly maintained and kept in a safe condition.

- **PATHWAYS**

There is a continuous pathway of approximately 3km that links the natural open spaces including the wetlands and conservation area. Homeowners/Residents are requested not to disturb these areas and to keep their dogs on leashes when walking through the Estate.

Homeowners / Residents are requested to respect the privacy of other residents when walking past properties.

- **WETLANDS / RETENTION PONDS**

Aan de Wijnlanden HOA is obliged to maintain all wetland / retention pond spaces.

The wetland areas are potential biodiversity hotspots within the estate. The type of planting will encourage wildlife on the edges and within the wetland.

The series of retention ponds /wetlands and their banks, that occur throughout the Estate, have been planted with species that will encourage indigenous birds, small mammals and reptiles.

Lawn growth should be kept at a minimum around the wetland / retention pond areas.

### 3.1 DETAILED MAINTENANCE GUIDELINES

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Maintenance of all planting areas shall consist of watering, weeding, mowing, fertilizing, disease and insect pest control, pruning, protective spraying, replacement of unacceptable material and any other procedure consistent with good horticultural practice necessary to ensure normal, vigorous and healthy growth of the plant material on site.

#### 3.1.1 LAWNS

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##### **Weeding:**

- All areas are to be kept weed free at all times. Constant checking and eradication of weeds to be undertaken.
- Unless otherwise stated, all weeds not controlled by regular mowing of lawn, must be removed manually and removed from site. Care should be taken not to spread any seeds in the process and that sufficient roots are removed with it to ensure no re- growth thereof.
- Eradication of weeds can either be by hand or by application of approved herbicides in accordance with the manufacturer's specifications. The weeding programme will be carried out under the guidance of the Landscape Manager (manager to give approval for the type of herbicide used, and method of application).
- Hand weeding is preferred and must be carried out on a regular basis. All root growth must also be removed.
- Broad leaved weeds are to be controlled by using correct herbicide.
- No spraying to be undertaken in narrow lawn areas where other preferred plants may be damaged.
- Due care is to be taken around flower beds when spraying for broad leaf weeds.
- Spraying will be carried out by competent persons wearing the correct protective clothing and that the necessary health and safety precautions for spraying are followed.

##### **Mowing & Edging**

- Mow lawn every 14 days in summer and in winter (April to September) at a constant height of approximately 20mm average throughout the year. Some grasses such as Buffalo (*Stenotaphrum sp.*) need a higher cut, approx. 30 – 60 mm. Inconsistent mowing leads to yellowing and die-back.
- After mowing, all grass cuttings are to be removed from the site. Grass cuttings can be used for composting and / or mulching.
- All areas where lawns abut onto the curb or footpaths are to be trimmed to a line down the back edge of the footpath or edge. No encroachment should be allowed.
- No edges are to be cut using a spade. Only hedge trimmers or shears may be used.

- Edges also to be trimmed every 14 days at same time as mowing so as to ensure an even appearance.
- Fuel containers are not allowed on grass areas.
- Trimming of lawn around trees must be carried out with care. Under no circumstances will line trimmers / weed-eaters be utilized around the base of trees without a tree guard.
- Blades of mowing equipment will be reasonably and acceptably sharp at all times so as to avoid unnecessary ripping or gouge of lawns.
- The necessary signage indicating "Warning - mowing operation in progress" must be put out and be reasonably visible to residents.
- The necessary precautions should be carried out before mowing so as to not endanger the Residents or other people in the area. Care should be taken where vehicles are parked.
- It is required that the right equipment be used for the appropriate area – e.g. type of mower, weed-eater, etc.

### **Fertilizing**

- Lawns will be fertilized about three times a year or unless otherwise specified by the Landscape Manager (the type and application would be as per instruction).
- Fertilizers are to be applied using a mechanical spreader or calibrated hand spreader.
- After fertilization, all areas are to be thoroughly watered to avoid any possibility of burning and to encourage fertilizer penetration to the root zone.
- From time to time, soils can be tested to determine the fertilizing programme.
- Depending on the above, the fertilizer programme will be structured as follows (provided as a guide only, there may be deviation from this programme):
  - Type 3:1:5 @ a rate of 25 g/m<sup>2</sup> in summer (round about Dec or Jan);
  - Type 3:1:5 @ a rate of 35 g/m<sup>2</sup> (May or June);
  - Type LAN at a rate of 35 g/m<sup>2</sup> (Sept or October).
- Low profile areas (e.g. veld grass areas and others as specified) will only be fertilized upon instruction when necessary.

### **Irrigation**

- All areas of lawn are to receive a minimum of 25 mm of water per week in both summer and less in the winter months (if necessary at all).
- During the summer months, water must be applied via acceptable irrigation spray methods at least twice a week and if necessary three times a week (this will be assessed throughout by the Landscape Manager), i.e. Monday, Wednesday and Friday or Tuesday and Thursday. Watering and irrigation is furthermore dependent on the Landscape Managers guidance especially where water restrictions are applied.

- Where there is no fixed irrigation, it is the Landscaper Managers responsibility to water by hand.
- Where automated irrigation is available, the Landscape Manager is to ensure that it is kept operational by monitoring its performance and carrying out minor maintenance.
- It is the Landscape Managers duty to ensure that when irrigation is switched on to check the direction of spray at all times. Damages that may occur due to misdirected sprayers (e.g. into houses, rooms, etc. causing damage) will be for the account of the HOA. It is preferred that a policy is adopted of not watering instead of utilizing faulty irrigation equipment that may lead to wastage or cause damage.
- Where only manual and pipe/dragline irrigation is available, the Landscape Manager is responsible for ensuring the equipment is properly set up and rotated at the correct intervals to supply the water as required.
- It is the Landscape Managers responsibility to report any breakage or leakage in the irrigation system to the HOA immediately.
- Aan de Wijnlanden makes use of bore-hole and collected storm water for irrigation purposes. Information regarding water sources for particular areas will be provided by the HOA and Landscape Manager.
- Watering will take place in accordance with any water restriction policies that may be in place.

### 3.1.2 SHRUBS & GROUNDCOVERS

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Aan de Wijnlanden HOA embraces the concept of water-wise indigenous greening, that links to the original biodiversity of the area, and therefore most of the shrubs, bulbs & groundcovers used on the estate are indigenous water-wise plants. These are to be kept in a good state of appearance at all times.

#### **Weeding:**

##### *General:*

- All areas are to be kept weed free at all times. Weeding is to be carried out with the frequency as indicated in the Annual Maintenance Programme (See Appendix 6) set up by the Landscape Architect, HOA and Landscape Manager.
- This is recommended at twice monthly.
- Remove all weeds manually, making sure to remove the roots as well.
- All weeds to be removed from the site and dumped at a lawful dumping site.

##### *Alien invasive vegetation*

- All invasive alien plants are to be eradicated from the garden areas and areas under maintenance, using recommended herbicides and closely following invasive alien removal guidelines (See Appendix 2 & 3).
- If during the establishment period non-indigenous weeds or other unwanted non-indigenous plants are present in the planted area, such vegetation shall be removed by hand.
- To remove: dig around the plant, making sure the sand is loosened around the root system. Dig down under the roots, applying pressure, and wrench the entire plant out.

##### *Disposal of weeds & alien invasive vegetation*

- Do not stockpile weeds, but place directly in a refuse bag and remove from site and dump at a lawful dumping site.

##### *Chemical control*

- Herbicides should be used with discretion. When used, it must be mixed and applied strictly according to manufacturers' instructions and must be overseen by a certified Herbicide Operator. Only equipment designed for the purpose may be used with the necessary protective clothing provided for the application team.
- It is advisable that a signboard is made and erected in a visible place near or at the area being sprayed, warning the residents of the application of poison. This board must

stay up for the entire active residue period, i.e. 7 days or 14 days, as indicated on the manufacturers' instructions.

