Sitari Country Estate Master Homeowners Association

Construction & Operation Manual

ERF _____

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Version date: 05 April 2024

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Submission of SDP, Building, Landscaping Plans and Building Activities for each erf

1. SUBMISSION OF PLANS

It will be the responsibility of the Developer/Owner/Project Manager/Contractor and Sub-Contractor to submit a copy of the following approved plans to the Building Inspector as applicable:

* SDP's
* Building Plans
* Landscaping Plans
* Civil Plans
* Electrical Plans
* Certificates of Rational Design, Engineers and Land surveyor

2. CHECK LIST

It will remain the responsibility of the Developer/Building Contractors to check the following, before building activities commence:

* Position of internal and external Services
* Positions of vehicle accesses
* Positions of streetlights, electricity kiosks, manholes, storm-water inlets etc.
* Site Levels
* Conditions in respect of each erf as contained in the deed of sale
* Servitudes
* Individual / Bulk water meter

3. BUILDING CONTIBUTION TO SITARI COUNTRY ESTATE MASTER HOMEOWNERS' ASSOCIATION

Country & Village Homes:
A builder's contribution per opportunity, levied by SCEMHOA from time to time, is payable when the plan has been approved by the Sitari Country Estate ARC Committee. The full

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amount will be a non-refundable contribution to Sitari Country Estate Master HOA ("builder's contribution").

In addition to the builder's contribution and upon completion of the building work, any cost incurred by Sitari Country Estate in connection with the remedying of any damage caused by the building activities concerned will be charged to the developer/owner, which amount will be payable to Sitari Country Estate Master HOA on demand.

General Residential and Commercial Developments:
A builder's contribution levied by SCEMHOA from time to time is payable when the plan has been approved by the Sitari Country Estate ARC Committee. The full amount will be a nonrefundable contribution to Sitari Country Estate Master HOA ("builder's contribution").

In addition to the builder's contribution and upon completion of the building work, any cost incurred by Sitari Country Estate in connection with the remedying of any damage caused by the building activities concerned, will be charged to the developer/owner which amount will be payable to Sitari Country Estate Master HOA on demand.

4. CONDITIONS FOR COMMENCEMENT OF BUILDING ACTIVITIES

Before commencing any building activities, the developer / owner and the building contractor must complete the prescribed agreement with the Building Complianc Manager , at least 7 days prior to commencement of building activities.

Access to the Estate will be permitted only after such registration. Access permits per vehicle must be applied for and will be issued by the appointed Security Company at the Building Contractor / sub-contractor's cost.

5. REGISTRATION OF BUILDING CONTRACTOR

Attached is an application to register as the Building Contractor and Sub-Contractor. These registration forms are applicable to all contractors and sub-contractors to the project and must be handed in together with everyone's ID document, contact details and address, at the office of SCEMHOA, attention: Building Inspectorate.

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Registration of Building Contractor

Part 1: Of Building Contractor

Name of Company _____

Company Owner _____

Contact Details _____

Postal Address _____

Tel Number _____

Part 2: Description of Work

Erf Number _____

Registered Owner of Erf _____

Commencement Date _____

Estimate Completion Date _____

Part 3: Disclaimer by Owner and Building Contractor

Sitari Country Estate Master Homeowners Association is hereby indemnified of any liability regarding any damage or loss which may be incurred by the owner, building contractor, subcontractor, or any worker, owing to the acts or omission by the Homeowners' Association or anyone acting on behalf of this Association.

Part 4: Declaration by Building Contractor

I hereby acknowledge receipt of the BUILDING ACTIVITY REGULATIONS, as well as ACCESS CONTROL PROCEDURE. I am aware that building activities will be suspended if I do not abide by these stipulated regulations. I am aware that penalties will be imposed for contravention of rules. I take full responsibility for Contractors sub-contractors and suppliers appointed during completion of the project.

_____ _____

Signature of Building Contractor Signature of Developer / Owner

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Registration of Sub - Contractor

Part 1: Of Sub - Contractor

Name of Company _____

Company Owner _____

Contact Details _____

Postal Address _____

Tel Number _____

Part 2: Description of Work

Erf Number _____

Registered Owner of Erf _____

Commencement Date _____

Estimate Completion Date _____

Part 3: Disclaimer by Owner and Sub - Contractor

Sitari Country Estate Master Homeowners Association is hereby indemnified of any liability regarding any damage or loss which may be incurred by the owner, contractor, sub-contractor, or any worker, owing to the acts or omission by the Homeowners' Association or anyone acting on behalf of this Association.

Part 4: Declaration by Sub - Contractor

I hereby acknowledge receipt of the BUILDING ACTIVITY REGULATIONS, as well as ACCESS CONTROL PROCEDURE. I am aware that building activities will be suspended if I do not abide by these stipulated regulations. I am aware that penalties will be imposed for contravention of rules. I take full responsibility for Contractors/ sub-contractors and suppliers appointed during completion of the project.

_____ _____

Signature of Sub - Contractor Signature of Developer / Owner

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AGREEMENT REGARDING THE EXECUTION OF BUILDING / CONTRACTING WORK ON

SITARI COUNTRY ESTATE

ENTERED INTO BY

SITARI COUNTRY ESTATE MASTER HOA

AND

……..
(The Developer / Owner)

AND

…….

(The Building Contractor)

AND

……

(The Sub – Contractor)

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THE PARTIES HEREBY AGREE AS FOLLOWS:

1. PREAMBLE

Building/Contractual activities in the Estate are governed by control measures intended to ensure that the quality of life of residents in the Estate is not unduly compromised and the impact on the environment is minimized during the building activities yet allowing for efficient construction by contractors.

2. CONTROL MEASURES

Entry into the Estate with a view to performing building/contractual activities and the execution of such building/contractual activities, on**:**

Erf No. / Erven No.'s_____

will be governed by the Constitution of the Sitari Country Estate Master HOA and any rules and regulations made therein, are available for scrutiny at the domicile of Sitari Country Estate: The above- mentioned shall apply as if they had been incorporated herein.

If the Building Contractor is found to be in breach of the Constitution, Governing Rules, Architectural Guidelines, Environmental Management Plan and any rules and regulations made therein, penalties for breach, as determined by Trustees of Sitari Country Estate Master HOA from time to time, will be invoked.

3. PAYMENT OF PENALTIES

All fines due to Sitari Country Estate Master HOA must be paid on the first Monday following the imposition of the fine.

Penalty for Breach: In the event of the Building Contractor / Sub-contractor failing to pay a fine on time, the Building Contractor and/or his/her employees shall be denied access to the Estate, until such time that the breach has been remedied and the fine paid.

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4. DOMICILIUM

For all purposes, any matters arising from this Constitution, including the issuing of notices and the serving of legal processes, the parties choose their respective Domicile Citandi Et Executandi as follows:

a) Sitari Country Estate Master HOA -
Sitari Country Estate Master HOA Office, Gate House West, Block A, 1st Floor, Somerset West, Tel: 021 2017426

b) The Developer / Owner _____

c) The Building Contractor _____

provided that a party to this agreement may at any time, by notice to the other parties, change his or her domicile citandi et executandi to some other address, which new address must be in the Republic of South Africa and may not be a Post Office Box or Poste Restante; *also,* provided further that such change will become effective only fourteen (14) days after receipt of the notice in question.

Signed at_____on_____202___

_____

Signature

On Behalf of Sitari Country Estate in his / her capacity as Building Inspector, duly authorised thereto

_____ _____ _____

The Developer / Owner the Building Contractor the Sub Contractor

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ANNEXURE A CONTROL OF BUILDING / CONTRACTUAL ACTIVITIES

Note: The rules governing building activities are intended to ensure that the quality of life of residents in the Estate is not unduly compromised or inconvenienced by the building activities and the impact on the environment is minimized yet allowing for efficient construction.

1. General

1.1 The Developer/Owner or the Building contractor must enter into a written agreement with the Sitari Country Estate Mater HOA, which incorporates an undertaking by the Developer/Owner and the building contractor and the sub- contractors to comply with these rules and any further control measures that may be determined by the Trustees of Sitari Country Estate Master HOA from time to time and to ensure compliance with the rules and control measures by all his or her employees.

1.2 The Developer/Owner, building contractor and sub-contractor will be held responsible jointly and severally for any damage to the streets (including kerbing and sidewalks) or landscaping (including irrigation systems, trees, shrubs, and plants) or any other property of the Sitari Country Estate Master HOA, which the building contractor's employees, vehicles, equipment, and delivery vehicles to the building site may cause during the building activities.

1.3 The Building Inspector / Security Manager may, upon completion of the prescribed form and payment of the applicable fee, issue a building/sub-contractor with an access permit per vehicle. All contractors/sub-contractors must be identified by way of wearing a colour coded bib with the company's name being clearly visible on the front of the bib. The developer/owner must ensure that he's appointed contractor and sub-contractors comply with the above.

2. Building Contractor / Sub Contractor Liability

2.1 A building/Sub-contractor must ensure that none of the common property or any other owner's property is damaged during or after construction. The building contractor will remain responsible for any damages caused by his/her company, sub- contractors, or any employees.

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2.2 The Managing Agent may obtain the necessary funds from the building/sub-contractor to:

2.2.1 repair any damages caused by the Contractual operations to streets (including sewerage, water reticulation, kerbing and sidewalks) or landscaping (including irrigation systems, trees, shrubs, and plants) or any other property of the Sitari Country Estate Master HOA; and

2.2.2 removal, either during contractual operations or on completion thereof, of any rubble, refuse, litter, or building-materials, or any other items left on the sidewalk, in the street, in or on any communal facility or on any other erf.

2.3 The Managing Agent may recover only verifiable actual costs incurred by himself/herself. A standard cash slip, statement or receipt may serve as proof of the expenses incurred.

3. Conditions for Permission to Commence Contractual Activities

3.1 Sitari Country Estate Mater HOA, ARC Committee and Local Municipality must have approved the building plans.

3.2 A municipal water connection must be obtained

3.3 Sanitary and drinking water facilities must be provided on the contracting site

3.4 A Contractor's board, which complies with the standards and specifications as per below, must be erected in a position approved by the Building Inspector:No



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4. Conditions during Contractual Period

4.1 A contractor must ensure that contractual activities are performed in such a manner that no damage is caused to neighbouring properties and as little disturbance and inconvenience as possible is caused to neighbours.

4.2 The contractor must ensure that the applicable fencing conditions, as specified in the SDP / Building Plans, are built before actual contractual work commences. BLACK 80% SHADE CLOTH – 1.8m High) may be used to corner off the erf while still building the approved fencing as per the SDP / Building Plans. One access point to the specific erf, everything must happen within the erf boundaries. Specification Sitari fence.

4.3 Deliveries may only be done at Construction site and from Construction site to the development/erf.

4.4 If contractual activities take place adjacent to an existing dwelling, the contractor must make every effort to respect the privacy of the neighbours

4.5 A contractor and his/her employees may only be present on the Estate during normal working hours

4.6 Employees may not use any Estate Facilities roam around on the Estate and may only be on the contractual site where they are registered.

4.7 Employees may not use any communal facility on the Estate as a resting place.

4.8 No liquor, at any time, is permitted at any building site on the Estate.

4.9 Employees may use only the sanitary and drinking water facilities on site and no other facilities and sanitary waste must be removed weekly

4.10 No open fires may be lit on the contractual site and the contractor must ensure that there are always sufficient fire extinguishers on site.

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4.11 Where machinery, equipment or material is off-loaded in such a way, that it encroaches onto the sidewalk, into the street or onto a communal facility, the contractor must summarily move the item concerned onto the building site. No machinery, equipment or material may be stored, or remain on the sidewalk or in the
street or on a communal facility, without the written permission of the Building Inspector and subject to such conditions as he/she may determine.

4.12 Colour coded bib with the company's name being clearly visible on the front of the bib must be worn by all employees

4.13 A contractor must ensure that the kerb, sidewalk, and the street in front of the contractual site concerned, is adequately protected from damage by the contractual activities and that the street is swept clean regularly

4.14 Contractual material may not be mixed on a sidewalk, in the street or on a communal facility.

4.15 Vehicles, machinery, and equipment may not be cleaned on the Estate.

4.16 Sand, stone, cement, paint, and contractual rubble spilled, washed away, or moved onto the side- walk, into the street or onto a communal facility must be cleaned up immediately.

4.17 Excess material or contractual rubble may not, without the prior written permission of the Building Inspectorate, be spilled on a communal facility on the Estate.

4.18 The contractual site must be kept as clean of refuse and litter as possible. Refuse and litter may not be burnt on site and must be removed weekly, before 15:00 on a Friday and whenever the Building Inspectorate instructs the building contractor to do so

4.19 All activities relating to the building work must be confined to within the erf boundaries of the erf on which construction is taking place. This relates to location of employees, placing/location of storage bins and building material, etc. The building contractor must ensure that his/her employees do not trespass into other and/or adjacent areas or erven

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5. Site Guard

5.1 Developer/Owner have the option to appoint a site guard, should a site guard be appointed it has to be the approved Security Company for Sitari Country Estate Master HOA. The safety and security of each site is the liability of each owner/developer.

5.2 The Security Manager may, on completion of the prescribed form and on payment of the applicable fee, issue a contractor with an access permit for a guard, to be employed on site, outside normal working hours, and normal working days.

5.3 The guard must remain on site and must always display his/her access permit while he/she is on the Estate

5.4 The guard may not receive any visitors.

5.5 The mandate for security was given to Grinnell Security Services and only Grinnell Security Services may be utilised.

Company: Grinnell Security services

6. Construction Vehicle and Delivery Restrictions

6.1 **The Following Restrictions apply to Construction Vehicles allowed into the Estate:**

6.1.1 Only non-articulated vehicles, without trailers, of the following specifications are allowed:

Maximum Length:	9.1m
Maximum Width:	2.6m
Maximum Gross Mass:	20,000 kg (Single Axle Only)
Maximum Axle Weight:	8,000 kg

6.1.2 Only roadworthy, licensed vehicles will be allowed into the Estate

6.1.3 Drivers must use the streets and may not take a short cut over other erven or communal facilities.

6.1.4 Vehicles may not be left unattended in a position where they may cause an obstruction to other road users.

6.1.5 Vehicles may not be parked on other erven or communal facilities without the prior written permission of the Building Inspectorate, or the Owner concerned, as the case may be.

6.1.6 Vehicles may not be parked on sidewalks and no material may be stacked on sidewalks

6.2 **The following general conditions apply to deliveries to a contractual site:**

6.2.1 The contractor must brief delivery vehicle drivers on the rules governing deliveries

6.2.2 Delivery vehicles are subject to the general construction vehicle restrictions.

6.2.3 The contractor is always responsible for delivery vehicles and delivery personnel.

6.2.4 Deliveries to the contractual site may only take place from the street frontage of the contractual site.

6.2.5 Deliveries may only take place during normal working hours and on normal working days.

6.3 **The following additional specific conditions apply to concrete deliveries:**

6.3.1 Vehicles delivering concrete may only be washed on the contractual site concerned and spillage and run-off must be contained on that site.

6.3.2 Concrete may not, under any circumstances, be spilled onto sidewalks, streets, other erven, communal facilities, or storm water systems

7. Water Connection

7.1 A water meter (country & village homes) or bulk water-meter (sectional title units) must be installed per site by PEC METERING, before contractual activities commence.

7.2 Should contractual activities commence without the meter installed, Sitari Country Estate Master HOA and or PEC Metering may install such a meter at the contractor's cost and estimate a water-reading from water already used

7.3 The Building Inspectorate, PEC Metering as well as the contractor, must take the first water readings from the meters

7.4 Serial numbers of water-meters must be supplied to the Managing Agent.

8. Health and Safety

8.1 Each builder, contractor and sub-contractor must comply in every aspect with the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as amended, together with

8.2 Each builder, contractor and sub-contractor must:

8.2.1 Be cleared by the Health and Safety Officer of Sitari Country Estate Master HOA and adhere to all health and safety regulations

8.2.2 Always have their Health and Safety file on site with the approved plans.

8.3 Each contractor and employee or visitor must be dressed according to health and safety regulations. It will be the responsibility of the Project Manager / Developer / Owner to ensure that this is adhered to.

ANNEXURE B

PENALTIES

NOTE: The actual rules are summarised below for reference purposes only

1. Limits of Contractual Activity

All activities relating to the contracting work must be confined to within the erf boundaries of the erf on which construction is taking place. This relates to location of employees, placing/location of storage bins, etc. The contractor must ensure that his/her employees do not trespass into other/ adjacent areas.

Penalty for Breach:

a) Work by the contractor will be stopped until such time as all contractual equipment and facilities have been moved to within the contractual site.
b) The contractor will be fined R2 000 per transgression.

2. Site Presentation

The contractual site must be kept as clear as possible of refuse and litter. Refuse and litter may not be burnt on site and must be removed weekly before 15:00 on a Friday and whenever the Building Inspector instructs the contractor to do so.

The Contractual site must be fenced off on the boundaries.

1. 1,8 gum poles planted in ground with concrete footing.
2. 1,8 m Bonnox Fence nailed to gumpoles on the estate side.
3. 1,8 m BLACK 80% shade net fixed to Bonnex at sufficient centres/grid to prevent it from a sail effect and secured at every gum pole with a timber slate (20mmx 50mm) screw fixing the sheeting between the timber slate and the gum pole, painted black.
4. The gum poles, fencing and shade net must be straight and neat.

The contractual site must be kept as clear as possible of contractual rubble and excess materials. Contractual rubble and excess material must be removed regularly during the contractual period and whenever the Managing Agent instructs the contractor to do so.

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Penalty for Breach:

a) Should a contractor not comply with the removal of contractual rubble, refuse and litter, same will be removed by Sitari Country Estate and the costs thereof claimed from the contractor. The contractor will be denied access to the Estate, until such costs have been paid in full.

b) Should wind-blown litter be generated from the site, the contractor will be fined R1 000 per day, until all litter has been removed from the site and the surrounding area.

3. Water connection

A water meter (country & village homes) or bulk water meter (sectional title units) must be installed per site by PEC Metering before any building activities commence. Should the building activities commence without the prescribed water meter being installed, PEC metering will install the water meter at the Principal Building Contractor's cost and estimate the water-reading from water already used, which will be payable immediately on issuing of an invoice.

The Building Control Inspectorate, PEC Metering and the Principal Building Contractor, must take the first water-readings from the meters by photograph, indicating the date and time

Serial numbers of water-meters must be supplied to the PEC Metering and Sitari Country Estate Master Homeowners Association (SCEMHOA)

Penalty for Breach:

a) Levy a fine of R2 500 per transgression, if found building without water meter being installed and estimated water usage will be charged.

4. Cleaning of Vehicles / Equipment

Cleaning of the vehicles, equipment and machinery will only be permitted on the erf of the registered owner or Building Contractors' site in a designated area. No concrete may enter the storm water system of the Sitari Country Estate development

Penalty for Breach:

a) The contractor will be fined R10 000 per transgression.

5. Fires

No fires will be permitted on any part of the Estate, including the building-site. The contractor must ensure that there are always sufficient fire-extinguishers on site

Penalty for Breach:

a) The contractors will be fined R1 500 per transgression.
b) The contractors will, in addition, be held legally and financially responsible for any damages caused by the breach of this regulation.

6. Ablution Facilities

The contractor must make adequate provision for clean, drinking water and temporary toilets situated on the contractual site for the use of his/her employees. Temporary toilets may not be connected to the sewerage system of Sitari Country Estate. Only chemical toilets may be used. The toilets must be always kept hygienically clean and cleaned regularly by the building supplier at the building contractor's cost

All contractors must apply for permission from the Sitari Country Estate to connect the sewerage to the main sewerage of the Sitari Country Estate, after contracting activities had been completed.

Penalty for Breach:

a) The contractor will be fined R20 000 per transgression
b) If any contractor does connect the temporary toilets to the sewerage system, he/she will be liable for the flushing of the entire sewerage system of the Sitari Country Estate and camera inspection cost thereof

7. Rubble and concrete in sewer and or storm water systems

If any rubble and/or concrete enters any of the sewer and/or storm water systems, the Building Contractor will be required to flush the entire sewer or storm water system to remove rubble and/or concrete at the Building Contractor's cost

Penalty for Breach:

a) The Building Contractor will be fined R40 000 (Forty thousand Rand) and
b) The Building Contractor will be held liable for the flushing of the entire sewer and/or storm water system of the Sitari Country Estate and camera inspection cost thereof.

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8. Spillage of Excess Materials and Building – Rubble

No excess materials or building-rubble may be spilled on the Estate. Storing of excavated soil must be cleared with the Building Inspector beforehand.

Penalty for Breach:

a) The Sitari Country Estate will remove all such spillage for the contractor's account.
b) In addition, the contractor will be fined R2 500 per transgression

9. Working Hours

A contractor may only be present on the Estate during the following hours 07H00 – 17H30 NO WORK SATURDAYS, SUNDAYS AND PUBLIC HOLIDAYS.

Penalty for Breach:

a) Building Contractors and their employees working on the Estate outside of the normal working hours without written permission, will be escorted out of Sitari Country Estate by the security personnel of the estate.
b) In addition, the contractor will be fined R2 500 per transgression

10. Only one guard per residential site, two per village site and two per sectional site will be allowed and the Building Contractor must utilise the Estate's security company's guards. The site guard must always display the required I.D. card and dress correctly and may not receive any visitors. The cost for Building Contractor's account

Penalty for Breach:

a) Any other security company contracted by the Building Contractor will be escorted off Sitari Country Estate by the accredited security personnel
b) In addition, the contractor will be fined R2 500 per transgression

11. Mixing of Construction Material

No construction material may be mixed on a sidewalk, in the roads or on a communal facility/property within Sitari Country Estate other than the erf that they are constructing on and the EMP must be always adhered to.

Penalty for Breach:

a) The contractor will be fined R5 000 per transgression.
b) The contractor will be held responsible for the repair of any damage to the road

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12. Vehicle Sizes Allowed

Owing to the road surfacing and limited road widths and radii, the following restrictions are placed on any vehicle entering the Estate

All drivers must adhere to the route plan for the vehicles as described below.

Only light construction vehicles will be allowed on paved roads. Unless otherwise agreed to in writing by Sitari Country Estate Master Homeowners Association (SCEMHOA) only the following vehicles will be allowed in the Sitari Country Estate and not permitted to use the paved roads in the Estate

Only non-articulated vehicles, without trailers will be allowed.

Only roadworthy, licensed vehicles will be allowed into Sitari Country Estate

Only fixed axle design vehicles will be allowed:

* Maximum Length	9.1m
* Maximum Width	2.6m
* Maximum Gross Mass	20,000 kg (Single Axle Only)
* Maximum axle Weight	8,000 kg

Vehicles must remove trailers before entering the Estate

Penalty for Breach:

a) Vehicles larger than those mentioned above will be denied access to the Estate. The contractor will be fined R5 000 per transgression and damages if the vehicles have obtained access

b) Vehicles larger than those mentioned above will be denied access by the Security Company if not utilizing the special heavy duty access road.

13. Construction Vehicles

Only roadworthy, licensed vehicles will be permitted onto the Estate. Construction vehicles may not be left unattended in such a manner that they may cause an obstruction to other road users. Construction vehicles may not be parked on Sitari Country Estate or private properties, without prior written consent being obtained.

Penalty for Breach:

a) The construction vehicle will be denied access to the Estate
b) In addition, the contractor will be fined R300 per transgression

14. General Deliveries to Contractors

The contractors are always responsible for the delivery personnel

All delivery times are limited to public times as defined under Item 7 above

Size of delivery vehicles will be limited as defined under Item 12 above

Deliveries to the building-site may only be within the developer's site

Penalty for Breach:

a) Penalties will be levied to the contractor, as if the contractor's employees had been guilty of the transgression

15. Deliveries of Concrete

Delivery of concrete has the potential to cause the most damage to the road surfacing and landscape vegetation. It is therefore important that these deliveries are handled in a particular manner.

All Building Contractors will always be responsible for deliveries by their suppliers, personnel/staff, and their delivery personnel

The following rules apply specifically to the vehicles delivering concrete:

A) Drivers of vehicles delivering concrete must be briefed on this document
B) Drivers not briefed will not be allowed access to the Estate
C) Drivers found in breach of the rules will be escorted off the Estate and refused access to the Estate
D) The contractor will be liable for damages by a vehicle delivering concrete
E) The washing of vehicles delivering concrete must take place within the confines of the building-site and spillage and run-off must be contained within this site. Under no circumstances may concrete be spilled onto the road surface or the storm water systems
F) Drivers and concrete delivery company found in breach of the rules will be escorted off Sitari Country Estate and refused entry onto Sitari Country Estate in the future

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Penalty for Breach:

a) The contractor will be fined R10 000 per transgression
b) The Building Contractor will be held responsible for the damages and repairs to storm water and road surfaces, kerbs and sidewalks, landscaping, and irrigation systems
c) Revoke a driver entry into Sitari Country Estate should he not adhere to this should he not adhere to the conditions and Regulations

16. Security and controlled Access

Estate security personnel control access to the Estate and the contractor must always adhere to their security directives

An employee or sub-contractor of the contractor must always have a valid access pass on his person, issued by the contractor. The pass may be valid only for the period that the employee or sub-contractor is required to be on site and must be renewed periodically

Personnel must be transported by vehicle to the relevant contracting-sites and may not walk from one site to another

The estate security personnel must sign in all contractors' vehicles and delivery vehicles entering the estate

Penalty for Breach:

a) Any employee, or sub-contractor of the contractor, or delivery person, not adhering to this regulation, will be escorted from the Estate immediately
b) In addition, the contractor will be fined R500 per person, per transgression

17. Speed Limit

For security and safety reasons the speed-limit on the Estate is 30 km/h for all contractors' vehicles. A contractor is responsible for all his employees, sub-contractors, and delivery vehicles to ensure adherence to this speed-limit.

Penalty for Breach:

a) The contractor will be fined R1 500 per transgression.
b) Continuous non-compliance will result in the contractor being expelled from the Estate

18. Build-Plan Controls

The contractor must ensure that a copy of the signed, approved building-plan is always available on site for inspection. Any variations to the approved building-plan must be submitted to ARC Committee for approval and thereafter submitted to Local Authority for final approval. Once Local Authority approval is received, the building contractor may proceed with construction.

Prior to commencing building, the contractor must adhere to the following:

a) set out the foundations for inspection and approval by the municipality and the Estate's land surveyor
b) obtain a water-connection
c) erect a standard builder's board with details stipulated
d) erect ablution facilities
e) site must be fenced off on the boundaries of the site by means of the erection of 1.8 m high hessian fencing (brown, black, or green) or construction boundary walls immediately, to ensure that activities remain on the erf and to prevent damage to parks and verges.

Penalty for Breach:

a) The contractor will be denied access to the Estate until all requirements have been met
b) The contractor will be required to remove any structures that do not conform to the approved building plans by the ARC and Local Authority
c) The Principal Building Contractor will be required to remove any built structures If any on site deviation from approved building plans take place, all building and construction activities will be stopped immediately until the revised building plans have been approved by the ARC and Local Authority and rectification on site to conform to the revised approved building plans
d) The contractor will be fined R10 000 per transgression per week for non-compliance

19. General Controls

Persistent infringements of the Construction & Operational Manual will result in the building site being closed until a "Good Behaviour Deposit", additional deposit of R20 000 (Twenty thousand Rand) is paid. Any transgression thereafter will result in the deposit being retained as a fine by the Sitari Country Estate Master Homeowners Association

The Building Contractor shall attend all site meetings when requested by Sitari Country Estate Master Homeowners Association (SCEMHOA) to discuss general issues relating to work within the Sitari Country Estate.

20. Starting Construction without approval

Under no circumstances may a Building Contractor proceed/access or move onto site without prior written approval, by Sitari Country Estate Master Homeowners Association (SCEMHOA) or the Building Inspector and that all documentation is signed, and payments made to Sitari Country Estate **Penalty for Breach:**

a) Levy a fine of R5 000 (Five thousand Rand) for accessing a site without written permission by Sitari Country Estate Homeowners Association

21. Roads and Road Verges

A) contractor must ensure that the road in front of their contractual site is always swept clean, to minimize damages and ensure longevity of the road surface.

A contractor must ensure that the kerbs and sidewalks in front of the building-site concerned are adequately protected from damage by the contracting operations.

Contractual materials must be sorted on the contractual site. Special permission may be obtained from the Managing Agent to neatly store some materials on the verge of the road directly in front of the contracting site, or on another area as may be agreed to with the Managing Agent, prior to storage.

Where materials that have been off-loaded by a supplier encroach on the sidewalk or roadway, the contractor must move these materials to the site. No materials are permitted to remain on the roadway or sidewalk, and it is the contractor's responsibility to clear the roadway of all such materials. The same applies to sand or rubble washed or moved onto the road during contracting operations

Penalty for Breach:

a) The contractor will be fined R1 000 per day for upswept roads
b) The contractor will be held financially and legally responsible for any damages to road surfaces and kerbs caused as a result of his/her building operations

INITIAL HERE

22. Commencement Procedures

In furtherance to any other requirements already mentioned, a contractor may only commence with construction (ie. Break ground) on a property subject to the furnishing of the following documentation, subject to the amendment and discretion of SCEMHOA at any time in writing to the owner/developer/contractor (as the case may be):

a. Municipal approved Building Plans;
b. Proof enrolment of the Property with the NHBRC;
c. All required submissions completed with the Building Inspector;
d. Receipt of the Builders Contribution payable to Sitari Country Estate Master Home Owners Association; and
e. Any and all amounts due to Sitari Country Estate Master Home Owners Association are paid in full

23. Completion Procedures

On completion of a dwelling the registered owner must submit, in writing, a request to the Building Control Inspectorate (BCI) for a final inspection.

The Building Control Inspectorate will arrange the final inspection and issue a Building Completion Certificate provided that all conditions have been met, including clearing and cleaning of the site by the Principal Building Contractor.

Any damage to landscaping during the building and construction of the dwelling will be reinstated by the Sitari Country Estate landscapers and the cost for the reinstatement will be charged to the developer/the owner if the Principal Building Contractor has not reinstated as requested.

The registered owner is advised to contact the Council to arrange the necessary Occupational Clearance Certificates. It is not the Estate's responsibility to obtain NHBRC or Occupational Clearance Certificates for any owner.

Upon completion, the registered owner or building contractor must present to the Building Control Inspectorate the following documentation, subject to the amendment and discretion of SCEMHOA at any time in writing to the owner/developer/contractor (as the case may be):

a) A municipal issued Occupation Certificate;
b) Submission of the NHBRC Certificate to the Building inspector
c) All outstanding levies and/or other fines are to be settled.

INITIAL HERE

d) Completion Certificate signed off by the Building Compliance Manager for Sitari Country Estate Master Home Owners Association.

UNDERTAKING BY THE BUILDING CONTRACTOR

I the undersigned,_____hereby:

1. acknowledge and confirm having read and understood **the Rules and Penalties governing building activities for Contractors, Sub-Contractors and Owners of Sitari Country Estate,** a copy of which is annexed hereto and initialled by the undersigned (hereinafter referred to as "**the Code**"); and

2. irrevocably undertake to comply with each and every rule and regulation set out in the Code as may be applicable to a contractor, the contractor's sub-contractor, supplier, service provider and/or any person and/or entity undertaking work or services for and/or on behalf of the contractor at and/or on any premises situated within and/or on the Sitari Country Estate (hereinafter referred to as "**the contractor's agents**");

3. irrevocably undertake to pay by the following Monday, following receipt of notification of a fine being levied against the undersigned) all fines and/or any fine levied by **the Owner's Association of Sitari Country Estate** (hereinafter referred to as "**the Association**") against the undersigned for and/or in respect of any breach and/or transgression made by the undersigned as contemplated and/or provided for in the Code.