- NOTE: No herbicides to be used near any of the wetland / retention pond areas.

### **Cultivation**

- Care must be taken to avoid damage to plants and plant roots during the cultivation process. Cultivate to ensure a loose, friable surface with no compaction.
- As part of the cultivation process, any areas where die-back has occurred are to be replanted by division using the plant type originally present in the area if the plant type allows.
- Prior to carrying out this process, areas that are to be replanted are to be thoroughly prepared through digging to the required depth (as required by the plant type and size and if necessary (again depending on the soil and plant type) fertilized using 3:1:5 and super phosphate at a rate of 25 g/m<sup>2</sup> each (this may vary and other combinations of fertilizers may be used). After planting, these areas are to receive additional watering as required for a period of no less than one month, depending on when planting took place.
- The practice of splitting indigenous ground covers shall be employed, wherever possible, to cover bed areas where weeds have been eradicated, where plants have died or where slope stabilization is required.

### **Fertilizing & Composting**

- All planting beds are to be fertilized three times per year with 3:1:5 at a rate of 50 g/m<sup>2</sup>. This is dependent on the plant type, condition of plants and soils.
- Following fertilization, all areas are to be well watered.
- Primary areas may need more composting during the year. Should this be the case, only well-composted, weed-free material may be used. The compost must be applied at a rate of 1m<sup>3</sup> per 20 m<sup>2</sup>. The compost will be brought in consultation with the Landscape Manager.

### **Mulching**

- To increase water retention, add mulch / compost and/or water retention additives to the soil. Cover planted areas with at least 50mm mulching material.
- Mulches such as grass cuttings, pine needles, chopped bark, peach pips, straw manure or autumn leaves can be spread across the soil. They break down and they enrich the soil.
- Replace organic mulches regularly. Inorganic mulches such as gravel, pebbles and stone chips also help to retain moisture in the soil.

## Pruning

- General pruning is to be carried out throughout the year. Groundcovers are to be cut back from the edges and shrubs generally pruned as and when necessary. Judiciously remove dead or excessive material, in particular the dead flowers and leaves (where there is uncertainty regarding this, the Landscape Manager will be consulted). Bigger shrubs (>3m) and trees will be pruned as when needed and as specified by the Landscape Manager. There may be requests from the HOA / Residents to prune back for lighting or for security purposes. In such cases a request will formally be put to the Landscape manager who will assess the request and give the necessary instruction.
- Only horticulturally correct pruning will be allowed using clean, sharp implements.
- Care shall be taken to ensure that groundcovers and climbers do not grow into or onto adjacent shrubs/trees.
- Shrubs shall be pruned lightly to natural forms, unless otherwise directed.
- Clipped hedges shall be kept neat and tidy at all times. No long shoots on clipped hedges shall be permitted, and hedges shall be trimmed true to line.
- Pruning shall only be undertaken under the guidance of a competent supervising Landscape Manager at all times.
- All walkways, parking areas and paths will be pruned up to 3m from ground level.
- All rubbish generated during pruning is to be removed from site at the end of each day.
- Piles of vegetation staying on site overnight will not be allowed. These must be moved off site to a dump, or to an allocated composting area on site.

## Irrigation

- All areas of shrubs, groundcovers and perennials are to receive a minimum of 25 mm per week throughout the year. If restrictions are in place, apply only as much water as allowed.
- The Landscape Manager is responsible for providing all necessary hoses, sprinklers and fittings to carry out the above.
- Those areas not covered by the irrigation system are to be hand watered.
- Where automated irrigation is in place, the Landscape Manager must check that it is properly directed and report any faults to the HOA, who will authorize for fixing.

## Disease & Pest Control

- The Landscape Manager is to constantly monitor for pests throughout and is to treat it accordingly.
- Plants should be inspected at least once a month, to locate any disease or insect pest infestations. Upon discovery of any disease or pest infestation, these must be identified,

the nature of species of infestation, and submit the proposed method of control to the HOA / Landscape Manager for approval, prior to application of control measures.

- Natural organic pesticides should be used. However, should these fail, then only should inorganic chemical pesticides be used (under supervision of a trained Manager or certified pest control officer).
- All the necessary and appropriate protective clothing should be worn.
- All applications must be in accordance with the manufacturers' instructions.

### **Clearing**

At completion, all surplus materials and waste, shall be removed and every part of the work left in a sound and tidy condition free from all defect whatsoever and to the entire satisfaction of the HOA and Landscape Manager.

### 3.1.3 TREES

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At present, there are mainly indigenous tree species planted in accordance with the vision of Aan de Wijnlanden Estate.

For any future planting of trees:

- The context of planting should be considered.  
Will it be to develop a shelterbelt, hedge, live screen, landscape feature or a nature strip, or a combination of the above?
- All future tree planting will only be indigenous water-wise trees that will tolerate the windy, dry and sandy conditions of the Cape Flats area, as recommended in the Tree List (Appendix 1).
- Further considerations should be given to:
  - Soil preparation,
  - size of tree,
  - water regime and
  - after-care in first 3 years
- All planting, preferably, to be implemented between April and June, at the start of the rainy winter season.

#### **Maintenance**

Tree management and maintenance is to be carried out the supervision of the Landscape Manager.

#### **General Tree Maintenance:**

- Maintain the trees in as healthy and attractive condition for as long as possible, to ensure continuity in tree cover and their contribution to the landscape structure, biodiversity, and screening/amenity value of the site
- Ensure that trees are healthy and safe, particularly in places in proximity to buildings.
- Any tree that dies or is necessarily felled, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing, unless it is an exotic species, which will then be replaced with an appropriate indigenous species (See Appendix 1).
- Top up mulch levels where necessary around the base of new trees, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture.

- Keep all plant material free from diseased wood, broken branches, or harmful or objectionable branches or twigs.
- Aim is to produce a clear stemmed street type tree with a strong leader and balance canopy.
- Water basins are to be created around tree bases in shrub planting and lawn areas where they do not already exist.
- Small, immature trees are to have water basins that must be filled once a week throughout the year.
- Water basins shall be lined with mulch.



Figure 2: Water Basin

#### **Weeding & Cultivation:**

- Where trees are in lawn areas, remove weed growth by hand and retain a circle of mulch (approximate radius of 500mm) to aid mowing and prevent damage to the main stem.
- Under no circumstances are line trimmers (weed-eaters) to be utilized around the base of trees, without a tree guard.
- NOTE: Trees dying due to damage by line-trimmers will have to be replaced.

#### **Fertilizing & Composting:**

- Superphosphate and bone-meal (or where needed, a general balanced fertilizer) may be supplied at a rate of 100g/m<sup>2</sup> of each, in 2 – 3 m<sup>2</sup> root zone in March and /or October.
- Access to the trees roots will be through holes of 3-5cm in the drip line where possible. Into these holes, mixtures of one part sand, one part balanced fertilizer and one part superphosphates are poured.
- After fertilization, trees are to be thoroughly soaked.

#### **Mulching**

- To increase water retention, add mulching and water retention additives to the soil.
- Cover planted areas with at least 50mm mulching material.
- Mulches such as grass cuttings, pine needles, chopped bark, peach pips, straw manure or autumn leaves can be spread across the soil. They break down and they enrich the soil.
- Replace organic mulches regularly.
- Inorganic mulches such as gravel, pebbles and stone chips also help to retain moisture in the soil.