4. irrevocably indemnify and hold the Association and/or the individual owners of property comprising the Sitari Country Estate (hereinafter referred to as "**the Owners**") harmless against all loss, liability, damage and/or expense (including without limiting the generality thereof, any claims which may be brought against the Association and/or the Owners or any Owner) which the Association and/or the Owners may suffer as a result of the contractor and/or the contractor's agents' presence on the Sitari Country Estate and/or any building operations being conducted by the contractor on the Sitari Country Estate: and,

5. acknowledge that it/he/she, together with any of its/his/her employees, sub-contractors and/or service providers may be denied access to Sitari Country Estate's should it/he/she not pay any fine levied by the Association timeously.

INITIAL HERE

SIGNED AT _____ **THIS** _____ DAY **OF** _____

NAME: _____ Duly authorised to sign on behalf of _____

and CONTRACTOR'S NAME _____pursuant to and in terms of a

Director's Meetings Resolution dated _____

SIGNATURE _____

INITIAL HERE

SECURITY PROCEDURES

Hereby I the Developer/Owner Contractor/Sub-Contractor _____

confirm that I have read and understand the Security Procedures.

Furthermore, I accept that only_____may be used for the Security.

_____

Developer/Owner

_____

Contractor

_____

Sub-Contractor

INITIAL HERE

BACKGROUND SCREENING (VETTING): CONTRACTORS / SUPPLIERS PROCEDURE

URGENT: In the event of any applicant having obtained a criminal record expungement certificate, please forward said certificate as it may impact the results!!!!

Our company procedures relating to the criminal profiles has been amended.

Herewith the procedure to follow:

Please find attached a Request for Criminal Profile form that must be filled in and signed by the director / owner / manager or person with authority to sign such documents.

Please note, we do not want the workers to complete the above-mentioned form.

Each worker must however complete and sign Annexure B.

The following information must be forwarded to us concerning the applicants for a criminal profile:

- South Africans: Full names, surname and ID number and copy of ID document.
- Foreigners: Full names, surname, date of birth, country of origin, passport number and copy of a valid passport. No asylum or refugee permits will be accepted.

Once we receive both forms with copies of the ID / Passport documents, we will send you an invoice. Invoices will be issued to the company address and email on the Request for Criminal Profile form.

INITIAL HERE

On receipt of electronic proof of payment we will start with the crim profile procedure.

Only EFT payments will be accepted. No other ways of payment. Strictly no cash deposits.

Please use your invoice number and company name as reference when making payment.

Email forms and proof of payment to admin@brookeinter.com

We will not proceed with any work if the paperwork is incomplete or illegible.

The result of the criminal profile will then be forwarded to the applicable risk manager at the premises where the applicant wants access. This is to protect the applicant's privacy and for security reasons. The information will be dealt with professionally and no other person will be notified.

Please do not hesitate to contact this office if you need any further information or assistance regarding this matter.

Kind Regards

Natasha

Ground Floor, Tyger Valley Chambers 3,

27 Willie van Schoor Drive

Bellville 7530

Office 021-9487974/5

Email: Admin@brookeinter.com

INITIAL HERE

ANNEXURE B

Ek / I .....

(volle name en ID nommer of paspoort nommer / full names and ID number or passport number)

Gee hiermee toestemming dat Brooke International CC ‘n volledige kriminele agtergrond (profiel) navraag op my kan doen. Dit sluit in alle misdade waarop ek aangekla was ongeag of ek skuldig bevind was of nie.

Die uitslag van die navraag sal aan die risiko bestuurders (sekuriteitshoof) van die betrokke landgoed bekendgemaak word en aan niemand anders nie. Dit is vir die beskerming van my privaatheid en vir sekuriteitsredes. .

Hereby give permission that Brooke International CC can do a thorough criminal check (profile) on me. This include all matters where I was charged immaterial whether I was found guilty or not.

The result of this inquiry will be made known to the risk manager (security manager) of the relevant estate and to no one else. This is to protect my privacy and for security reasons.

In the event of any person having obtained a criminal record expungement certificate, please forward said certificate.

---------- ----------

Naam/name Datum/date

Handtekening / signature

Contractor / Home owner: .....

Sub-Contractor: .....

Postal / physical address (for invoice): .....

.....

Vat number: ..... CC Registration: .....

Request for Criminal Profile

I, (name of director /manager/ owner of the company / home owner) .....

.....

Identity number ..... employed at .....

hereby grant Brooke International CC permission to conduct a criminal profile on the persons as per attached Annexure A.
I am authorised by either of the above-mentioned person to request these criminal profiles for access to

.....(name of security estate)

I am in possession of employment/pre-employment contracts /consent forms signed by the applicants as per Annexure B giving their consent as stipulated for a criminal profile to be conducted. This include all matters where the subject has been charged for a criminal matter immaterial whether the subject has been found guilty or not. This form must also be forwarded to Brooke International CC.

In the event of any person having obtained a criminal record expungement certificate, please forward said certificate.

The result of the criminal profile will be dealt with professionally and will be forwarded to the applicable risk manager at the estate where the applicant wants access. This is to protect the applicant's privacy and for security reasons.

INITIAL HERE

Your personal information will be processed in terms of our Privacy Notice, which is available on www.brookeinter.com.

Name & Surname: ……

Signature: ……

Designation: ……

Date: ……

Email address: ……

Contact number: ……

Physical: Ground Floor, Tyger Valley Chambers 3, 27 Wiliie van Schoor Drive, Bellville, Cape Town, South Africa, 7530
Tel: +27(0) 21 948 7974/5; Fax: +27(0) 21 948 7940; Postal: P.O. Box 1905, Bellville, 7535

Email: info@brookeinter.com; Web: www.brookeinter.com

PSIRA Reg No: 988323; CC Reg No: 1997/036130/23; VAT Reg No: 4140167018; Sole Member: M Jones

Date: …….

Security Estate: …… (Name of estate requesting crim profile)

Contractor : …….

Sub-Contractor: ……(Only if applicable)

Annexure A

Num	Full Names & Surname	ID Number/ Date of Birth/ Passport Number (Country of Origin)
1		
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INITIAL HERE

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Physical: Ground Floor, Tyger Valley Chambers 3, 27 Wiliie van Schoor Drive, Bellville, Cape Town, South Africa, 7530Tel: +27(0) 21 948 7974/5; Fax: +27(0) 21 948 7940; Postal: P.O. Box 1905, Bellville, 7535
Email: info@brookeinter.com; Web: www.brookeinter.com
PSIRA Reg No: 988323; CC Reg No: 1997/036130/23; VAT Reg No: 4140167018; Sole Member: M Jones

PEC METERING

Sitari Country Estate Utility Management
PEC Utility Management (Pty) Ltd, herein after referred to as PEC, has been appointed as the preferred and sole private metering and utility management company for Sitari Country Estate. The utilities managed include electricity, water, and sewer.

RESIDENTIAL

1. ELECTRICITY

ESKOM is the local supply authority to supply the electricity to Sitari Country Estate. Within the development the responsibility of metering and recoveries of electricity will be shared between ESKOM and PEC.

1.1 General information

1.1.1 Villages Homes and Country Homes

ESKOM will directly supply and recover the electricity consumption for single erven properties. The developer / registered owner of the single residential properties must apply for electricity directly to ESKOM.

1.1.2 General residential developments (Sectional title)

ESKOM will supply a bulk electrical connection to all general residential/sectional title developments. PEC will be responsible to recover all electricity within each development from the relevant registered owners/consumers and settle the ESKOM bulk account directly to ESKOM. The developer of each general residential development must apply directly to ESKOM for such connection and pay the relevant connection fees and deposits. PEC will assist is such applications with matters like tariff choice and handing in of applications on behalf of the developer.

The account will remain in the name of the developer or relevant Body Corporate, marked *care of* PEC Utility Management (Pty) Ltd, PO Box 3157, Durbanville, 7551.

All electricity usage during the period of construction until such date that the Body Corporate has held its inaugural meeting will be payable by the developer in full.

INITIAL HERE

1.2 Method of recovery

PEC will recover all individual owners/consumers electricity within a general residential development via a smart prepayment system.
The Smart prepayment system will be available for all consumers to purchase electricity comfortably through the internet or via cell phone and has the following benefits.

- 24 Hour access to electricity purchases
- The comfort of electricity purchases via mobile phone or internet
- Real time access to electricity usage via a portal and dashboard
- Reporting on buying and usage patterns
- Receiving warning of low credit position via SMS
- Token-less vending, credit is automatically uploaded via GSM technology directly to the meter

All common area electricity usage will be billed directly to the Body Corporate on a separate account.

1.3 Costs and vending support

There will be a monthly technology fee payable by each consumer for the smart prepayment system. This cost will be deducted via the vending platform with the first purchase during a calendar month. Should there be no purchases during a calendar month such fee will be carried over to the following month. This cost will include the following services

- Hosting of the smart meter data management system
- Hosting of the e-wallet vending system
- 24-hour vending support

A base price of R48 + VAT is determined as of 01 January 2015 and will escalate annually on 01 January of each following year with a maximum of 6% per annum.

Each registered owner/consumer will apply to PEC to have the smart prepayment vending option initialized. Each owner will have to open an e-wallet system with PEC to enable vending. PEC will assist all consumers with the registration process.

INITIAL HERE

All consumers will be liable to pay a once off R350 refundable security deposit. This deposit will be refunded once an evacuation form is received. Contact details (Registration and vending support)

Supplier: PEC Utility Management (Pty) Ltd
Email address: customercarecpt@meteringservices.co.za
Telephone: 021 – 948 0225
Web: www.pecutilities.co.za

1.4 Metering equipment

The developer must make use of the Kamstrup product range of electrical meters as supplied by PEC.
The developer must make adequate provision in his electrical design to accommodate the Kamstrup meter and relevant communication equipment. PEC will can assist the electrical design engineer with the relevant information and data sheets.

For single phase supplies, the **Kamstrup 162M** meter must be used. This meter has a maximum rating of 85 Amps.



For three phase direct online supplies, the **Kamstrup 382M** meter must be used. This meter has a maximum rating of 85 Amps per phase.



For three phase CT operated supplies, the **Kamstrup 351C** meter must be used.



1.5 Equipment prices

A base price (ex VAT) for all equipment is determined as of 01 January 2015 and will escalate annually on 01 January of each following year with a maximum of 6% per annum.

	2021	2022	2023	2024	2025
162M	R3 409.79	R3 614.38	R3 831.24	R4 061.11	R4 304.77
382M	R4 314.13	R4 572.98	R4 847.35	R5 138.20	R5 446.49
351C	R5 707. 70	R 6 050.16	R6 413.16	R6 797.95	R 7 205.83

Ordering equipment -
Each developer will fill out a PEC order form to obtain the required meters. Full payment must be made before equipment is supplied.

1.6 Legal

1.6.1 Tariffs

The tariffs applied to consumers will be in line with the prescribed tariffs of the Local Supply Authority (ESKOM) but will also be reflective of the actual cost of supplying electricity to the end consumer. Tariffs will increase annually on the tariff increase date as published by the local supply authority (ESKOM) and accepted by the National Energy Regulator of South Africa (NERSA).

1.6.2 Tampering and arrears

Tampering with any metering equipment is illegal and offenders will be held accountable. In the event of tampering being found, the electricity to such property will be disconnected immediately and will only be reconnected after the full arrear amount due on electricity together with a tampering fee and call-out fees is paid in full.
The registered owner of the property will always remain responsible for any arrear amounts due on electricity. In the event of the consumer being a rental tenant and absconds from paying arrear amounts accrued, such arrear amounts will be added to the registered owners levy account for settlement. If the registered owner does not settle the said arrear amounts, legal proceeding will be instated.

2. WATER & SEWER

The City of Cape Town Local Municipality (COCT) is the local supply authority to supply the water to Sitari Country Estate.

2.1. General information

2.1.1. Villages Homes and Country Homes

All Village and Country Homes must have individual water meters installed and recoveries will be done by PEC via the smart prepayment system. The water meters must be purchased from PEC to ensure uniformity and allow for the smart prepayment system to operate.

2.1.2. General residential developments (Sectional title)

There will be one bulk water connection to each general residential development. The bulk connection must be metered by a smart water meter as purchased from PEC.

The developer will have the option for water meters to be installed for each individual unit and recoveries for water and sewer will be done by PEC via the smart prepayment system. Should the developer choose not to install individual water meters, water usage will be recovered via levies from the relevant Body Corporate.

2.2. Method of recovery

PEC will recover all the water & sewer for Sitari Country Estate (residential portion) and settle the council account monthly. The Master Homeowners Association will be liable for any water shortfall due to technical or tariff losses or leaks occurring at unmetered reticulation areas.

The Smart prepayment system will be available for all consumers to purchase water & sewer comfortably through the internet or via cell phone and has the following benefits.

- 24 Hour access to water & sewer purchases
- The comfort of water & sewer purchases via mobile phone or internet
- Real time access to water & sewer usage via a portal and dashboard
- Reporting on buying and usage patterns
- Receiving warning of low credit position via SMS
- Token-less vending, credit is automatically uploaded via GSM technology directly to the meter

All common area water usage will be billed directly to the Body Corporate on a separate account.

2.3. Costs & vending support

There will be a monthly technology fee payable by each consumer for the smart prepayment system. This cost will be deducted via the vending platform with the first purchase during a calendar month. Should there be no purchases during a calendar month such fee will be carried over to the following month. This cost will include the following services

- Hosting of the smart meter data management system
- Hosting of the e-wallet vending system
- 24-hour vending support

A base price of R48 + VAT is determined as of 01 January 2015 and will escalate annually on 01 January of each following year with a maximum of 6% per annum.
Each registered owner/consumer will apply to PEC to have the smart prepayment vending option initialized. Each owner will have to open an e-wallet system with PEC to enable vending. PEC will assist all consumers with the registration process.
All consumers will be liable to pay a once off R350 refundable security deposit. This deposit will be refunded once an evacuation form is received.
PEC will supply 24-hour vending support on the prepayment system. PEC will not be responsible for any other support other than vending related problems. Any problems such as leaks or burst pipes must be referred to the responsible Body Corporate.

Contact details (Registration and vending support)
Supplier: PEC Utility Management (Pty) Ltd
Email address: sitari@pecgroup.co.za or shani@pecgroup.co.za
Telephone: 021 – 948 0225
Web: www.pecutilities.co.za

2.4. Metering equipment

The developer must make use of the Kamstrup product range of water meters as supplied by PEC. The developer must make adequate provision in his water design to accommodate the Kamstrup meter. For Village Homes and Country Homes, all meters must be installed at the front border of the property in the relevant plastic box on ground level. PEC will assist the developer in the planning of the relevant water meter installations.

All water meter installations must adhere to accepted plumbing standards. Please note PEC will only supply the water meter as per the picture below. The developer/plumber will be responsible for any additional fittings.

For installation sized 15-22mm pipes, the **Kamstrup Multical 21** water meter must be used.



For bulk meter connections up to 100mm the **Kamstrup Multical 62** water meter must be used.



PEC will assist the developer in the planning of the relevant water meter installations. All water meter installations must adhere to accepted plumbing standards. Please note PEC will only supply the water meter as per the picture above. The developer/plumber will be responsible for any additional fittings. This meter is also available with a flange connection.

2.5. Equipment prices

A base price (ex VAT) for all equipment is determined as of 01 January 2015 and will escalate annually on 01 January of each following year with a maximum of 6% per annum.