**Pruning:**

- Trees will be kept pruned so that they do not obstruct human activity, obstruct driver's visibility, endanger persons or property.
- Minimal formative pruning is to be carried out under competent supervision as and when required.
- Before any pruning of trees, the Landscape Manager and HOA will be informed and consulted.
- Judicious hand pruning is to be carried out on a consistent basis to reduce suckering and to crown loft trees.
- Trees are to be trimmed up to a height of 3 meters. All major tree surgery must be carried out by a professional Service Provider on a quote and order basis.
- Trees are to be checked after storms and any loose branches will be cut and removed.
- All pruning wounds greater than 12mm diameter shall be painted with an approved tree wound sealant immediately after having been cut. Only sharp tools, designed for pruning, shall be used, i.e. secateurs and / or loppers.

**Irrigation:**

- All trees to have a watering basin (See Figure 2).
- All trees are to be watered by hose; the basins of young immature trees will be filled once per week throughout the year.
- If an irrigation system is to be used, it should be a drip system around the base of the tree.
- See Appendix 5 for Tree Watering Schedule

**Disease & Pest Control:**

- The Landscape Manager is to constantly monitor for pests throughout and is to treat it accordingly.
- Natural organic pesticides should be used. However, should these fail, then only should inorganic chemical pesticides be used (under supervision of a trained Manager).
- All the necessary and appropriate protective clothing should be worn.
- All applications must be in accordance with the manufacturers' instructions.

**Accessories:**

- Maintain all accessories such as tree stakes and ties in good condition.
- All small, immature trees (<250L) should be staked appropriately.
- All trees shall be checked once a month and after all storms, to ensure that the stake of young trees is firm and that the tree is adequately tied at the top and bottom of the stake.
- Damage to trees caused by chaffing or strangulation will not be permitted.

- Ties shall be loosened or tightened as and where requested. The Landscape Manager will check and ensure that the provided supports are regularly checked and adjusted.
- Where stakes are broken, the Landscape Manager shall replace it.
- Stakes shall only be removed upon the approval of the Landscape Manager.

### 3.1.4 RETENTION PONDS / WETLAND AREAS

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The maintenance and management of the retention pond / wetlands should be monitored and reviewed on a regular basis by the HOA and Landscape Manager.

#### **Weeding & Cultivation**

- Assessments of the newly planted areas should be carried out every three months for the first year, and every six months for the following years. This should be carried out by the Landscape Manager in order to assess whether specified maintenance procedures are being carried out correctly, and what new measures, if any, will be required to rectify the situation.
- During the establishment period, and for about 2 years after planting, the vegetation should be watered during periods of drought.
- Weeding of the entire planted area should take place bi-annually during autumn (May/June) and spring (November), after soils have been softened by rain, making weeds easier to remove. Care shall be taken during weeding to limit the disturbance caused to desirable plants.
- All woody alien / invasive species should be removed by hand. They shall not be stockpiled and must be disposed of off-site at an approved dump site.
- Lawns should be avoided around the wetland / retention pond areas.
- Lawns should not encroach the high water level of any wetland or pond.
- NOTE: No chemical control to be used in or around the wetland areas.

#### **Fertilizing**

- NOTE: No fertilizers to be used in and around the Wetland areas.

#### **Pruning**

- This is a natural area, so the shrubs and groundcovers can be left to grow in a fairly wild condition. These will provide habitat to wildlife species, so minimal disturbance would be required.
- General pruning is to be carried out biannually and only if necessary. The Landscape Manager to advise.
- Judiciously remove dead or excessive material, in particular the dead flowers and leaves (where there is uncertainty regarding this, the Landscape Manager and/or Landscape Architect will be consulted). Bigger shrubs (>3m) and trees will be pruned as when needed and as specified by the Landscape Manager. There may be requests from the Homeowners / Residents to prune back for lighting or for security purposes. In such cases

a request will formally be put to the HOA and Landscape Manager who will assess the request and give the necessary instruction.

- Only horticulturally correct pruning will be allowed using clean, sharp implements.
- Knowledge of shrubs and plants are therefore required on the part of the Landscaper.
- Pruning shall only be undertaken under the guidance of a competent supervising Landscape Manager at all times.
- All rubbish generated during pruning is to be removed from site at the end of each day. Piles of vegetation staying on site overnight will not be allowed.

### **Reed bed control**

*Typha* & *Phragmites*, although not alien plants, could threaten to take over the wetland areas and should be removed from the areas **not** designated as reed beds. Management and control of the *Typha* & *Phragmites* reed beds is a difficult practice. (See Table 1 for reed bed clearing methods).

Open areas (cleared of reeds) to be maintained amongst the reed beds to allow for the correct ecological functioning of the pond.

It could include an alternating practice of burning and manual clearing. Fire is a useful means to burn out trapped organic material trapped at the pond inlets, and burning may be one of the management strategies adopted.

A compromise between the ecological desirability for regular burning and the perceived undesirability of fires in an urban area would be to alternate burning with manual clearing of *Typha* & *Phragmites* by cutting and pulling, to control the spread of these reeds. Note however, that manual clearing, unless it involves clearing of substantial soil itself, will control plants in the short term, but will have little effect on reducing nutrients bound in the soil.

Reed bed clearing should only occur in late summer after the breeding season of most bird species related with reed beds. This clearing has to be carefully timed so that it occurs after breeding season but prior to reed seeding season which is also late summer. This clearing of reeds will become less necessary as plant communities become fully established and plant densities preclude reed invasion.

Table 1: Reedbed clearing methods

TREATMENT	ADVANTAGES	DISADVANTAGES
Manual cutting	<ul style="list-style-type: none"> <li>- simple</li> <li>- no machinery</li> <li>- no training</li> <li>- harvested material can be utilized</li> <li>- effective if combined with <u>flooding</u></li> <li>- provides employment</li> </ul>	<ul style="list-style-type: none"> <li>- labour intensive</li> <li>- difficult in deep water</li> </ul>
Mechanical cutting	<ul style="list-style-type: none"> <li>- rapid clearing</li> <li>- harvested material can be utilized</li> <li>- effective if combined with flooding</li> </ul>	<ul style="list-style-type: none"> <li>- costly machinery</li> <li>- trained operator</li> </ul>
Burning	<ul style="list-style-type: none"> <li>- rapid plant death</li> <li>- cheap</li> </ul>	<ul style="list-style-type: none"> <li>- short term measure</li> <li>- not suitable for all areas</li> <li>- disrupts other aquatic life-forms and ecosystem functioning</li> </ul>
Herbicides	<ul style="list-style-type: none"> <li>- effective</li> <li>- cost-efficient</li> </ul>	<ul style="list-style-type: none"> <li>- non-specific</li> <li>- introduces toxic residues into the system</li> <li>- leaves standing litter (unsightly)</li> <li>- need to be reapplied</li> <li>- disrupts other aquatic life-forms and ecosystem functioning</li> </ul>
Flooding	<ul style="list-style-type: none"> <li>- effective</li> <li>- cheap</li> <li>- suitable where water levels can be managed</li> </ul>	<ul style="list-style-type: none"> <li>- difficult to implement</li> </ul>
Draining	<ul style="list-style-type: none"> <li>- effective if prolonged</li> <li>- suitable where water level can be controlled</li> </ul>	<ul style="list-style-type: none"> <li>- non specific</li> <li>- difficult to implement</li> </ul>

**Irrigation**

- Formal irrigation system is not required at the retention ponds.
- During the establishment period, about 2 years after planting, the vegetation should be hand watered during periods of drought.

**Pest Control**

- No pesticides or chemicals are to be used in or around the wetland areas.

**Litter removal**

- The design and structure of the storm water inlets should be kept relatively free from plants/reeds and therefore provide ease of access for clearing up litter caught by the litter traps. This needs to be maintained on a regular basis.
- Litter shall be removed from the litter traps on a regular basis, before and after the rainy season.
- Wind-blown litter shall be removed from the ponds regularly.

**Erosion Control**

- In the case of surface wash-away or wind erosion, appropriate erosion control / soil stabilization measures shall be implemented as soon as possible.
- In the event of any erosion on the pond slopes / graded slopes, these shall be reshaped, dressed with local topsoil and replanted with fast growing groundcovers, or in conjunction with a geojute secured at 1m<sup>2</sup> intervals, Geojute is generally applied on slopes steeper than a 1:4 gradient or where erosion is severe.

### 3.1.5 PUBLIC OPEN SPACES

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The maintenance and management of the open spaces is the responsibility of the Aan de Wijnlanden HOA.

- Public Open Spaces to be mowed, well-kept lawns with shade trees, informal planting of flowering indigenous shrubs and groundcovers.
- Where the lawn is in poor condition due to shade, these areas should be planted with shade shrubs and groundcovers or covered with mulch such as peach pips or bark nuggets.
- Incorporate storm water management (i.e. rain gardens / bioswales) where storm water can be used as an alternative means to accent focal points.
- Planting to include shade trees, water wise flowering shrubs and groundcovers.
- Play equipment and seating to be provided and maintained in Public Open Spaces.

### 3.1.6 OUTDOOR FURNITURE / PLAY EQUIPMENT

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Street furniture throughout the Estate to be maintained to a suitable standard. Ensure that hard surfaces and street furniture are maintained in a safe, debris-free state to facilitate all-year-round use.

#### **Maintenance**

- Undertake checks, every 3 months, of all street furniture / play equipment to ensure that it remains soundly and safely installed. Re-install any loose furniture / equipment. Repair any damaged furniture or play equipment.
- Any worn or damaged paint work should be rectified by the application of an appropriate paint to match the existing.
- Undertake checks every 3 months.
- In case of graffiti, every endeavour is to be made to remove / remediate outdoor furniture or play equipment that is subject to graffiti.
- Any furniture that cannot be repaired should be replaced with the same or similar furniture that is approved by the HOA.

### 3.1.7 IRRIGATION SYSTEM

At present, there is no formal irrigation system installed at Aan de Wijnlinden.

Water is pumped from the retention ponds into a tank and the planting is watered manually.

A more efficient system would be to gradually install drip irrigation, which is fed via the pump system from the retention ponds.

#### GENERAL MAINTENANCE

A proposed watering & maintenance schedule is included in this document. See Appendix 5

All defects that may become apparent during maintenance shall be thoroughly investigated and rectified by and to the Landscape Manager & HOA approval.

The Landscape Manager shall be responsible for the use of all materials, labour, equipment, and any injury to plant material caused by such material, labour and equipment, shall be corrected and repaired by the Landscape Manager and landscaping team.

Maintenance work to be carried out on the existing and future drip irrigation system will include but not be limited to the following:-

- A water supply point will be provided at approximately 50m c/c. The HOA & Landscape Manager is to provide all necessary hosepipes, up-stands and sprinkler heads for effective irrigation.
- Maintaining the desired level of moisture necessary to maintain vigorous and healthy growth. The quantity of water applied at one time shall be sufficient to penetrate the soil to a minimum depth of approximately 500mm, where appropriate, and at a rate that will prevent saturation of the soil (See Figure 3 for appropriate watering depth levels)

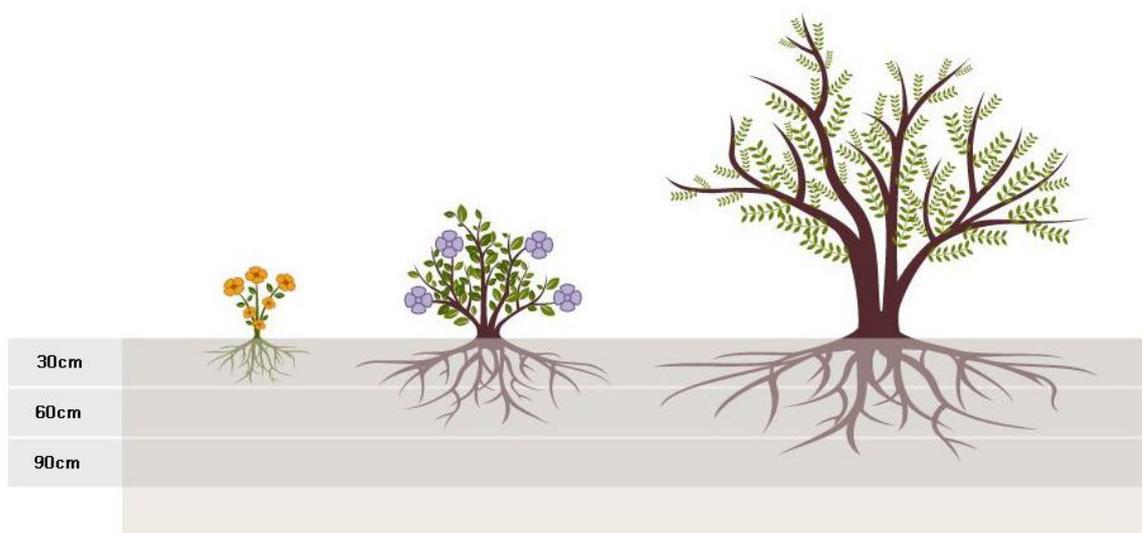


Figure 3: Watering Depth per plant type

- All seeded, planted or sodded grass areas and all shrubs or trees planted shall be irrigated regularly at the specified intervals (See Appendix 3).
- Lawn areas shall require irrigation coverage of 100% and a permanent watering programme. The watering programme shall be modified to accommodate natural climatic variations.
- Re-vegetated areas shall require irrigation coverage of 100% and a modifiable watering programme.
- In the event of a delay between the planting programme and installation of the watering system, or prior to an irrigation system being installed, a water truck OR borehole / pond water shall be utilized for watering according to a programme approved by the Landscape Manager.
- Every effort shall be made to reduce irrigation / sprinkler overspray onto natural patches.
- The Landscapers shall water the planted areas as necessary, using a suitable fine spray which shall not disturb the vegetation and which will not cause any erosion.
- Ensure that the planted area receives 30mm of irrigation water, or hand watered in cases of water restrictions, including rain, per week applied uniformly over the whole area.

## INSTALLATION OF NEW IRRIGATION (FUTURE):

In the event of new irrigation being installed in the future, the following should be adhered to:

### Irrigation Design

The irrigation design and installation must ensure that:

- That any new irrigation that is installed must include a water meter, to allow for measurement of water usage.
- The installation of pipe work causes no damage or disturbance to any plants that may have been installed.
- The sprinklers are positioned accurately, relative to the plant's size and weather elements, i.e. seasonal wind direction.
- The plants are satisfactorily irrigated all year round and address the specific plants' water requirements.
- The plants' water requirements shall be adjusted accordingly to accommodate weather and climatic conditions during the maintenance period.
- Irrigation programme criteria set to minimize evaporation, shorten the dewing period as well as general public activities, i.e. use of lawn areas, etc.

### Pipes and Fittings

- Only new material of good quality may be used and, where applicable, must conform to the latest edition of the relevant SABS standards.
- All main and sub-main piping shall be **Class 6** HDPE SABS pipe and solenoid valves will be installed either in clusters or alone, as required. All galvanised steel fittings must be wrapped with DENSO tape to prevent corrosion. All threaded fittings are to be as manufactured by Plasson or Astore or approved SABS approved fittings.
- Irrigation mainline will be installed in trenchers that will be no shallower than 500mm below the surface of the landscaped areas. All HDPE pipes that need to cross road/paths will be installed in a 110mm sleeve.
- All lateral piping to sprinklers will be as specified and to the relevant SABS specification.
- The irrigation Sprayline will be a class 3 LDPE pipe, and will be installed in trenchers that will be no shallower than 350mm below the surface of the landscaped areas. All LDPE pipe that needs to cross road/paths will be installed in a sleeve. The LDPE pipe will make use of Micromark Full Flow, which are colour coded for easy identification and are easily installed.
- On 40mm, 32mm and 25mm diameter pipes, sprinkler-mounting pipes will be by means of saddles and on 20mm Class 10 pipe in tree planters, by means of female threaded tees and elbows.