	2021	2022	2023	2024	2025
Multical 21 15-22mm	R2 999.71	R3 179.72	R3 370.50	R3 572.73	R3 787.09
Multical 62 65 mm	R20 802.72	R22 050.88	R23 373.93	R24 776.36	R26 262.95
Multical 62 80 mm	R26 877.39	R28 490.03	R30 199.43	R32 011.39	R33 932.08
Multical 62 100 mm	R30 884.56	R32 737.63	R34 701.88	R36 784.00	R38 991.04

2.6. Ordering equipment

Each developer will fill out a PEC order form to obtain the required meters. Full payment must be made before equipment is supplied.

2.7. Legal

2.7.1. Tariffs

The tariffs applied to consumers will be in line with the prescribed tariffs of the Local Supply Authority (City of Cape Town) but will also be reflective of the actual cost of supplying water to the end consumer. Tariffs will increase annually on the tariff increase date as published by the local supply authority.

2.7.2. Tampering & arrears

Tampering with any metering equipment is illegal and offenders will be held accountable. In the event of tampering being found, the water to such property will be disconnected immediately and will only be reconnected after the full arrear amount due on water & sewer together with a tampering fee and call-out fees is paid in full.

The registered owner of the property will always remain responsible for any arrear amounts due on water. In the event of the consumer being a rental tenant and absconds from paying arrear amounts accrued, such arrear amounts will be added to the registered owners levy account for settlement. If the registered owner does not settle the said arrear amounts, legal proceeding will be instated.

PEC METERING

Hereby I the Developer/Owner/Contractor/Sub-Contractor_ confirm that I have read and understand PEC Metering contract.

Furthermore, I accept that only PEC Metering may be used for the installation of all Electricity meters and water meters on all ervens except Country Homes.

_____

Developer/Owner

_____

Contractor

_____

Sub-Contractor

INITIAL HERE

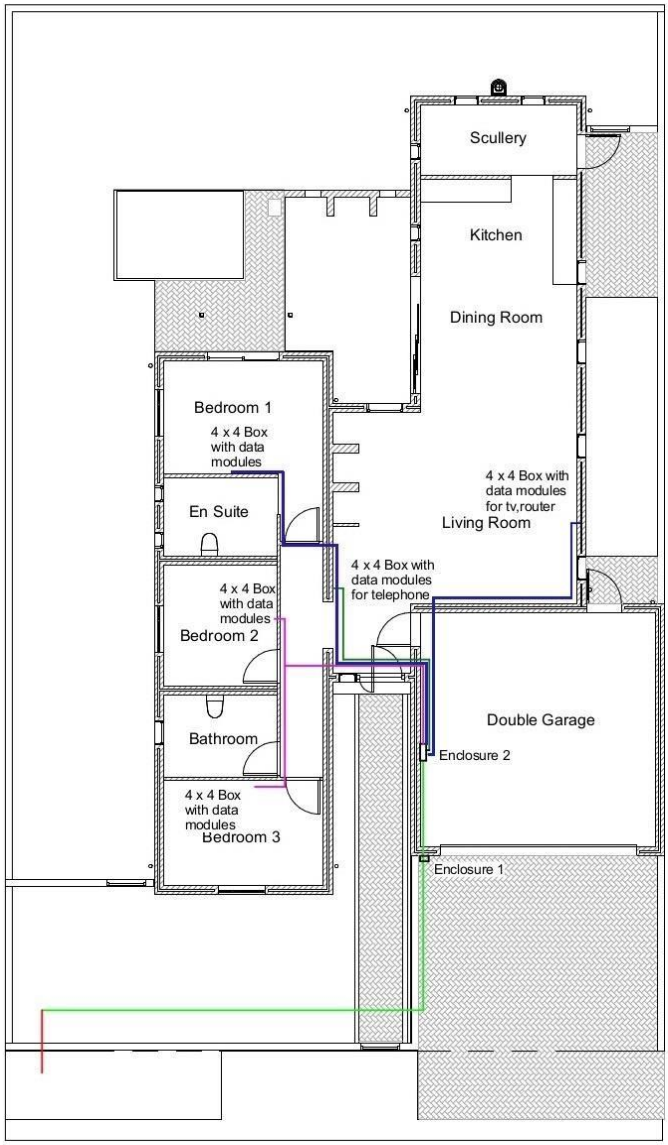
Min of 1 x 32mm PVC from Pickup to enclosure with draw wire

Min of 1 x 20mm PVC conduit for Phone

Min of 2 x 25mm PVC conduit for TV/Internet feeds

Extra room Points of min 25mm PVC Conduit to link to Enclosure2

Note: Extra 25mm conduit will be needed if TV point is needed in Bedrooms



Drawing Ref: AMO002

DATE	2015-11	DATUM
CHECKED	AVDS	NAGESIEN
DRAWN	LW(CAD)	GETEKEN

P.ENG.

amobia

Sitari Country Estate

AMOBIA COMMUNICATIONS

Hereby I the Developer/Owner/Contractor/Sub-Contractor _____

confirm that I have studied and understand Amobia approved Plan of installation.

Furthermore, I accept that only Amobia Communications may be used for the installation of all telephone communications, Internet and DSTV. I hereby accept that I take Full Responsibility if any damage is caused to the installation of the telephone communication system.

_____

Developer

_____

Contractor

_____

Sub-Contractor

INITIAL HERE

OPTIC FIBRE DIAGRAMTO BE ADDED

INITIAL HERE

OPTIC FIBER

Hereby I the_____Developer/Owner/Contractor/Sub-Contractor confirm that I have studied and understand approved SDP of installation.

Furthermore, I accept that I will take full responsibility if any CCTV wires or installations are damaged by the contractor/sub-contractor.

_____

Developer

_____

Contractor

_____

Sub-Contractor

INITIAL HERE

ANNEXURE C

1. PRE-CONSTRUCTION PAYMENTS OR INSTALLATIONS

Note: Items 1 – 6 must be paid or erected before building work commences to Sitari Country Estate Master Homeowners Association (SCEMHOA):

1.1 "Builder's Contribution"

1.1.1 Village & Country Homes 1.1.2 Sectional Title

1.2 Monthly levies, if outstanding

1.3 Builders Board erected

1.4 Water meter installed (PEC metering)

1.5 Ablution facility erected – Only chemical toilets, not connected to sewer system

1.6 Note: Non completion of a house reverts to Sales Agreement, Constitution and Governing Rules for penalties stated therein, further to the Construction and Operation Manual

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ANNEXURE D

NEIGHBOURS CONSENT

ERF NO. _____ DATE _____

TO WHOM IT MAY CONCERN

_____ registered owner of ERF _____ hereby grant _____ permission to _____ registered owner of ERF _____ to store building material on my stand for the duration of the construction of his/her house subject to the following conditions:

Under no circumstances may concrete be mixed on my site.
To remove any material within 2(two) weeks' notice and at own expense; and
To leave my stand in a clan and neat condition when building construction been completed and to do so within 1 (one) week after completion.

Signed at _____on the _____of _____20_____

_____
SIGNATURE OF REGISTERED OWNER

INITIAL HERE

ANNEXURE E

PRE-REQUISITE FOR OCCUPATION OF A HOUSE

1. **Final Inspection**

The Building Control Authority and the Building Control Inspectorate makes a series of inspections throughout the building process. The final inspection is to be arranged by the Building Contractor or registered owner once the undermentioned documentation has been submitted to Sitari Country Estate Master Homeowners Association (SCEMHOA) and City of Cape Town.

The request to issue the final completion Certificate of Occupation by Sitari Country Estate Master Homeowners Association (SCEMHOA), the following documentation listed below will have to be completed and submitted to Sitari Country Estate Master Homeowners Association (SCEMHOA) before any clearance for Certificate of Occupancy to City of Cape Town will be issued by Sitari Country Estate Master Homeowners Association (SCEMHOA). Please note that no Occupation Certificate without the final Completion Certificate

2. **Construction Housekeeping Requirements:**

2.1 Completion of house according as per approved building plan. Penalty of R5 000 (Five thousand Rand) per week for non-compliance of approved building plan.
2.2 The installation of the wall light, street number and letterbox mounted in the boundary wall as per Architectural Guidelines
2.3 Telephone point installed as per Amobia.
2.4 Water Meter connection as per PEC Metering and Architectural Guidelines.
2.5 House number as per Architectural Guidelines. Please note that your street address is obtainable from the Sitari Country Estate Office.
2.6 The storm water reticulation must be pointed out on site and installed and discharged into catch pit/hard road surface

3. **Documentation requirements:**

The following documentation will be required by Sitari Country Estate Master Homeowners Association (SCEMHOA) and City of Cape Town:

- A19 Certificate
- Electrical Compliance Certificate (COC)

INITIAL HERE

- Structural Engineers Certificate (Base level, Slab, Roof height & Final)
- Rational Design (Foundation, Slab, Intermediate slabs, Roof height & Final) –Sectional
- Plumbing Compliance Certificate
- PEC Certificate
- Amobia Certificate
- Gas Certificate, if applicable
- Compliancy Certificate (SCEMHOA)
- Height Certificate (Albert Geiger) Land Surveyor

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ANNEXURE F
INSPECTION FORM 1: BASE LEVEL

ERF NO: _____ STREET NAME: _____

NAME OF REGISTERED OWNER: _____

NAME OF PRINCIPAL BUILDING CONTRACTOR:

DATE REQUESTED FROM PRINCIPAL BUILDING CONTRACTOR/OWNER _____

DATE INSPECTED _____

BASE LEVEL APROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the base level has been excavated and casted as per the approved building plans,

_____

SIGNATURE:

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

INITIAL HERE

BASE LEVEL NOT APPROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the base level has NOT been excavated and casted as per the approved building plans,

_____

SIGNATURE:

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

INITIAL HERE

ANNEXURE G
INSPECTION FORM 2: SLAB HEIGHT

ERF NO: STREET NAME: _____

NAME OF REGISTERED OWNER: _____

NAME OF PRINCIPAL BUILDING CONTRACTOR: _____

DATE REQUESTED FROM PRINCIPAL BUILDING CONTRACTOR/OWNER _____

DATE INSPECTED _____

SLAB HEIGHT APROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the slab height has been built in accordance with the approved building plans,

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

COMMENTS: _____

INITIAL HERE

SLAB HEIGHT NOT APPROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the slab height has NOT been built in accordance with the approved building plans,

_____

SIGNATURE:

_____

SIGNATURE: BCO

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

COMMENTS: _____

INITIAL HERE

ANNEXURE H
INSPECTION FORM 3: ROOF HEIGHT

ERF NO: STREET NAME: _____

NAME OF REGISTERED OWNER: _____

NAME OF PRINCIPAL BUILDING CONTRACTOR: _____

DATE REQUESTED FROM PRINCIPAL BUILDING CONTRACTOR/OWNER: _____

DATE _____

ROOF HEIGHT APROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the house up to roof height has been built in accordance with the approved building plans,

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

COMMENTS: _____

INITIAL HERE

ROOF HEIGHT NOT APPROVED:

COMMENTS: _____

I, _____ hereby confirm that the above inspection was performed, and it was found that the roof height has NOT been built in accordance with the approved building plans,

_____

SIGNATURE:

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

COMMENTS: _____

INITIAL HERE

ANNEXURE I

INSPECTION FORM 4: FINAL INSPECTION

ERF NO: _____ STREET NAME: _____

NAME OF REGISTERED OWNER: _____

NAME OF PRINCIPAL BUILDING CONTRACTOR: _____

DATE REQUESTED FROM PRINCIPAL BUILDING CONTRACTOR/OWNER: _____

DATE INSPECTED BY : _____

FINAL INSPECTION APROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the house has been completed in accordance with the approved building plan

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

COMMENTS: _____

INITIAL HERE

FINAL INSPECTION NOT APPROVED:

I, _____ hereby confirm that the above inspection was performed, and it was found that the house has NOT been completed in accordance with the approved building plans,

_____

SIGNATURE:

_____

SIGNATURE: BCO

_____

SIGNATURE: BUILDING CONTRACTOR / REGISTERED OWNER

COMMENTS: _____

INITIAL HERE

ANNEXURE J

INSPECTION CHECKLIST SHEET
BEFORE CONSTRUCTION

Erf No _____House No _____Street Name _____

REGISTERED OWNER OF ERF _____

Street Address _____

Postal Address _____

E-mail Address _____

Tel No _____ Cell No _____

CONTRACTOR _____

Street Address _____

Postal Address _____

Office Tel No _____ Cell No _____

COMMENCEMENT DATE: _____

COMPLETION DATE: _____

	YES	NO
Site clean		
Building contribution paid		
Levies paid to date		
NHBRC		
Approved building plans (CoCT)		
Certificate of Rational Design report (XA Regulation)		
Certificate of Land Surveyor (Base, Slab & Roof) submitted		
Land Surveyor Certificate confirming 1. Site boundary 2. Block corners 3. Pegging layout 4. Base level cutting		
Contractor registered for Health Safety & file available		
Method Statement - Environment		
Construction & Operation manual signed		
Water meter installed PEC Charl 0713818299		
Water tank installed (Construction purposes)		
Standard builder's board placed on erf		
Site fenced off properly /		
Ablution facilities installed (not connected to Sitari sewerage system)		
If all conditions are adhered to ,commencement of work can begin.		
If all conditions are adhered to, commencement of work can begin		

INITIAL HERE

ANNEXURE K
INSPECTION CHECKLIST SHEET

DURING CONSTRUCTION

Erf No _____ House No _____ Street Name_____

REGISTERED OWNER OF ERF _____

Street Address _____

Postal Address _____

E-mail Address _____

Tel No _____ Cell No _____

CONTRACTOR _____

Street Address _____

Postal Address _____

Office Tel No _____ Cell No _____

INITIAL HERE

	YES	NO

GENERAL		
Construction site cleanliness		
Ensure kerb, sidewalk & street fronts are protected & cleaned regularly		
Rubble removal bins – All construction materials, including bags & plastic		
Materials stored correctly on site		
Damages to street, kerbs, or side-walks- photographed		
Damages to water reticulation or sewerage system - photographed		
Damages to landscaping (irrigation systems, trees, plants) – photographed		
Recommended fencing or boundary walls		
Delivery times are from Mon – Fri 07h00 – 17h30		
STAFFING		
May only use sanitary & drinking water from their construction site		
Employees to be transported by vehicle to site & between building sites		
Employees may not roam around in the Estate and/or use communal facilities or any other place as their own construction site, as resting place		
No liquor or any weapons are permitted on the Estate		
HEALTH & SAFETY		
Health & Safety file on site		
No open fires & 2 x visible mounted extinguishers on site always		
Wear safety gear as prescribed (Hard hat, bib, shoes)		
Scaffolding secure		
Ladders secure		
Working on roofs – safety equipment & harnesses must be utilised		
Masks to be warn as per Health & Safety Regulations		
Covid Regulations in place		

INITIAL HERE

MATERIALS		
Contractual material may not be mixed on sidewalk, in street or communal facility		
Any sand, stone, cement, paint & rubble that has been spilled onto their site, must be cleaned immediately		
No excess material/contractual rubble may be spilled onto the Estate. Contractor to remove at own cost & pay any penalty as prescribed		
Materials stacked neatly		
VEHICLES		
Only roadworthy & licensed vehicles allowed in the Estate		
Vehicles may not use shortcuts, may not park on other erven or communal facilities		
No vehicles to park on sidewalks & no material stacked on sidewalks		
Contractor briefed delivery vehicle drivers on governing rules for deliveries		
Deliveries to site only take place from street frontage		
Drivers of ready-mix concrete vehicles must have environmental certificate		
Vehicles delivering concrete may only be washed on construction site concerned & spillage & run-off must be contained on site		
Concrete may not be spilled onto sidewalks, streets or erven, communal facilities, or storm water system. Any spillages contained in site must be cleaned immediately. If found, the concrete company will immediately clean up spillage. If not, SCE will do it & charge contractor.		
Spillage of cement on paving – clean up immediately		
Utilise 6m x 6m heavy duty plastic sheeting – under pumps & spillage		
REQUIRED SERVICES		
Water meter installed at front entrance wall (country & village homes)		
If building commence without water meter being installed, PEC will install water meter at contractor cost & estimate water-reading will be taken by PEC from water already used		
Amobia installation		
Solar installation		
Alarm system and/or burglar bars installed		