### **Trenching, Excavation, Pipe laying and Backfilling**

- The installation of the irrigation shall take place side by side with on-site conditions and other services, which could be damaged or affected during trenching and installation.
- Trenches will be dug in growing medium and depths, such as to give minimum 300mm cover between the barrel of piping and the finished level. Pipes shall be laid on a sound bedding with a density at least equal to that of the surrounding soil. All piping must be laid to the manufacturers' specification. Trenches will be set out and dug true to plan, winding and skew trenches will not be acceptable.
- Excavation, backfilling and compaction of trenches 650 mm deep and 250 mm wide for all pipes over 63mm. Diameter and 450 mm deep and 250 mm wide for all pipes below and including 63mm pipe.
- Compaction of trenches through hard surfaced areas to be to site engineer's specification for other civil works. That through planted areas to be to the same degree of compaction of the surrounding planting area, such that no subsidence occurs after backfilling.
- If rock or other adverse conditions preclude the installation at the prescribed depth, the client's permission must be obtained for burial at a shallower depth.
- The backfill material surrounding the pipe by 50mm shall be free of rock or other hard materials.
- All Sprinklers in the design shall be placed in such a manner to minimize vandalism and to insure a visual sensitive layout.
- All sprinklers positioned near walkways, parking areas and other paved surfaces should be adjusted not to wet such surfaces.
- All emitters in planters will be shrub sprays with nozzles as considered appropriate to ensure proper watering and sufficient overlap.
- Pop-ups and shrub sprays must be Rainbird, spaced to provide optimum coverage / 100% overlap.

### **Dripper Pipe**

- All dripper pipes installed are manufactured by Netafim and installed to suppliers' specifications. Techline 2.3 litres / hour, 0.400m spacing.
- All trees in paved areas to be irrigated by means of dripper. Dripper pipe around trees shall consist of a single dripper ring (min 4 drippers), that T's off a main line. This will be covered by mulch to avoid vandalism and unsightly pipes.
- Hedge planting and other road trees may be irrigated by means of dripper.
- All dripper pipes shall be above ground. The water holding capacity of the specific soil shall determine the dripper pipe spacing.
- Provision has to be made for pressure reducing valves, vacuum breakers and adequate filters to insure proper function of drippers.

- All drip irrigation being installed for residential or commercial irrigation site will be pressure compensated, this means that the dripper will only start dripping once the entire line is up to pressure, this avoids under or over watering of the same drip irrigation zone.

### **Turf Valves**

- Provision must be made for quick coupling turf valves on live lines to allow for irrigation by hand-held hose (+-30m) for the irrigation of all areas during construction and during power failure or when conditions on site require it.
- The 25mm turf valve will be manually operated by the use of a 20mm turf valve key, which is attached to a 20mm heavy duty dragline hose. This hose can be use with a hand held nozzles or for larger areas an impact sprinkler will be use on a stand.
- The turf valves will be installed between 300mm to 450mm below the ground and cover with a valve box for ease of use and to prevent any damaged to the valve. All the turf valve will be installed with an isolation valve so the broken turf valve can be isolated and no water is wasted.

### **Controllers and Solenoid valves**

- The controllers are to be battery operated modules (1, 2 or 4-station) and must have three independent programmes (Rainbird).
- These modules are to be installed in valve boxes with the solenoid valves and are to be waterproof.
- The electronic irrigation controller will be installed in a practical position that is approved by the Landscape Manager, as all the irrigation wire calculations will be done from this point. (If the controller position is changed on site the irrigation designer will need to be informed as to where so that the wire calculation can be checked and redone if need be). The power for the controller will be supplied by a qualified electrician and will follow all the South African laws and legislations.
- The controllers will need to be suitably earthed by the use of a copper earth spike and the correct strapping, the controller will also need to have a ZED 31-3(ZAPTRAP) surge arrestor fitted on the 240 Volt power supply coming into the controller.
- The irrigation system will be programed to run for a calculated amount of time to ensure the equal water distribution throughout the whole site. All controllers can be adjusted to the seasons, to reduce the water consumption on site during the winter period.

### **Field Transmitter**

The field transmitter to have the following:

- Large liquid crystal display.
- Key pad to be equipped with a 'Beep' sound to confirm that a key has been pressed.

- Three independent programmes.
- Easy to use manual start and stop function.
- Rain-off mode.
- External optical connector for easy plug-in to the control mode.
- 9V Long life Alkaline battery.
- All solenoid valves to be fitted with latching solenoids compatible with the modules and transmitter to be used.
- All valve clusters to be provided with pressure reducing valves and are to be set to pressures to suit the systems.

The Irrigation transmitter is to be located in a secure area within an office building.

### **Commissioning**

- The irrigation contractor shall provide details of and carry out a full testing and commissioning programme of the irrigation system, to the satisfaction of the Landscape Architect.
- The irrigation system should be fully functional prior to planting.

### **Operations Manual**

On completion of the installation, the Contractor shall provide three copies of the final approved maintenance and operating manuals for the plant and equipment supplied. The manuals shall be typed, bound in book form with hard plastic covers to withstand constant use. All manuals shall be properly indexed to facilitate easy reference. The manual is also to be provided in a digital format.

The manual shall include:

- A list of recommended servicing tools and specialist equipment.
- A list of recommended spares necessary for a period of two (2) years of operation.
- Exploded drawings or detailed spares list from which every item of every piece of equipment can be positively identified for ordering replacements.
- A list giving the name and address of the local agent for each item of equipment.
- A list giving the name and address of the manufacturer of each item of equipment.
- A preventative maintenance programme for all equipment.
- Operating instructions for each item of equipment.
- Performance data and/or characteristic curves.

An electronic irrigation layout drawing shall be submitted to the Landscape Manager. Drawings supplied, illustrating the planned areas to be irrigated, proposed water points and conduits placed by others for irrigation pipes.



## SECTION 4: APPENDICES

## SECTION 4: APPENDICES

### APPENDIX 1: SUGGESTED PLANT LIST FOR PRIVATE GARDENS AND STREET AREAS

This list serves as a guideline only.

To maintain the theme and integrity of the Estate, we encourage the planting of indigenous plant species and lawns.

#### Planting not permitted within the Estate:

- any plant listed as an invasive alien plant in Table 3 of the Conservation of Agricultural Resources Act, 1983, (Act No. 43 of 1983); and
- any conifers or palms or invasive cactuses (jointed cactuses).