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APPLICATION FORMS/CERTIFICATES		
All approved building & amended plans to be always available on site		
Inspection form: Base		
Inspection form: Slab		
Inspection form: Roof		
Inspection: Final		

INITIAL HERE

ANNEXURE L

INSPECTION CHECKLIST SHEET
AFTER COMPLETION OF CONSTRUCTION

Erf No _____ House No _____ Street Name _____

REGISTERED OWNER OF ERF _____

Street Address _____

Postal Address _____

E-mail Address _____

Tel No _____ Cell No _____

CONTRACTOR _____

Street Address _____

Postal Address _____

Office Tel No _____ Cell No _____

INITIAL HERE

	YES	NO
Levies paid up to date		
NHBRC Certificate		
A19 Certificate (Foundation trenches)		
A19 Certificate (Rib & Block)		
A19 Certificate (Balustrading)		
A19 Certificate (Roof)		
Certificate AAAMSA (SANS 613) – Balustrading		
Certificate AAAMSA (SANS 613) - Showers		
Certificate AAAMSA (SANS 613) - Windows		
Certificate AAAMSA (SANS 613) – Doors (Frameless & Stacking)		
Certificate Gas (if applicable)		
Certificate Glazing – Certificate SAGGA		
Certificate Showers		
Certificate Solar		
Certificate Waterproofing		
Certificate		
Certificate Roof (Kliplock/Blue scope)		
Form 4		
CoC Plumbing		
CoC Electrical		
Certificate of Occupancy		
Amobia Certificate on completion		
Landscaping, internal & external complete		
Ensure house built as per approved plan		
Post box and House number allocated		
Certificate of Building Completion Compliancy Certificate signed off by BCO		

SITARI COUNTRY ESTATE. FARM 681, STELLENBOSCH

Compiled by: DJ Jeffery

Compiled for: Sitari Country Estate

Date: June 2014

Proposed mixed Residential and Commercial Development on Farm 681, Stellenbosch

Environmental Management Plan (Construction)

ENVIRONMENTAL MANAGEMENT PROGRAMME DETAILS

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Detailed Project Name	Proposed Development of Sitari Fields Lifestyle Estate, Erf 1840 Croydon, Stellenbosch, Cape Town (Previously known as the Proposed Development of a Private Estate on the Remainder of Farm Zeekoeivlei No. 681, Helderberg)
DEA&DP Ref. No.	12/2/1-593-Farm 681, Helderberg
Total Impact Ref. No.	TI 2012/01
Client / Applicant Name	Fairfield Place 82 (Pty) Ltd.
EMP Produced For	Doug Jeffery Environmental Consultants (Pty) Ltd.
Draft Date	Original 20 January 2012 – Updated September 2013 – Updated February 2014 – Updated May 2014 – CoCT update June 2014

Compiled by:		**Total Impact Assessments (Pty) Ltd.**		
Expertise	**Company Director**	Jeremy Keyser	**Company Director**	Doug Jeffery
	NDip. - Nature Conservation B-Tech Degree - Nature Conservation Certificate Qualifications: Project Management and ISO 14001 Implementation Several years of varied biodiversity and conservation management experience. More than 6 years of experience in the environmental management field and as an Environmental Control Officer.		BSc. majors in Botany & Zoology MSc. in Botany Registered as a professional Environmental Assessment Practitioner with the Interim Certification Board for Environmental Assessment Practitioners of South Africa Registered with the South African Council for Natural Scientific Professions as a Natural Scientist 25 years' experience	

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ENVIRONMENTAL MANAGEMENT PROGRAMME DOCUMENT INFORMATION

This Draft Environmental Management Programme Document is submitted in part fulfilment of the required Environmental Impact Assessment undertaken to obtain an Environmental Authorisation issued by the Department of Environmental Affairs and Development Planning.

Environmental Authorization is required to be obtained from the competent authority for activities as detailed and specified under the National Environmental Management Act, as amended (Act 107 of 1998) (NEMA) and the 2010 regulations listing Notices R554, R545 and R546.

NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). In the Western Cape, these powers are delegated to the Department of Environmental Affairs & Development Planning (DEA&DP).

DEA&DP has issued a favourable Environmental Authorisation for the proposed activities; and once the EMP has been approved this will confer a legal obligation to comply with the specifications of the EMP on the Applicant. This EMP includes all relevant documentation contained or referred to within it, along with any amendments or annexures to this document. The Department of Environmental Affairs and Development Planning must approve any significant changes to the EMP.
It is then the responsibility of the Applicant to undertake the following:

- Appoint an Environmental Control Officer (ECO) to monitor the implementation of this Construction Environmental Management Programme, where required to do so by DEA&DP.
- Bind all contractors undertaking work on these sites, to the specifications in this same Environmental Management Programme, as well as annexures and any amendments thereto.
- Ensure that all the conditions of the Environmental Authorisation are adhered to and met.

The above being noted, the EMP document in principle is intended to be a living/organic document with flexibility that allows for changes, deviations, and adjustments at the discretion of the ECO, as necessary during the construction/development process. This having been said any significant changes or updates must be communicated to the Directorate within 14 days of such changes or updates being made.

This EMP comprises of three main sections and annexures:

Section 1 – General Information & Background

This section provides the relevant background to the project. This ensures that an overall understanding of the site and the activities required is achieved for all relevant parties.

Section 2 – Construction Phase of the EMP

This section addresses all issues relating to the physical construction, preparation for construction, monitoring during construction, decommissioning of non-permanent items on the site as well as the landscaping and rehabilitation directly after construction is completed. This section will have most relevance to the appointed contractors.

Section 3 – Operational Phase of the EMP

This section details the environmental requirements for the project/activity in the long term, addressing the operational or functional phase.

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Annexures

The annexures attached to this EMP are referred to in both the Section 1, 2 and 3 of these documents. Both Sections must be read in conjunction with the Annexures.

Although section 2 and 3 are implemented at different stages of the project the sections of this EMP cannot be read in isolation to one another. The document must therefore be distributed and viewed as a whole and in its entirety.

DEFINITIONS:

To this EMP the following definitions will apply:

Alien vegetation means all undesirable invasive vegetation, defined as but not limited to, all declared category 1 and category 2 plants in terms of the **Conservation of Agricultural Resources Act (43 of 1983) (CARA) amended regulations 15 and 16 as promulgated in March 2001.**

Applicant/Developer/Employer The person or legal entity that has made application to the competent authority for environmental authorizations and who will have the overall responsibility to adhere to the relevant legislation and comply with the environmental authorization.

Construction activity refers to any action taken by the Contractors, his subcontractors, suppliers, or personnel in undertaking the construction work, otherwise referred to as "Works"

Construction area(s) refers to all areas used by the Contractors to carry out the required construction activities. This includes all offices, accommodation facilities, testing facilities / laboratories, batching areas, storage & stockpiling areas, workshops, spoiling areas, access roads, traffic accommodation (e.g., bypasses), etc.

Contractors This refers to the company/team appointed by the Employer to undertake the construction activity for the project

Environment means the surroundings within which humans exist and that are made up of -
land, water, and atmosphere.

- **micro-organisms, plant, and animal life.**
- **any part or combination of the above and the interrelationships among and between them.**
- **the physical, chemical, aesthetic, and cultural properties and conditions of the foregoing that influence human health and well-being.**

Environmental Authorization also referred to as the ROD is the Record of Decision as issued by the Provincial Government Department arising from the application for Environmental Authorization through either a basic assessment or full EIA process.

Environmental Impact refers to any change to the environment, whether desirable or undesirable, that would result directly or indirectly from any construction or operational activity.

Hazardous material / substances refer to any substance that contains an element of risk and could have a deleterious effect on the environment.

Local Authority otherwise referred to as the "Council" is the local municipal authority that operates or is responsible in said area.

Rehabilitation returns impacted area to its original condition or to as close as possible to original condition

Rock Breaking Refers to the process where rapidly expanding chemicals are placed into rock or similar hard substance that result in a sudden and forceful expansion causing the rock or similar to break with a sudden release of energy. This however does not include the use of small scale slow expanding chemical products with little or no energy released during application and operation.

Vegetation rehabilitation refers to the re-establishment of locally indigenous vegetation with a similar species composition to that which naturally occurs in the area.

Owner/s This could remain the applicant/developer/employer, or where the property/facility has been sold the new legal entity or person/s that have taken ownership as well as the responsibility of the EMP and environmental authorization. The owner is normally referred to during the operational phase. Also responsible for appointing an OM when there is no POA involvement.

ACRONYMS AND ABBREVIATIONS:

BAR	Basic Assessment Report
DEO	Designated Environmental Officer (appointed by the Contractors during construction)
DEA&DP	Department of Environmental Affairs and Development Planning
DEA	Department of Environmental Affairs
DWA	Department of Water Affairs
EA	Environmental Authorisation, also referred to as the ROD is the Record of Decision as issued by the competent authority arising from the application for Environmental Authorization through either a basic assessment or full EIA
ECA	Environment Conservation Act
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMP	Environmental Management Programme
EO	Environmental Officer
ER	Employer's Representative (represents the Employer/Applicants interest and oversees the project)
HOA	Homeowners Association also known as Body Corporate responsible for the operation of the overall development. Responsible for appointing an OM.
HWC	Heritage Western Cape
I&AP	Interested and Affected Party

MS	Method Statement
MSDS	Material Safety Data Sheet
POA	Property Owners Association also known as Body Corporate responsible for the operation of the overall development. Responsible for appointing an OM.
NEMAA	National Environmental Management Act, as amended (Act No. 62 of 2008)
NWA NHRA	National Water Act
OM	National Heritage Resources Act (Act No. 25 of 1998)
PPC&E	Operations Manager
PPP	Personal Protective Clothing and Equipment Public Participation Process
RDB	Red Data Book (lists of endangered, vulnerable, threatened, extinct species)
ROD	See EA above
RE	Resident Engineer
SAHRA	South African Heritage Resources Agency

SECTION 1

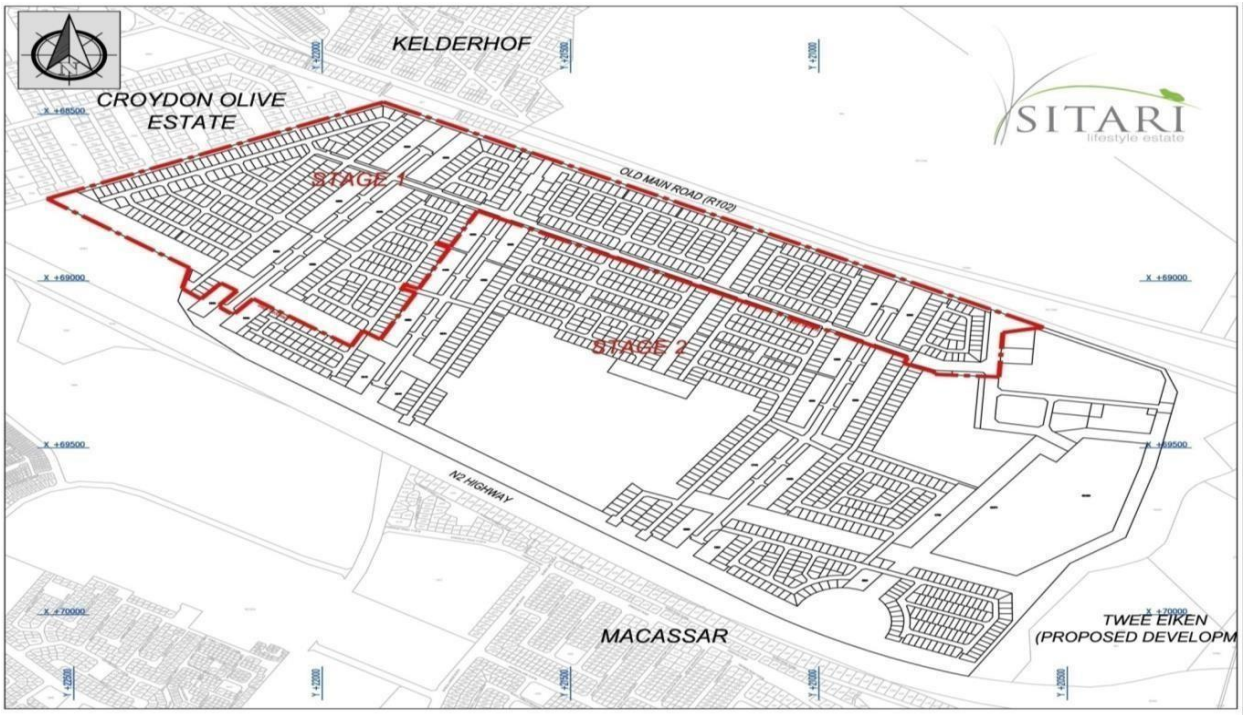
GENERAL BACKGROUND INFORMATION

1.1 GENERAL BACKGROUND

An Environmental Impact Assessment was conducted for a golf estate proposal on the entire 190-hectare property in 2004/5. A positive environmental Record of Decision was issued for this project in 2005 by the Department of Environmental Affairs and Development Planning (DEA&DP) and construction of the golf estate was initiated in March 2008. Fairfield Place 82 (Pty) Ltd acquired the property in May 2011. A new development concept is being investigated and proposed for the "golf course area" of the site.

Subsequently the Applicant wished to apply for certain amendments to the original, approved development layout of the greater Sitari Fields development.

Figure 1: Proposed Layout Plan, indicating Approved Development (Stage 1) and Application Area (Stage



APPROVED
AMENDED CURRENT

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Two amendment applications (amendments to the 2005 Record of Decision) were submitted to the DEA&DP in May 2012. The first amendment application amended the name of the original applicant to the new landowner, Fairfield Place 82 (Pty) Ltd, and the second amendment application amended the layout of the residential component in the area of the site known as "Stage 1". The change to the layout did not affect the development footprint of the previously approved layout.

An environmental impact assessment process is hence being undertaken for the previously approved golf course area, the remainder of the site, termed "Stage 2" for ease of reference. This part of the site would consist of 2037 units which include a number of retirement opportunities, integrated with an open space and re-habilitated wetland component. The proposed mixed-use development would also include a retail node and school component.

The revised development concept and layout for stage 2 would involve the following key elements:

- The re-instatement of the historic Klein Zeekoevlei as a sustainable wetland area across approximately 21 hectares.
- An integrated open space system made up of linear green corridors, the powerline servitude, buffer zones, the Klein Zeekoevlei wetland area, various pocket parks and other public spaces and landscaped areas.
- A broad spectrum of residential categories (approximately 2037 units) designed in an integrated manner to strengthen the open space system and create a quality living environment.
- A retirement village.
- A commercial/retail precinct accessible to the broader community.
- An integrated private school campus, also accessible to the larger community.
- Institutional uses such as crèches and place of worship sites; and
- The creation of a safe and secure environment within which the residential components of this development would be located.

Doug Jeffery Environmental Consultants (Pty) Ltd. is undertaking the relevant amendment application as required in terms of the National Environmental Management Act (Act 107 of 1998) and the National Environmental Management Amendment Act (Act 62 of 2008).

Total Impact (Pty) Ltd. has been commissioned to draft the required EMP.

1.2 SITE INFORMATION

1.2.1 SITE LOCATION

The site in question is situated in the Helderberg area, in the south-eastern part of the Cape Metropolitan area. The N2 highway borders the site to the south and the R102 (Old Main Road) borders the site to the north, with the railway line (between Cape Town and Somerset West via Bellville) running to the north of the R102. The Moddergat River runs near to the eastern boundary of the site.

The site is currently zoned Residential Zone 1 (according to the new Cape Town Zoning Scheme, the relevant zoning allocation is now Single Residential Zone 1) in terms of an approval for rezoning and subdivision dated February 2013. The property is currently vacant. The site lies within the jurisdiction of the City of Cape Town: Helderberg Administration.