LARGE TREES	
Brabejum stellatifolium (Wild almond)	Maytenus acuminata (Silky bark)
Calodendron capense (Cape Chestnut)	Nuxia floribunda (Forest Elder)
Celtis Africana (White stinkwood)	Olea europaea subsp. africana (Wild Olive)
Combretum erythrophyllum (River Bushwillow)	Podocarpus falcatus (Yellowwood)
Cunonia capensis (Rooiels / Red Alder)	Podocarpus henkelii (Henkels yellowwood)
Curtisia dentata (Assegai tree)	Rapanea melanophloeos (Cape Beech)
Dais cotinifolia (Pompom tree)	Salix mucronata (Cape Willow)
Ekebergia capensis (Cape Ash)	Searsia pendulina (Wit Karee)
Erythrina caffra / lysistemon (Coral Tree)	Sideroxylon inerme (Milkwood)
Halleria lucida (Tree Fuschia)	Syzigium cordatum (Waterberry)
Harpephyllum caffrum (Wild Plum)	Vachellia xanthophloea (Fever Tree)
Ilex mitis (African Holly)	Virgilia oroboides (Keurboom)
Kiggelaria africana (Wild Peach)	
SMALL TREES	
Brachlaena discolour/nerifolia	Grewia occidentalis (Cross-berry)
Buddleja spp.	Maytenus oleoides (Klipkershout)
Diospyros whyteana (Bladder-Nut)	Tarchonanthus camphoratus

<b>TALL SHRUBS</b>	
Buddleja spp. Diospyros whyteana Dodonea viscosa Freylinia lanceolata Grewia occidentalis Leonotis leonurus Leucodendron species Leucospermum species Protea species	Rhus chirindensis Rhus glauca Rhus crenata Salvia chamelaeagna Salvia lutea-africana Strelitzia juncea Tecomaria capensis
<b>MEDIUM &amp; SMALL SHRUBS</b>	
Athanasia species Barleria obtusa Carissa macrocarpa Chrysocoma coma-aurea Chrysanthemoides monilifera Coleonema species Cotyledon orbiculata Elegia tectorum Eriocephalus africanus Euryops pectinatus Felicia aethiopica Helichrysum petiolare	Helichrysum dasyanthum Hypoestes aristata Melianthus major Melianthus minor Pelargonium species Plecostachys serpyllifolia Polygala species Portulacaria afra (Spekboom) Restio species Salvia chameleagnea
<b>ALOES</b>	
Aloe arborescens Aloe thraskii Aloe ciliaris	Aloe ferox Aloe bainesii Aloe cryptopoda
<b>GROUNDCOVERS</b>	
Aptenia cordifolia Arctotis species Asparagus species Carpobrotus species Cotula sericea Gazania species	Geranium incanum Helichrysum cymosum Lampranthus species Osteospermum ecklonii Plectranthus neochilus Sutera cordata

<b>BULBS &amp; GEOPHYTES</b>	
Agapanthus species	Dietes grandiflora
Aristea Africana	Kniphofia species
Aristea major	Lachenalia species
Aristea ecklonii	Tulbagia violaceae
Chasmanthe floribunda	Watsonia borbonica
Chasmanthe aethiopica	Watsonia meriana
Clivia miniata	Zantedeschia aethiopica
<b>FRUITING TREES</b>	
Olea europaea *Mission (black table olive & olive oil)	Vitis vinifera cultivars i.e Hanepoot Grapes vine
Manzanilla Olive (Green Table Olive)	Citrus trees
Kalamata Olive (Black Table Olive)	
<b>WETLANDS</b>	
Berzelia abrotanoides	Lobelia alata
Elegia tectorum	Orphium frutescens
Elegia capensis	Psoralea pinnata
Elegia cuspidate	Psoralea repens
Erica perspicua	Restio festuciformis
Falkia repens	Rhodocoma filiosa
Gnidia squarosa	Wachendorfia thyriflora
Ischyrolepis subverticillata	Watsonia meriana
Juncus capensis	Watsonia borbonica
Juncus kraussi	Zantedeschia aethiopica
Kniphofia praecox	
<b>LAWNS</b>	
Cynodon dactylon / tranvaalensis (Bermuda grass / Kweek)	
Paspalum vaginatum (Seashore paspalum)	
Stenatophrum secundatum (Buffalo grass)	

**APPENDIX 2: DECLARED ALIEN INVASIVE SPECIES – NOT PERMITTED IN THE ESTATE****Categories of Invasive Alien Plants**

	<b>Category 1a</b>	<b>Category 1b</b>	<b>Category 2</b>	<b>Category 3</b>
<b>Definition</b>	A species that must be combated or eradicated	A species that must be controlled	A species that requires a permit	A species that is subject to certain prohibitions
<b>Actions Required</b>	Take immediate steps to eradicate the invasive species using appropriate methods.	Take steps to control the invasive species using appropriate methods.	Apply for, and comply with, a permit to conduct restricted activities (e.g. import, possess, grow, move, trade, dispose of or spread the species).	Control the species if it spreads to riverbanks. Planting, propagating, and trading in the species are not allowed.

**VERKLAARDE ONKRUIDE EN INDRINGERPLANTE /  
DECLARED WEEDS AND INVADER PLANTS  
[REGULASIE/ REGULATION 15]**

Soort plant / Kind of plant		Kategorie / Category	Speciale voorwaardes / Special conditions
<i>Botaniese naam / Botanical name</i>	<i>Gewone naam / Common name</i>		
Kolom 1 / Column 1		Kolom 3 / Column 3	Kolom 4 / Column 4
<i>Acacia pendula</i> A.Cunn.	Treurwattel / Weeping myall, Boree	3	DWAF list
<i>Acer buergerianum</i> Miq.	Chinese ahorn, Chinese esdoring / Chinese maple, Trident maple	3	
<i>Acer negundo</i> L.	Essenblaarahorn, Kaliforniese esdoring / Ash-leaved maple, Box elder	3	
<i>Agave americana</i> L.	Garingboom / American agave	2	
<i>Agrimonia procera</i> L. ( <i>A. repens</i> , <i>A. odorata</i> )	Akkermonie, Geelklits / Scented agrimony	3	
<i>Albizia julibrissin</i> Durazz.	Syboom, Pienk siris / Silk tree, Pink siris	3	DWAF list
<i>Alnus glutinosa</i> (L.) Gaertn.	Swartels / Black alder	3	
<i>Ammophila arenaria</i> (L.) Link	Marram grass	2	
<i>Berberis thunbergii</i> DC.	Japannese berberis / Japanese barberry	3	DWAF list
<i>Brachychiton populneus</i> (Schott & Endl.) R.Br.	Koerajong, Bottelboom / Kurrajong, Bottle tree	3	DWAF list
<i>Calistemon rigidus</i> R.Br.	'perdestert / Stiff-leaved bottlebrush	3	DWAF list
<i>Cardiospermum halicacabum</i> L.	Blaasklimop / Lesser balloon vine	3	
<i>Celtis australis</i> L.	Netelboom / Nettle tree, European hackberry	3	
<i>Celtis sinensis</i> Pers.	Chinese netelboom / Chinese nettle tree	3	
<i>Celtis occidentalis</i> L.	Vals witstinkhout / Common hackberry	3	
<i>Coffea arabica</i> L.	Koffieboom / Coffee tree	2	DWAF list
<i>Crataegus pubescens</i> (Kunth) Steud.	Mexikaanse meidoring / Mexican hawthorn	3	DWAF list
<i>Coreopsis lanceolata</i> L.	Coreopsis / Tickseed	3	
<i>Crotalaria agatiflora</i> Schweinf.	Voeltjebos / Bird flower, Canarybird bush	3	