The central coordinates for the greater Sitari Fields development are as follows: 34°3'12.28"S & 18°46'21.35"E. See Annexure 3.

1.2.2 CULTURAL AND HERITAGE

Large crude artifacts of the Early Stone Age, such as large irregular cores and cobble choppers, are scattered sparsely over the property. Early Stone Age artifacts are fairly common in the general area, e.g., the higherlying areas of Somerset West. The artifacts however would have been disturbed by the variety of agricultural activities that have taken place on the property in the past.

The original farmstead and outbuildings (a good example of early to mid-19th century vernacular architecture) were destroyed by fire during early 2011.

1.2.3 BIOPHYSICAL ENVIRONMENT

1.2.3.1 Vegetation

Boland Granite Fynbos is listed as a VULNERABLE ecosystem ‘D1’; largely due to a high number of threatened species associations (56 threatened species). Furthermore, the ecosystem has undergone almost 40% loss of the original habitat. Cape Flats Sand Fynbos is listed as CRITICALLY ENDANGERED ‘A1 & D1’ due to habitat transformation (16% of original habitat area remaining) and 95 threatened species associations. Swartland Shale

Renosterveld is equally threatened; being listed as CRITICALLY ENDANGERED ‘A1 & D1’ due to habitat transformation (8% of the original habitat area remaining and 151 threatened species associations). The study area would thus have supported a rich bulb flora prior to transformation; however, almost the entire area (apart from a saline marsh Sedgefield) has been highly transformed. The site does not fall within the CoCTs Biodiversity Network, which is mainly due to the area being highly transformed.

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Saline Marsh Sedgefield: The well-defined saline marsh located near the south-western corner of the site, has not been transformed by farming practices, and is most probably a remnant 'off-cut' from the original Klein Zeekoevlei wetland prior to the construction of the dam.

Anthropogenic meadows: The anthropogenic meadows cover the majority of the site and have been almost completely transformed due to roll-on lawn farming. Typical species identified by Boucher (2004) include the following: *Arctotheca calendula, Cotula turbinata,*

Cynodon dactylon, Sporobolus virginicus and various exotic weeds. One species of concern, originally located by Harding and Muller is the ENDANGERED *Lampranthus debilis*.

Phragmites australis reed swamp: A reed swamp surrounds the small dam and extends westward on the south side of the gravel road due to seepage. As with many wetland species the reed Phragmites australis is not threatened yet performs a functional role in terms of sustaining ecological health and water quality. The reed also serves as an important buffer to the dam and

supports bird species associations. The reed swamp is an artificial system yet supports a number of species, which were recorded by Boucher. These include *Cyperus textilis, Zantedeschia aethiopica, Pennisetum macrourum, Senecio halimifolius* and several exotic weeds such as *Acacia saligna* (Port Jackson Willow), *Myoporum tenuifolium* (manatoka) and *Paraserianthes lophantha* (stink bean).

Aponogeton distachyos pond: The pond located alongside close to the N2 highway is a natural spring and contains the economically important *Aponogeton distachyos* (waterblommetjie). Although the species is not threatened it contributes to the biodiversity of the area and holds aesthetic, ornamental and educational appeal.

Typha capensis drainage ditch Sedgefield: There are various artificial drainage ditches on the site supporting dense stands of *Typha capensis* (bulrush). As with *Phragmites australis* (mentioned above) the species is not threatened yet serves a functional role in wetlands. The species grows rapidly and is likely to re-colonize any altered channel on the site.

Acacia saligna stands: The existing stands of *Acacia saligna* (Port Jackson Willow) are located in several areas, including the area north and east of Klein Zeekoevlei Dam, the south-western corner, and several portions along eastern side of the site.

Searsia angustifolia drainage line shrubland: A small patch of disturbed natural vegetation occurs along the northern bank of Klein Zeekoevlei Dam, which is not part of a drainage line but more of a line of shrubs along the edge of the vlei. The remnant includes a few individuals of shrubs including *Searsia glauca, S. lucida, S. angustifolia* and *Asparagus rubicundus*.

Oxalis flava community: A community of several hundred individuals of the geophyte (bulb) *Oxalis flava* was located just east of the saline marsh sedgefield in sandy soils. The species

is low growing (only a few centimetres high) with light yellow flowers. Although the species is not threatened, it does carry some aesthetic appeal and adds to the biodiversity of the area.

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Lampranthus debilis population: A population consisting of four small patches of the ENDANGERED succulent *Lampranthus debilis* was found to the west of Klein Zeekoevlei dam within a seepage zone. The species is on the brink of extinction according to Raimondo et al., 2009: "The remaining ten known populations are severely fragmented and continue to decline as a result of alien plants, crop cultivation in the Bredasdorp region and further on the Cape Flats and around Bredasdorp". Furthermore, the mesemb grows in seasonally wet habitats and therefore has very specific growing requirements. Since the initial baseline study there have been several fires on the property which has destroyed the vegetative component of the population. However, the population will still be present in the form of the seed bank.

It is likely that the *Lampranthus debilis* population was extensive prior to farming practices and transformation of the original vlei area due to the extensive wetland areas found here. The combination of farming and the building of the dam and drainage channels would have been the main contributing factors leading to the severe reduction in population size.

1.2.3.2 Geology and Soils

The landscape is characterized by gentle slopes and flats, along with several artificial and natural wetlands. The topography and soils have been heavily influenced through farming practices; however, the dominant soils consist of shale-derived clays (Malmesbury group). The site is underlain from ground surface by transported colluvial material. This colluvium is underlain by recent unconsolidated silty sandy and gravelly deposits of transported (alluvial) origin and of varying thickness. These soils have in places undergone pedogenesis, with ferricrete gravels developing at the base of some of the transported horizons. Residual and weathered s``hales and siltstones of the Malmesbury Group directly underlie the younger transported, and pedogenic soils over the entire site area.

Transported colluvial materials, comprising predominantly silts with variable clay, sand, and gravel fractions, occur from ground surface across the site to depths of between 0.3 m and 1.1 m below ground level. Pedogenic and alluvial deposits underlie the colluvium and essentially comprise silty gravels and gravelly sands. These soils extend to depths of between 0.4 m and 1.7 m below ground surface and appear to vary in thickness, depending on depths of historic erosion surfaces or paleo-channels.

The residual shale/siltstone soils directly underlying the transported deposits essentially comprise clayey silts, which extend to depths of between 0.7 m and 2.6 m below present ground level. These soils often show relict jointing or a shattered soil structure in the upper 0.5 m of the residual profile. The underlying weathered shale/siltstone rock, occurring below the residual soils, is highly to completely weathered, with weathering expected to decrease with increasing depth below ground level.

Shallow groundwater is developed in the relatively permeable sandy near surface colluvial and alluvial soils. The water table is presently located at ground surface in places and in other areas at depths of between 0.4 m and 1.2 m below present ground level. In places the site is flooded with extended areas of surface water present. The wetland groundwater relies mainly on recharge from direct infiltration of rainfall, as well as from up-slope recharge of the groundwater via horizontal flow in the gravelly alluvial soils. As such, this water table will be best developed during winter, with water table elevations dropping over the dry summer

season. Infiltrated water can also be expected below the large dam where water possibly seeps through embankment materials. The main water table is expected to occur at depth in the fractured shale rock aquifer.

1.2.3.3 Climate

Hot, dry summers and cool wet winters characterize the climate of the Western Cape which is described as Mediterranean. The mean annual precipitation for the area concerned varies from 470-980 mm (mean: 640 mm) with most of the rainfall occurring from May to August. Temperatures range from a maximum of 26 ℃ in summer (February peak) to a minimum of

7.4 ℃ in winter (July peak) with frost occurring infrequently (climatic data taken from that associated with Lourensford Alluvium Fynbos: Rebelo et al. in Mucina and Rutherford, 2006).

1.2.3.4 Aquatic Features

The majority of aquatic features are found within the Stage 2 site of Sitari.

In many areas on site, the drainage channels were found to be overgrown or blocked, resulting in the areas surrounding the drains being flooded and creating false impressions of wetland conditions. In other areas, the ground appeared to be hard and impermeable, resulting in ponding. This was especially the case in some pan environments, south of the large dam, arising from the removal of topsoil during the grass-farming period.

The site contains two dams (5.1ha and 17.6 ha). The Moddergat River flows southwards, some distance to the east of the property. There is a constructed channel from the Moddergat River to the dams. Both the natural flow line of the Moddergat River and the various channels support a mix of seasonal and perennial aquatic plant growth (Typha capensis, cattail reeds) and therefore function as wet environments throughout the year.

The site also contains two smaller areas of wetland, to the south-east and south-west, immediately adjacent to the N2 embankment. The eastern boundary of the site also appears seasonally wet in a linear north to south direction.

Much of the site is temporarily flooded along the northern edge of the N2 during winter. This is as a result of the CoCT: Helderberg Administration having closed off several of the drainage culverts beneath the N2 – which would otherwise allow the site to drain the floodwater that originates from the unlined section of the Moddergat River – between the R102 (north) and the N2 (south). These conditions, required to prevent flooding of residential properties south of the N2, have amplified the pseudo-(artificial) appearance of wetland conditions to the southwest and southeast of the property.

The CoCT mapping shows an elongated area of wetland north of the large dam. This area lies between two man-made ridges and was actively used for grass farming. No wetland characteristics were identified in this area during either study.

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It should be noted that the site was found to be extremely wet throughout the 2011 winter, this despite the below-average rainfall and the driest July in twenty-five years. Some of these areas presented superficial wetland characteristics from time to time. Others were found to be unnaturally wet as a result of blocked drains overflowing into the adjacent fields.

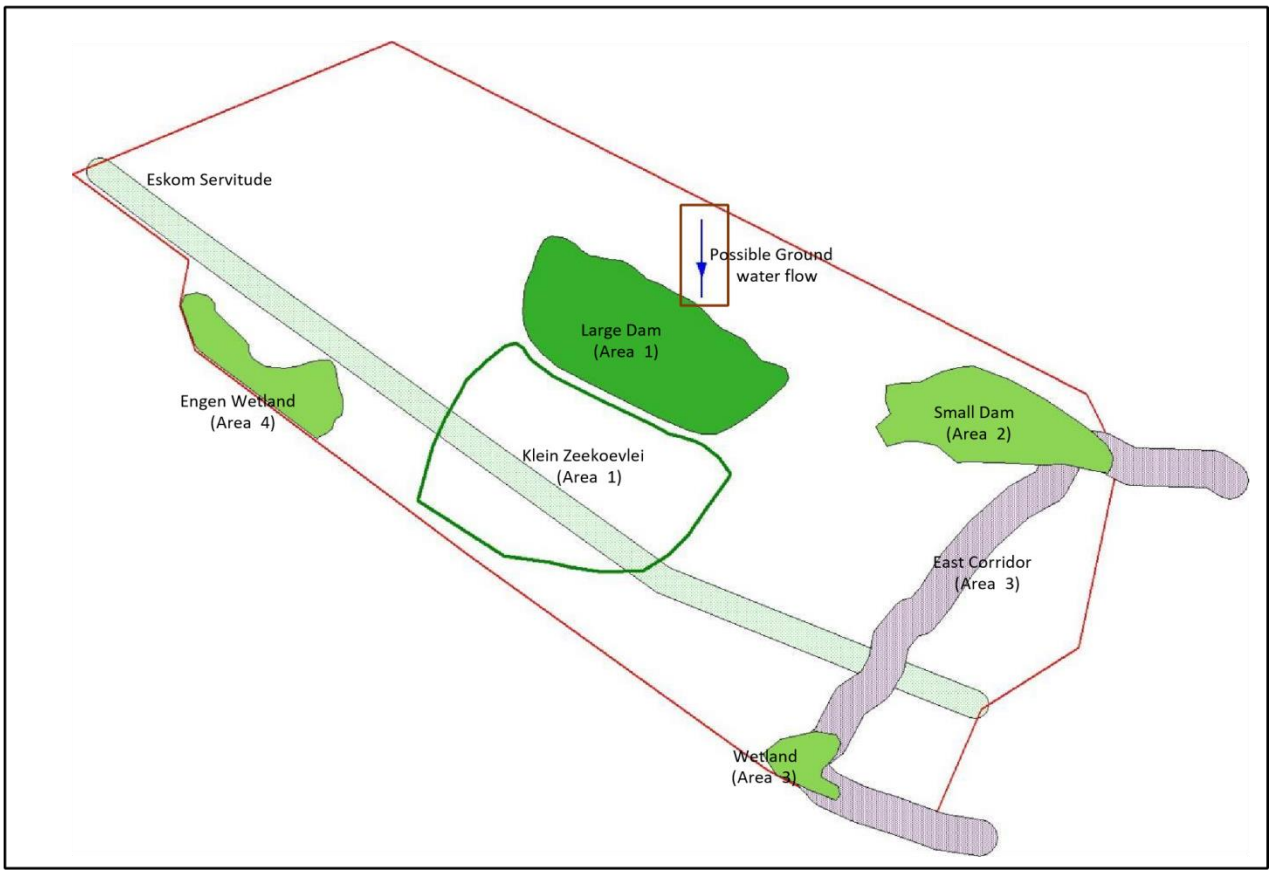


Figure 2: Position of the various wet environments identified.

Some areas to the north and west of the large dam appear to have shallow clay- stony soils - which may mean the clay was added to the soil or that all the sand has been stripped off. This would account for the patches of seasonal standing water in this area, creating the impression of a perched water table. The same areas were found to be wetter than would normally be the case, due to the blockage of drains alongside the R102, resulting in water overflowing westwards in the previously grassed areas.

1.3 LISTED ACTIVITIES

The National Environmental Management Act, as amended, (Act 107 of 1998) makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which

require authorisation from the competent authority based on the findings of an Environmental Assessment. NEMA is a national act, which is enforced by the

Department of Environmental Affairs and (DEA). In the Western Cape, these powers are delegated to the Department of Environmental Affairs & Development Planning (DEA&DP). In terms of NEMA, as amended, the following activities require Environmental Authorisation:

Government Notice **R544 (Listing Notice 1)**:

9. *The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage, or storm water -*

(i) with an internal diameter of 0,36 metres or more; or

(ii) with a peak throughput of 120 litres per second or more, excluding where: a such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or

b. where such construction would occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.

11. *The construction of:*

(i) canals.

(ii) channels.

(iii) bridges.

(iv) dams.

(v) weirs.

(vi) bulk storm water outlet structures.

(vii) marinas.

(viii) jetties exceeding 50 square metres in size.

(ix) slipways exceeding 50 square metres in size.

(x) buildings exceeding 50 square metres in size; or

(xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction would occur behind the development setback line. 12. The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010.

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13. The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres.

18. The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles, or rock of more than 5 cubic metres from:

(i) a watercourse.
(ii) the sea.
(iii) the seashore.
(iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater but excluding where such infilling, depositing, dredging, excavation, removal or moving.

(a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or

(b) occurs behind the development setback line.

***22.** The construction of a road, outside urban areas,*

(i) With a reserve wider than 13,5 meters or,

(ii) Where no reserve exists where the road is wider than 8 meters, or

(ii) For which an environmental authorization was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.

Government Notice **R545 (Listing Notice 2)**:

***15.** Physical alteration of undeveloped, vacant, or derelict land for residential, retail, commercial, recreational, industrial, or institutional use where the total area to be transformed is 20 hectares or more:*

Except where such physical alteration takes place for:

(i) Linear development activities; or

(ii) Agriculture or afforestation where activity 16 in this Schedule would apply.

Government Notice R546 (Listing Notice 3):

***4.** The construction of a road wider than 4 metres with a reserve less than 13.5 metres.*

***12.** The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.*

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1.4 STAKEHOLDER ENGAGEMENT

This EMP is presented to the authorities, as part of the Environmental Assessment process (Conditions of Environmental Approval).

Once the Department of Environmental Affairs and Development Planning has approved the EMP, the Applicant and at the later operational stage, the Property Owner/Property Owners Association (POA) can then adopt it for implementation as part of the operational phase of the development.

The Department of Environmental Affairs and Development Planning must approve any significant revisions to the approved document. Notification of any significant revision must be made available to relevant stakeholders if directed to do so by DEA&DP.

1.5 ENVIRONMENTAL RESPONSIBILITIES

The implementation of this EMP requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during the construction phase.

The following stakeholders will be involved with the EMP either during the construction phase, operational phase, or both.

1.5.1 LEAD AUTHORITY: DEA&DP

The Department of Environmental Affairs and Development Planning is the designated authority responsible for authorising the development and approvals. This Directorate has overall and total responsibility for ensuring that the Applicant, Fairfield Place 78 (Pty) Ltd., complies with the conditions of its Environmental Authorisation as well as this EMP during the construction phase and operational phases.

DEA&DP is required to review the draft EMP submission (this document). During the construction and operational phases of the EMP the lead authority may have the following role to play:

- Review environmental reports, take action if deemed necessary.
- Review whether there is compliance with the terms of the EMP and Environmental Authorisation specifications and permit/license conditions. Whenever necessary, the authorities should assist the Residents/owners associations/Applicant and relevant personnel in understanding and meeting the specified requirements.
- Ensure and timeously recommend suitable corrective measures are undertaken by the Applicant/ER where required.
- Enforcing compliance by the Applicant.

- The authorities may perform random controls to check compliance. In case of persistent noncompliance, the OM will be required to provide an action plan with corrective measures and have it approved by the authorities.

1.5.2 DEVELOPER/EMPLOYER/APPLICANT: FAIRFIELD PLACE 82 (PTY) LTD.

Under South African environmental legislation, the Applicant/Employer is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts. Fairfield Place 78 (Pty) Ltd. as the Applicant/Employer therefore has overall environmental responsibility to ensure that the implementation of the construction phase of this project complies with the relevant legislation and the conditions of the environmental authorisation. To this end the Applicant will ensure that they are fully familiar with the requirements of the Environmental Authorisation and this EMP.

The developer will be responsible for the development and implementation of all the conditions of the Environmental Authorisation in terms of the design of the development and construction thereof. The developer will thus be responsible for the implementation of this EMP prior to and until new owners take over this responsibility. Therefore, it must also be understood that this EMP is applicable to all successors in title.

The ECO will not and cannot be held liable legally or otherwise as a result of non-compliance with the Environmental Authorisation or this EMP.

1.5.3 DEVELOPER/RESIDENT ENGINEER

The Resident Engineer (RE) acts as the Employer's on-site implementing agent and has the responsibility to oversee that the Employer's responsibilities are executed in compliance with relevant legislation, environmental authorisation, and EMP.

Any on-site decisions/inputs regarding environmental management are ultimately the responsibility of the RE.

The RE (assisted by the ECO where necessary) will have the following responsibilities, *inter alia*, in terms of the implementation of the Construction phase of this EMP:

- Monitor that all the reasonable environmental authorisations and permits within the jurisdiction of the contractors have been obtained.
- Reviewing and approving the Contractors' method statements with input from the ECO where necessary.
- Assisting the Contractors in finding environmentally responsible solutions to problems with input from the ECO.
- Ordering the removal of person(s) and/or equipment not complying with the EMP specifications.

- Issuing fines for transgressions of site rules and penalties for contravention of the EMP with input from the ECO as and when necessary.
- Providing input into the ECO's on-going internal review of the EMP that is submitted as a report to the Employer and ER.
- The RE will ensure that there are, at all times, emergency contact details displayed on the site. Further to this that there is at all times someone available at these contact numbers 24 hours a day.

1.5.4 ENVIRONMENTAL CONTROL OFFICER

The Environmental Control Officer (ECO) will be an independent environmental consultant/company appointed by the Employer/developer to monitor and review the on-site environmental management and implementation of the construction phase of this EMP by the Contractors.

The Employer/Developer will ensure that an ECO is appointed to undertake site visits at least once per week and complete a compliance report 1 per month, excluding during holiday and site shutdown periods unless otherwise negotiated with DEA&DP and the local authority.

The ECO is **not** responsible for issuing instructions, ensuring, or enforcing compliance with the ROD or EMP. The ECO is not responsible for addressing design requirements. The ECO fulfils a role of monitoring and guidance as well as communication with role players.

The ECO's duties are as follows:

- To assist in identifying all the necessary environmental authorization and permits required for the execution of the works in terms of the contract and associated drawings.
- Assisting the RE, where requested, in ensuring that the necessary environmental authorisations and permits have been obtained.
- Maintaining open and direct lines of communication between the ER, Employer, Contractors, and the public with regard to environmental matters.
- Assisting with the appointing of specialists (botanists, wetland specialists, etc.), as requested, to advise the RE and Client.
- Reporting on environmental issues noted on site during site inspections at construction site meetings.
- Undertake the training of all construction staff, including day workers, as to the requirements for working on the site.
- Reviewing and advising the RE on the Contractors' construction method statements.
- Regular site monitoring inspections of all construction areas with regard to compliance with this EMP.
- Monitoring adherence to the EMP, the environmental authorisation and approved method statements at all times, thereby ensuring that environmental impacts are kept to a minimum.
- Assisting the Contractors/RE in finding environmentally responsible solutions to problems.

- Advising the RE on the removal of person(s) and/or equipment not complying with environmental specifications.
- Recommending the issuing of fines for transgressions of site rules and penalties for contraventions of the EMP to the RE.
- Reporting on the implementation of the EMP and compliance with the environmental authorisation on a regular basis.
- Recommending additions and/or changes to the EMP to the directorate, if deemed necessary.
- Compiling a final report regarding the EMP and its implementation during the construction period and submitting this report to the Employer and the competent authority.

1.5.5 CONTRACTORS DESIGNATED ENVIRONMENTAL CONTROL OFFICER (DEO)

Each of the appointed Contractors' **is required to appoint** a competent individual as the Contractors' on-site Designated Environmental Officer (DEO). The DEO's must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management to all personnel involved in the contract.

The DEO's will be responsible for overseeing the Contractors' Day to day internal compliance with the EMP requirements and ensuring that the contractors adhere to all environmental specifications.

The DEO's will be responsible for keeping detailed records of all site activities that may pertain to the environment (in the form of a site book or similar). Additional responsibilities of the DEO include *inter alia*:

- To be familiar with the Environmental Authorisation and this EMP as well as all the related requirements and specifications.
- Daily site inspections and site notes.
- Supervision of work where environmental management is a key aspect (e.g., in sensitive areas, with high environmental risk, etc.).
- Communicating with and providing information to the ECO as well as reporting any incidents or issues arising or that may potentially arise on site.
- Completing temporary site-closure checklists and submitting to the ECO (refer to para 2.10).
- Keeping a photographic record of progress on site from an environmental perspective.
- Keeping a register of complaints in the site office and recording and dealing with any community comments or issues.

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- Maintaining an environmental site file with all the relevant environmental admin including hazardous waste disposal certificates, environmental induction registers, letters of permission, a copy of the ROD and this EMP, copies of all approved method statements and performance reports.
- Keeping a record of on-site incidents and accidents and how these were dealt with and will be prevented in future.
- Environmental induction of staff (the ECO will assist if required or requested).

1.5.6 OTHER AUTHORITIES

Other authorities involved in activities relating to the implementation the EMP could include the local municipal authorities, DWA and Heritage Western Cape.

1.5.7 HOMEOWNERS ASSOCIATION 'HOA' (OPERATIONAL PHASE)

The implementation of the operational section of this EMP (section three) is the responsibility of the Sitari Fields Homeowners Association (HOA), and each property and homeowner are bound to comply with the EMP as well as the conditions of the Environmental Authorisation issued for the Sitari Fields Development.

The HOA may form an environmental advisory sub-committee to facilitate the operational environmental management of the development.

The HOA should appoint an individual who will co-ordinate and ensure the implementation of the EMP during the ongoing operational phase, on behalf of the HOA, known as Operational Manager (OM).

1.5.8 OPERATIONS MANAGER 'OM' (OPERATIONAL PHASE)

A project or operations manager (OM) must be identified/appointed by the HOA to assume over-all responsibility for managing any Project Contractors and for ensuring that the operational environmental management requirements for Sitari Feilds are met. The Operational Manager, should also have the authority to stop any activity in contravention of the EMP, must approve all decisions regarding environmental procedures and protocol relating to the operational phase (section 3) of this document.

The operations manager is funded by and reports to the HOA or if required the environmental advisory subcommittee.

1.6.1 CONSTRUCTION PHASE ENVIRONMENTAL PERFORMANCE REPORTS

The appointed ECO will produce an environmental performance report on a regular basis for the duration of the construction phase of the project.

The performance report will be submitted to the ER, Contractors and the Department of Environmental Affairs and Development Planning.

The report will, to the best of the ECO's ability and information provided to them, be a true reflection of concerns and observations noted on site. The report will highlight environmental aspects relating to the construction phase of the project during the reporting period.

The RE and the Contractors are required to read these reports and take action as necessary.

1.6.2 OPERATIONAL PHASE ENVIRONMENTAL AUDITS

The first operational phase audit will be undertaken within 12 months of the completion of construction of Stage 1. The initial audit is to be organised by the Applicant, all costs for the audit will be for the applicant's account.

Thereafter the HOA will ensure an audit is undertaken once per year for three years. All costs incurred will be for the HOA's account.

DEA&DP may request, with reason, that the HOA undertake an audit at any future time.

All audits must be carried out by a suitably experienced and independent environmental consultant. A copy of all audit reports will be sent to DEA&DP once completed.

SECTION 2

CONSTRUCTION PHASE OF EMP

2.1 AIMS OF SECTION

The purpose of the Construction Phase of this EMP (Section 2) is to ensure that the impacts on the environment are kept to a minimum and to facilitate appropriate environmental input during the construction phase of the project. This includes ensuring that the mitigation measures described in the EIR are implemented, continued monitoring during the project and to ensure the involvement of interested and affected parties (I&APs) in a meaningful way, where required. This EMP (Section 2) thus also specifies the framework within which the contractors must carry out operations.

As required by the amendment application process being undertaken by *Doug Jeffery Environmental Consultants (Pty) Ltd.* this EMP is submitted in part completion of this required application.

2.2 THE EMP BILL OF QUANTITIES

This Environmental Management Programme forms part of each of the applicable contractor's contract documents. The EMP must be read in conjunction with the relevant contract documents including the specifications, and where applicable, the Bill of Quantities. Where a conflict exists between the Specifications and Bill of Quantities and the Environmental Management Program the matter shall be brought to the attention of the client/client's representative for resolution. The RE is responsible for the monitoring of the compliance of the contractors with this document and the Environmental Authorisation from DEA&DP.

The rates quoted for each activity in the Bill of Quantities in any of the contracts shall include for compliance with the Environmental Management Programme. No separate item shall be priced in the bill for compliance with the Environmental Management Program.

It is the responsibility of the Client to ensure that sufficient funding is made available for environmental management of the site.

2.3 CONSTRUCTION PHASE EMP ADMINISTRATION

The ECO must be informed at least three weeks prior to the commencement of activities on site in order for the required notifications to be made as required by the conditions of the Environmental Authorisation. Copies of this EMP shall be kept at the site office and will be distributed to all senior contract personnel of each of the contractors. All senior personnel (including the project team) are required

to, and responsible for familiarising themselves with the contents of this document, it's requirements and specifications.

All relevant and related documentation and records as set out in this EMP, or records as requested by the ECO/RE are to be presented for monitoring by the Contractors/DEO at the request of the ECO or RE. This should include but is not limited to:

- Waste disposal certificates or similar record of responsible waste disposal
- Records of environmental education
- DEO site notes and photographic records
- Approved Method Statements
- Incident reports
- Complaints register

The Contractors will ensure that all required records are gathered and maintained for the duration of the contract and all related works.

The Contractors/DEO will ensure that all sub-contractors have received a copy of this EMP before commencing work on the site.

2.3.1 ORGANISATIONAL STRUCTURE FOR CONSTRUCTION PHASE

Details of the organisational structure are presented in Figure 3. The structure illustrates the reporting procedures for stakeholders in the implementation of this EMP.

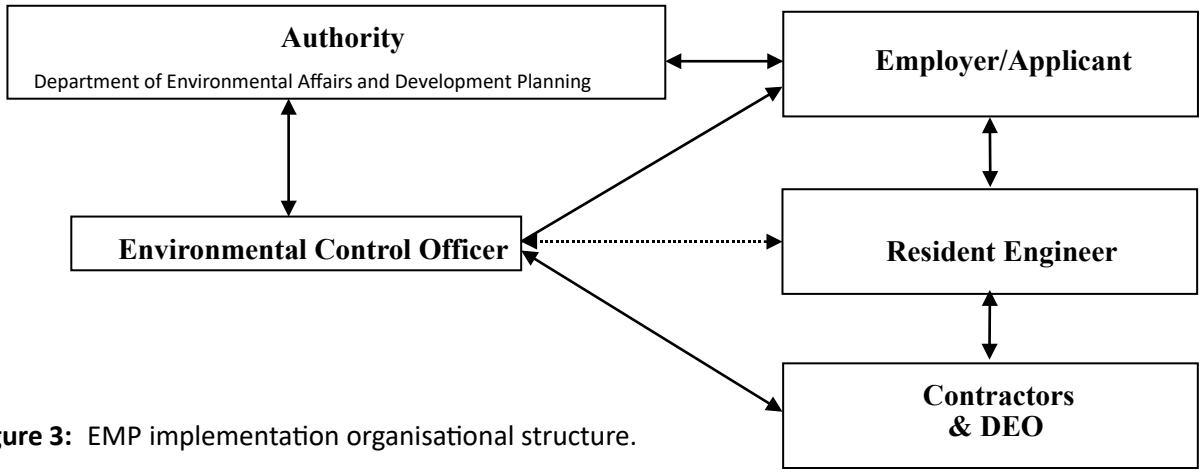


Figure 3: EMP implementation organisational structure.

2.3.2 ENVIRONMENTAL AWARENESS TRAINING

The ECO in consultation with the contractors shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers receive an induction on the importance and implications of the EMP. The presentation shall be conducted, as far as is possible, in the employees' language of choice.

As a minimum, training should include:

- Explanation of the importance of complying with the EMP.
- Discussion of the potential environmental impacts of construction activities.
- The benefits of improved personal performance.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out their activities.
- Explanation of the specifics of this EMP and its specification (no-go areas, etc.)
- Explanation of the management structure of individuals responsible for matters pertaining to the EMP.

The Contractors / DEO shall keep records of all environmental training sessions, including names and dates.

Notwithstanding the specific provisions of this particular section, it is incumbent upon the Contractors to convey the sentiments of the EMP to all personnel involved with the works.

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Annexure 4 contains some useful environmental awareness materials.

2.4 COMMUNITY RELATIONS & SOCIO-ECONOMIC CONSIDERATIONS

2.4.1 COMPLAINTS AND INFORMATION

The Contractors shall erect and maintain information boards in the position as Each contractor shall supply 4 aluminium sign boards 750mm x 500 mm in dimension with two 1m poles casted in concrete. Such boards shall include contact details for complaints by members of the public in accordance with details provided by the Engineer or ER. The contractors shall also keep a “complaints register” on site. The register shall contain all contact details of the person who made the complaint and information regarding the complaint itself as well as any follow up undertaken, if required.

The Applicant is to establish a clear and consistent commitment to the provision of tangible benefits to the local communities (e.g., defined employment quotas) at the initiation of the proposed project. Provision of benefits should be as inclusive of the affected population as possible. This should entail the creation of a broad public awareness of the available opportunities, which should include the very poor and illiterate, through appropriate media such as churches, mosques, strategically placed posters, etc.