**VERKLAARDE ONKRUIDE EN INDRINGERPLANTE /  
DECLARED WEEDS AND INVADER PLANTS  
[REGULASIE/ REGULATION 15]**

Soort plant / Kind of plant		Kategorie / Category	Speciale voorwaardes / Special conditions
Botaniese naam / Botanical name	Gewone naam / Common name		
Kolom 1 / Column 1		Kolom 3 / Column 3	Kolom 4 / Column 4
<i>Cynodon dactylon</i> (L.) Pers.	Gewone kweek (gras) / Bermuda grass, common couch	2	
<i>Cyphomandra betacea</i> Cav.	Boomtamatie / Tree tomato	3	
<i>Duranta erecta</i> L. (= <i>D. repens</i> L.; <i>D. plumieri</i> Jacq.)	Vergeet - my - nie – boom / Forget - me - not – tree, Pigeon berry	3	
<i>Fraxinus americana</i> L.	Amerikaanse esseboom / American ash, White ash	3	
<i>Hakea salicifolia</i> (Vent.) B.L.Burt (= <i>H. saligna</i> (Andr.) Knight)	Wilgerhakea / Willow hakea	3	
<i>Hedera helix</i> L.	Engelse hедера / English ivy	3	DWAF list
<i>Juniperus virginiana</i> L.	Rooiseder, Potloodseder / Red cedar, Pencil cedar	3	
<i>Leptospermum scoparium</i> J.R.Forst. & G.Forst.	Manukamirt / Manuka myrtle, New Zealand tea tree	3	DWAF list
<i>Lolium perenne</i> L.	Meerjarige raaigras / Perennial ryegrass	2	
<i>Lolium multiflorum</i> Lam.	Italiaanse raaigras / Italian ryegrass	2	
<i>Lonicera japonica</i> Thunb. 'Halliana'	Japane kanferfoelie / Japanese or Hall's honeysuckle	3	
<i>Mirabilis jalapa</i> L.	Vieruurtjie / Four-o'clock, Marvel-of-Peru	3	
<i>Morus nigra</i> L.	Swartmoerbei / Black mulberry	3	DWAF list
<i>Myoporum insulare</i> R.Br.	Manatoka / Boobyalla	3	DWAF list
<i>Myoporum laetum</i> G.Forst.	Nieu-Seelandse manatoka / New Zealand manatoka, Ngaio	3	
<i>Oenothera rosea</i> L'Herit. ex Aiton	Pienknagblom / Pink evening primrose	3	
<i>Oenothera stricta</i> Ledeb. ex Link	Soetnagblom / Sweet sundrop	3	
<i>Oenothera indecora</i> Cambess.	Nagblom / Evening primrose	3	

**VERKLAARDE ONKRUIDE EN INDRINGERPLANTE /  
DECLARED WEEDS AND INVADER PLANTS  
[REGULASIE/ REGULATION 15]**

Soort plant / Kind of plant		Kategorie / Category	Spesiale voorwaardes / Special conditions
<i>Botaniese naam / Botanical name</i>	<i>Gewone naam / Common name</i>		
Kolom 1 / Column 1		Kolom 3 / Column 3	Kolom 4 / Column 4
<i>Oenothera tetraptera</i> Cav.	Witnagblom / White evening primrose	3	
<i>Passiflora edulis</i> Sims	Grenadella / Purple granadilla, Passion fruit	2	
<i>Pennisetum clandestinum</i> Hochst. ex Chiov.	Kikoejoegras / Kikuyu grass	2	
<i>Pennisetum purpureum</i> Schumach.	Olifantsgras / Elephant grass, Napier grass	2	
<i>Phytolacca octandra</i> L.	Bobbejaandruif, Inkbessie / Forest inkberry	1	
<i>Pittosporum crassifolium</i> Banks & Sol. ex A.Cunn.	Styweblaarkasuur / Stiff – leaved cheesewood, Karo	3	DWAF list
<i>Polypodium aureum</i> L.	Haaspootvaring / Rabbit's - foot fern, Blue fern	3	
<i>Populus deltoides</i> Bartram ex Marshall (including subsp. <i>Wislizenii</i> (= <i>P. wislizenii</i> Sarg.))	Vuurhoutjiepopulier / Match poplar	2	
<i>Populus nigra</i> L. var. <i>italica</i> Münchh.	Italiaanse populier / Lombardy poplar	2	
<i>Populus simonii</i> Carrière	Simon populier / Simon poplar	3	DWAF list
<i>Prunus cerasifera</i> Ehrh.	Kersiepruim / Cherry plum, Myrobalan plum	3	DWAF list
<i>Rhus glabra</i> L.	Gladde sumak / Smooth sumach, Scarlet sumach, Vinegar bush	3	
<i>Rosa canina</i> L.	Hondsroos / Dog-rose	3	DWAF list
<i>Rumex crispus</i> L.	Krultongblaar, Weeblaar / Curly dock	3	
<i>Rubus flagellaris</i> Willd.	Braam / Bramble	1	
<i>Sambucus canadensis</i> L.	Kanadese vlier / Canadian elder	3	DWAF list
<i>Schefflera actinophylla</i> (Endl.) Harms	Australiese kiepersol / Australian cabbage tree, Queensland umbrella tree	3	

**VERKLAARDE ONKRUIDE EN INDRINGERPLANTE /  
DECLARED WEEDS AND INVADER PLANTS  
[REGULASIE/ REGULATION 15]**

Soort plant / Kind of plant		Kategorie / Category	Spesiale voorwaardes / Special conditions
<i>Botaniese naam / Botanical name</i>	<i>Gewone naam / Common name</i>		
Kolom 1 / Column 1		Kolom 3 / Column 3	Kolom 4 / Column 4
<i>Schinus molle</i> L.	Peperboom / Pepper tree	3	
<i>Senna septemtrionalis</i> (Viv.) Irwin & Barneby (= <i>Cassia floribunda</i> sensu Brenan non Cav.; <i>C. laevigata</i> Willd.)	Arsenic bush	3	
<i>Solanum pseudocapsicum</i> L.	Jerusalemkersie / Jerusalem cherry	3	
<i>Syzygium paniculatum</i> Gaertn. (= <i>Eugenia myrtifolia</i> Sims)	Australiese waterpeer / Australian water pear, Australian brush-cherry	3	
<i>Tamarix aphylla</i> (L.) H.Karst.	Woestyntamarisk / Athel tree, Desert tamarisk	3	DWAF list
<i>Ulmus parvifolia</i> Jacq. (= <i>U. chinensis</i> Pers.)	Fynblaarolm, Chinese iep / Chinese elm	3	

**APPENDIX 3: INVASIVE ALIEN REMOVAL**

	When	Method
Invasive species clearing For use on Port Jackson Trees	November to January  Do not apply before or during rainfall.	<ul style="list-style-type: none"> <li>• Apply <b>KAPUT 100 GEL</b> by means of a flexible 25 – 50 mm paint brush.</li> <li>• Cut trees and/or shrubs no higher than 10 cm above soil level.</li> <li>• Apply the layer of <b>KAPUT 100 GEL</b> directly onto the stumps of freshly cut trees.</li> <li>• Be sure to treat the entire cut surface of each stump within 10 minutes of felling.</li> <li>• Wipe the exposed stump surface to remove saw dust prior to application.</li> <li>• Do not apply if rain is possible within 2 hours of application.</li> <li>• Do not treat bark on the sides of targeted stumps.</li> </ul>

**WARNINGS**

- Handle with care.
- Harmful when swallowed.
- Avoid contact with eyes since product may cause severe eye irritation.
- Avoid contact with skin as this may cause sensitization.
- Store in the original container in a cool, dry, well-ventilated place out of direct sunlight.
- Store away from food, feeds, seeds and other agricultural remedies and fertilizers.
- Keep out of reach of children, animals and uninformed persons.

**PRECAUTIONS**

- Avoid contact with skin and eyes.
- Wear protective clothing (overall, eye protection and rubber gloves) when applying the product. Wash protective clothing daily.
- Do not eat, drink or smoke whilst applying this product but wash hands and face thoroughly before doing so.
- Do not contaminate eating utensils, food, feeds, drinking water or any other water sources.
- In case of accidental eye contact, flush eyes immediately with clean water for at least 15 minutes.
- In case of accidental skin contact, immediately wash thoroughly with soap and water. Contaminated clothing should be removed and washed before being used again.
- Do not allow chemical residues and spillages to contaminate susceptible crops, grazing, rivers, dams and areas not to be treated.
- Do not use contaminated/ treated plants, grass etc. as compost or animal feed.
- Clean paint brush thoroughly after use and use for herbicide applications only. Dispose of wash water responsibly to prevent contamination of the environment and water sources or susceptible vegetation.
- Do not wash paint brushes near desirable trees or plants or where their roots may extend.

**APPENDIX 4: MACHINERY & TOOLS REQUIRED FOR LANDSCAPING WORKS**

	QUANTITY	MACHINERY / TOOLS
GENERAL	1	<ul style="list-style-type: none"><li>• Golf Cart with Trailer</li></ul>
	4	<ul style="list-style-type: none"><li>• Spades</li></ul>
	4	<ul style="list-style-type: none"><li>• Rakes</li></ul>
	2	<ul style="list-style-type: none"><li>• Wheelbarrow</li></ul>
	2	<ul style="list-style-type: none"><li>• Weed remover</li></ul>
	2	<ul style="list-style-type: none"><li>• Garden fork</li></ul>
LAWNS	1	<ul style="list-style-type: none"><li>• Lawn Mower</li></ul>
	2	<ul style="list-style-type: none"><li>• Weed Eater</li></ul>
SHRUBS & TREES	4	<ul style="list-style-type: none"><li>• Sharp cutting clippers</li></ul>
	2	<ul style="list-style-type: none"><li>• Long handled pruning shears</li></ul>

**APPENDIX 5: SEASONAL TREE WATERING SCHEDULE**

TREE & SOIL TYPES	SEASON			
	September & October	November to end March	April & May	June to End August
Evergreen trees in soil with poor to normal drainage ( <b>Loam &amp; Clay Soil</b> )	1 times / week	2 times / week	1 times / week	1 times / week if no rain
Evergreen trees in soil with excellent drainage (reduced water retention) ( <b>Sandy soil</b> )	2 times / week	3 times / week	2 times / week	1 times / week if no rain
Deciduous trees in soil with poor to normal drainage ( <b>Loam &amp; Clay Soil</b> )	1 times / week	3 times / week	1 times / week	1 times / week if no rain
Deciduous trees in soil with excellent drainage (reduced water retention) ( <b>Sandy soil</b> )	2 times / week	3 times / week	3 times / week	1 times / week if no rain

Source: trees-sa.co.za

## **APPENDIX 6: ANNUAL MAINTENANCE PROGRAMME**

**SUMMER**

<b>CLUBHOUSE &amp; PHASE 1</b>	<b>PHASE 2</b>
<b>GARDEN &amp; FACILITY MAINTENANCE</b>	<b>GARDEN &amp; FACILITY MAINTENANCE</b>
<b>Daily</b> Check clubhouse pool and clean out leaves / dirt / check ph & chlorine level. Report results to Estate manager Cleaning of benches Check clubhouse area and pick up any rubbish	<b>Daily</b> Cleaning of benches
<b>Weekly</b> Cut / mow clubhouse lawns , empty clubhouse refuse bins Check & clear kerb edges of sand	<b>Weekly</b> Cut / mow lawns at Hill Park & around dams Check & clear kerb edges of sand
<b>Monthly</b> Trim ground covers along Rijks Drive Clean out & cut grass / growth in security sevitude along De Wijnlanden Cut reeds where required in clubhouse dam Cut growth along security fence of Clubhouse Weeding: Clubhouse beds & berms Along phase 1 railway wall Small phase 1 park Aan de Wijnlanden entrance Fertilizing/composting: Lawns Shrubs New trees	<b>Monthly</b> Trim ground covers along Phase 2 & 3 Rijks Drive Clean out & cut grass / growth in security sevitude along De Wijnlanden Cut reeds where required in phase 2 dams Weeding: Phase 2 beds & berms Along phase 2 railway wall Hill park & Eskom park Aan de Wijnlanden entrance Fertilizing: Lawns Shrubs New trees Check & clear 1m stormwater lane on eastern boundary
<b>Seasonal</b> Fertilizing: Trees Cut out deadwood and trim/ shape trees where required	<b>Seasonal</b> Fertilizing/composting: Trees (including street trees) Cut out deadwood and trim/ shape trees where required

**SUMMER**

<b>WATERING</b>	<b>WATERING</b>
<b>Daily</b> Clubhouse lawns from clubhouse dam Clubhouse new trees / shrubs as required from clubhouse dam	<b>Daily</b> Park & dam areas as required (from borehole 2 & round dam)
<b>Weekly</b> Small park (municipal water) Trees shrubs on communal areas (tractor & tank)	<b>Weekly</b> Aan de Wijnlanden Drive (North gatehouse) from Solaris borehole Eskom park from Solaris borehole Trees shrubs on communal areas (various pumps / boreholes) <u>Try to eliminate tractor / tank watering in phase 2</u>
<b>PROJECTS</b> As directed by Open Space Committee (to be scheduled when time allows) Additional planting Construct on site compost heap Placement & landscaping of additional garden furniture Other	<b>PROJECTS</b> As directed by Open Space Committee (to be scheduled) Additional planting Placement & landscaping of additional garden furniture Construct on site compost heap Dog park Other

**WINTER**

<b>CLUBHOUSE &amp; PHASE 1</b>	<b>PHASE 2</b>
<b>GARDEN &amp; FACILITY MAINTENANCE</b>	<b>GARDEN &amp; FACILITY MAINTENANCE</b>
<b>Daily</b> Check clubhouse pool and clean out leaves / dirt / check ph & chlorine level. Cleaning of benches Check clubhouse area and pick up any rubbish	Cleaning of benches
<b>Weekly</b> Cut / mow clubhouse lawns as required Empty clubhouse bins Check for stormwater damage / clean outlets / grids	<b>Weekly</b> Cut / mow lawns at Hill Park & around dams Tidy up pathways
<b>Monthly</b> Trim ground covers along Rijks Drive as required Clean out & cut grass / growth in security sevitude along De Wijnlanden Cut growth along security fence of Clubhouse Weeding: <ul style="list-style-type: none"><li>Clubhouse beds &amp; berms</li><li>Along phase 1 railway wall</li><li>Small phase 1 park</li><li>Aan de Wijnlanden entrance</li></ul>	<b>Monthly</b> Trim ground covers along Phase 2 & 3 Rijks Drive Clean out & cut grass / growth in security sevitude along De Wijnl. Cut reeds where required in phase 2 dams Weeding: <ul style="list-style-type: none"><li>Phase 2 beds &amp; berms</li><li>Along phase 2 railway wall</li><li>Hill park &amp; Eskom park</li><li>Aan de Wijnlanden entrance</li></ul> Fertilizing: <ul style="list-style-type: none"><li>Lawns</li><li>Shrubs</li><li>New trees</li></ul> Check & clear 1m stormwater lane on eastern boundary
<b>Seasonal</b> Cut out deadwood and trim/ shape trees (including street trees) where required Prune shrubs throughout Prune / shape hedges Cart away cuttings / grass etc to dump / compost area	<b>Seasonal</b> Cut out deadwood and trim/ shape trees (including street trees) Prune shrubs throughout Prune / shape hedges Cart away cuttings / grass etc to dump / compost area

**WINTER**

<b>WATERING</b>	<b>WATERING</b>
<b>Daily</b> Not required	<b>Daily</b> Not required
<b>Weekly</b> Clubhouse lawns from clubhouse dam Clubhouse new trees / shrubs as required Small park (municipal water) Trees shrubs on communal areas (tractor & tank)	<b>Weekly</b> As required Aan de Wijnlanden Drive (North gatehouse) from Solaris borehole Eskom park from Solaris borehole Trees shrubs on communal areas (various pumps / boreholes) <u>*Try to eliminate tractor / tank watering in phase 2</u>
<b>PROJECTS</b> As directed by Open Space Committee (to be scheduled when time allows) Additional planting Placement & landscaping of additional garden furniture Construct on site compost heap	<b>PROJECTS</b> As directed by Open Space Committee (to be scheduled) Dog run park Construct on site compost heap Owl project Additional planting Placement & landscaping of additional garden furniture Other