During the construction phase of the proposed development a significant number of employment opportunities should be made available to members from the surrounding communities, especially for the currently unemployed or underemployed and members of socially vulnerable groups where applicable. As far as possible the developer or ER should inform the local authorities, local

community leaders, organizations and councillors of the project and the potential job opportunities for local builders and contractors.

However, while the use of local building contractors and workers is recommended, it is recognised that a competitive tender process may not guarantee the employment of local companies and labour during the construction phase.

In order to facilitate the above an employment registration office should be set up in the area in advance of the commencement of construction. The function of this office would be to register all members of the local communities who wish to be employed on the development during the construction phase. Records should also be maintained for those that could be employed during the operational phase. It is recommended that the following information, *inter alia*, be capture by the employment office:

Skill-levels,
Qualifications,
Work experience.

All contractors on the site of construction will be required to comply with the above requirement.

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No construction workers, with the exception of security personnel or key stand-by personal, should be allowed to stay on site overnight.

2.4.2 AESTHETICS

The Contractors shall take reasonable measures to ensure that the construction activities and all related operations do not have an unreasonable impact on the aesthetics of the area during construction.

2.5 HEALTH AND SAFETY

The Contractors shall at all times observe the Occupational Health and Safety Act No. 85 of 1993 and ensure adequate safety precautions on the site.

Telephone numbers of emergency services, including the local firefighting service, shall be displayed conspicuously in the Contractors' office near a telephone. No weapons (firearms, airguns, daggers etc.) are permitted on site. The Contractors shall ensure that contact details of the local medical services are available to the relevant construction personnel prior to commencing work.

2.6 METHOD STATEMENTS

Method statements are written submissions by the Contractors/DEO to the RE (with input from the ECO) in response to the requirements of this EMP or to a request by the RE or ECO (through the RE). Apart from the listed MSs below the contractors will make allowances for at least the submission of an additional four (4) MSs should these be requested.

The Contractors shall be required to prepare method statements for several specific construction activities and/or environmental management aspects as specified. Annexure 5 provides an example for a method statement template. **It is the Contractors' responsibility to ensure that the required method statements are submitted at least 7 days before commencement of the affected activity**.

The Contractors shall not commence the activity for which a method statement is required until the RE has approved the relevant method statement.

Should the method statement be rejected this will be done so with comment. The seven-day submission period will commence once again on re-submission of the MS. Should the MS be submitted, and no response (acceptance or rejection) be obtained from the RE the MS will be considered as having been accepted and work can commence in line with the submitted MS.

Failure to submit a method statement may result in suspension of the activity concerned until such time as a method statement has been submitted and approved.

An approved method statement shall not absolve the Contractors from any of his obligations or responsibilities in terms of the contract. However, any damage caused to the environment through activities undertaken without an approved method statement shall be rehabilitated at the contractors' cost and to the satisfaction the ECO and ER.

The method statements shall cover relevant details with regard to:

- Construction procedures and location of the construction site.
- Start date and duration of the procedure.
- Materials, equipment, and labour to be used.
- How materials, equipment and labour would be moved to and from the site as well as on site during construction.
- Storage, removal and subsequent handling of all materials, excess materials, and waste materials of the procedure.
- Emergency procedures in case of any reasonably potential accident / incident which could occur during the procedure.
- Compliance / non-compliance with the EMP Specification and motivation if non- compliant.

Method statements required:

Based on the specifications in this EMP, the following method statements are required as a minimum, more method statements may be requested as required. As stipulated above the

contractors will allow for at least an additional four (4) MS's. **Please note method statements should include any permits that would be required**.:

MS1: Site clearing

MS2: Site layout and establishment

MS3: Hazardous substances

MS4: Cement and concrete batching

MS5: Traffic accommodation

MS6: Solid waste control system

MS7: Wastewater control system

MS8: Dust Prevention

MS9: Soil erosion prevention and sedimentation control

MS10: Emergency procedures (fires and hazardous material spills)

2.7 SITE ESTABLISHMENT

2.7.1 DEMARCATION OF THE SITE

The “site” here refers to all areas required for construction purposes of the Sitari Felids Development. The boundary of the site will be agreed with and approved by the RE and in accordance with the approved development layout plan. The development area must be clearly demarcated. These areas are clearly defined in annexure 2. The demarcation will be in the form of kerbs or other similar concrete type structures or droppers planted well visible every 100m. The structure must be whitewashed to improve its visibility.

The Contractors shall demarcate the boundaries of the site in order to restrict his construction activities within the site. The use of danger tape for this purpose, is discouraged and will be limited as far as possible. Brightly coloured droppers and coloured nylon cord/fencing wire with markers must be considered as an alternative to danger tape.

The Contractors shall maintain the demarcations and ensure that materials used for construction on the site do not blow on or move outside the site and environs. The boundaries of the site shall

be demarcated prior to any work commencing on the site. The site demarcations shall be removed when the site is decommissioned

The Contractors shall ensure that all his plant, labour and materials remain within the boundaries of the site, unless otherwise agreed in writing with ER. It will be the responsibility of the Contractors to decide on an appropriate system of protective/security fencing for the site, if required.

2.7.2 SITE CLEARING

MS1: The Contractors shall submit a site clearing method statement for all areas where the Contractors is required to, or intends to, clear vegetation within the development footprint. The method statement shall clearly indicate and detail all areas that need to be cordoned off prior to clearing, what is to be cleared and how this will be done, where and how cleared material would be stored or disposed of, etc.

2.7.2.1 Vegetation Clearing

Prior to any vegetation clearing taking place in the Stage 2 a site a search and rescue must be conducted on the site by a specialist contractor such as a suitably experienced horticulturist appointed by the employer to remove and translocate any of the endangered *Lampranthus debilis* and geophytyes. The search and rescue must be conducted in spring, alternatively geophytes must be marked in spring for removal during a search and rescue a later time.

No vegetation clearing shall take place without approval of the method statement by the ER.

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No vegetation clearing shall take place until the “No-Go” areas are demarcated/fenced off.

Before clearing of vegetation, the Contractors shall ensure that all litter and non-organic material is removed from the area to be cleared.

Vegetation clearing of the site shall, as far as possible, take place in a phased manner in order to retain vegetation cover for as long as possible.

Indigenous plant material can be removed from cleared areas and may be stockpiled for mulching. Alien vegetation may be used for mulching if it is not in seed, this must be overseen by the ECO. All remaining vegetation shall be removed and disposed of at an approved landfill site.

Burning of stockpiled vegetation will not be considered as a suitable disposal method, unless approved by the RE and all required permits and permissions are in place and provided to the ER. Cognisance must be taken of air pollution legislation as well as legislation relating to fire management and By-Laws.

2.7.2.2 Topsoil

Sufficient topsoil must be striped and stockpiled for the rehabilitation purposes of disturbed areas on site after construction. Any topsoil stripped from the site must be stockpiled separately from other materials on the site.

Specifically topsoil from the areas where all known patches where the endangered *Lampranthus debilis* occurred prior to the burns should be tranlocated or temporarily held and incorporated into the redeveloped, seasonally wet areas, of Klein Zeekoevlei this is required specifically to conserve and protect the seed bank of this plant. If required a suitably experience horticultural professional will be appointed to oversee and provide input into this process.

Stripped topsoil shall be stockpiled in areas agreed with the RE for later use in rehabilitation and shall be adequately protected as far as possible. Topsoil is considered to be the natural soil covering, including all organic matter (the upper 150mm of the soil horizon).

Topsoil stockpiles shall be convex and no more than 2 m high. Stockpiles shall be shaped so that no surface water ponding can take place.

Topsoil stockpiles shall be protected from erosion by wind and rain by providing suitable stormwater and cut off drains and/or by establishing suitable temporary vegetation as far as possible. Stockpiles shall not be covered with materials such as plastic that may cause it to compost or would kill the seed bank.

Topsoil stockpiles shall be monitored regularly by the landscape contractor to identify any alien plants, which shall be monitored and removed by the landscape contractor when they germinate to prevent contamination of the seed bank. Any topsoil contaminated by hazardous substances shall not be used but shall be disposed of at a licensed hazardous landfill site, or at an approved hazardous waste disposal facility.

A Contractors shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the approved method statements and the requirements of this EMP. Lost topsoil will be replaced with suitable similar soil enriched with composed organic matter that is clean and free from seed of invasive alien plants.

2.8 MANAGEMENT OF SITE FACILITIES

During the construction of the project, various contractors will be on the site simultaneously. As none of the contractors will be the main contractor, all contractors will be seen as the main contractor and therefore each and every contractor will be responsible for the implementation of the EMP in his own right. A joint construction camp site will be allocated. The construction, layout and extent of the construction site and its components shall be planned, designed, and managed in such a manner that environmental impacts are minimised. Temporary structures and facilities shall be decommissioned to the satisfaction of the RE and a clean up after construction shall be effectively undertaken. Every contractor will be responsible for cleaning up his portion of the site. If there are clean-up works outstanding on the completion of the project, the work will be done be a 3rd party. The costs will be for all the contractors account on a pro rate basis.

Every contractor will issue a different colour of overall to his/her employees. This is required to manage the site effectively from an EMP point of view.

2.8.1 SITE LAYOUT AND ESTABLISHMENT

The Contractors shall establish construction camps, offices, workshops, testing facilities, stockpiling areas, staff accommodation etc. as agreed with the RE in a manner that does not adversely affect the environment.

The construction area shall be kept to a minimum. Each contractor will motivate his requirements to the RE. The RE in consultation with the ECO will allocate an appropriate area for each of the contractors.

Site establishment shall not take place on steep slopes or at sites declared as “no-go” areas.

The site layout shall take cognisance of access for deliveries and services and likely disturbance to neighbours.

The location of suitable areas for maintenance and refuelling, mixing concrete, cement batching etc. must be identified and approved by the RE with input from the ECO. The RE will ensure that the ECO is involved in the decision.

Before construction can begin, the Contractors shall submit to the RE for approval a method statement detailing:

MS2: A layout plan and the method of establishment of the construction camp, i.e., all offices, accommodation facilities, testing facilities/laboratories, cement batching areas, storage & stockpiling areas as per section and all other areas/facilities required for the undertaking of activities required for completion of the project. The plan shall include the location and layout of waste storage and treatment facilities, ablution facilities, stockpiling and spoil areas and hazardous material storage areas. The decommissioning and removal of these facilities on completion of construction works shall also be detailed.

The Contractors shall restrict all his activities, materials, equipment, and personnel to within the area specified. The Contractors shall ensure that the approved construction area will be adequate to cover the project without further space adjustments being required at a later date.

Construction material (pipes and fittings) must be stored in areas designated by the RE and in a neat and orderly manner and must not damage natural vegetation. Movement of equipment and construction materials from stored areas to the construction site must be carefully transported to the area of use to prevent any unnecessary damage to the natural vegetation.

2.8.2 "NO - GO" AREAS

Areas where construction activities (including traffic accommodation) are prohibited are referred to as nogo areas. Entry into these areas by any person, vehicle, or equipment without the RE's

permission will result in a penalty. Before any access to a "No-Go" area is granted the ECO should be informed. "No-Go" areas will be accessed for rehabilitation activities.

All declared no-go areas will be demarcated/ temporarily fenced, the position of which shall be agreed to by the RE and ECO, or with input from the relevant specialist in required.

The following areas*, inter alia,* will be considered declared "no-go" areas:

- The area within the purple lines indicated in figure. 2.
- All areas set aside for rehabilitation purposes as described in the EIR. Such as the Klein Zeekoevlei
- Environmental buffer areas as described in the EIR.

2.8.3 TEMPORARY FENCING

The Contractors shall erect either temporary fencing along the perimeter of designated no- go areas or alternatively will place concrete curbs along the perimeter of the no-go areas.

Temporary fencing shall, as a minimum, consist of wooden or metal posts at 3m intervals, with two plain wire strands tensioned horizontally at heights of 300 mm and 900 mm above the ground. The posts should be painted red to identify these as no go areas. The use of danger tape should be restricted as it blows off and tears in the wind.

Concrete curbs will be positioned in an upright (vertical) position every 25 m. Curbs will be painted red or similar bright colours to ensure visibility.

The Contractors shall maintain in good order all demarcation fencing and barriers for the duration of construction activities, or as otherwise instructed by the RE

2.8.4 ABLUTION FACILITIES

The Contractors is responsible for the erection and maintenance of adequate ablution facilities and washing areas and for enforcing the use of these facilities.

The Contractors shall be responsible for ensuring that all ablution facilities are maintained in a clean and sanitary condition to the satisfaction of there. All temporary portable toilets shall be secured to the ground to prevent them toppling due to wind or any other cause.

Plumbed toilets must have no leaks or malfunctioning valves. No chemicals, oils or similar construction related materials are to be disposed of via the toilets on site.

Ablution facilities (chemical toilets, etc.) must be provided at all construction camp areas where there will be a concentration of labour. Toilet paper must be provided. Toilets supplied by the contractors for the workers shall occur at a maximum ratio of 1 toilet per 15 workers. The contractors shall ensure that chemical toilets are emptied before the builders' holidays and that no spillage occurs when they are emptied. All contents must be removed from the site. Under no circumstances may waste be discharged into the environment or be buried on site.

2.8.5 EATING AREAS

If none is available, the Contractors shall provide a suitable area within the construction areas to ensure that site personnel do not move off site to eat. If deemed necessary by the RE, the Contractors shall demarcate designated eating areas.
The Contractors shall provide adequate refuse bins with lids at all eating areas to the satisfaction of the RE. The bins must be emptied regularly.

No feeding of wild animals shall be permitted. Food and food products are to be stored in such away so as not to attract scavenging animals.

2.9 WATER PROVISION

The Contractors shall make available safe drinking water fit for human consumption at the site offices and all other working areas.

All drinking water must be from a legal source and comply with recognised standards for potable use. The Contractors shall comply with the provisions of the National Water Act and its Regulations for taking water from rivers or streams and the use thereof.

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If water is stored on site, drinking water and multi-purposed water storage facilities shall be clearly distinguished and demarcated. No water is to be wasted on site. All leaks are to be reported and repaired immediately.

2.10 TEMPORARY SITE CLOSURE

In the event of a temporary site closure such as the builder's holidays, temporary suspension of works or any period of inactivity longer than 7 working days the Contractors is to notify the ECO. The Contractors / DEO shall check the site according to the checklist provided in Annexure 6 and ensure that all items are addressed. The Contractors / DEO will provide a brief written report in the form of the checklist on compliance to the RE and ECO prior to the temporary shutdown date.

2.11 CONTROL OF CONSTRUCTION ACTIVITIES

2.11.1 WORKSHOP AND EQUIPMENT

All vehicles and equipment shall be kept in good working order to maximise efficiency and minimise pollution. Any leaks or similar mechanical problems are to be reported and repaired immediately.

All maintenance of plant on site shall take place at designated locations approved by the RE. Drip trays will be used for all refuelling and similar activities. This is to prevent any spillage contaminating the environment.

Refuelling of plant will take place in a controlled environment. Drip trays will be used during this activity.

The Contractors shall ensure that no contamination of soil, vegetation or stormwater occurs around workshops and plant maintenance facilities. Where practical, all maintenance of plant and equipment on site shall be performed in the workshop or preferably off site or in a demarcated area as identified by the RE. If it is necessary to do maintenance outside of the workshop area, the contractors shall obtain the approval of the RE prior to commencing these activities.

All machinery servicing areas/workshop shall be in a designated area and have an impermeable surface, which is bunded and sloped towards an oil trap to contain any spillages. It is however preferable that any servicing etc. be undertaken off site.

Drip trays shall be used to collect used oil, lubricants, etc. during maintenance. Drip trays shall be provided for all stationary plant, generators, pumps, and compressors. Drip trays shall be inspected and emptied daily and closely monitored during rain events to ensure that they do not overflow. All waste material in bunds and drip trays are to be managed as hazardous waste. All static plant (stationary > 6 months) shall be located within a bunded area with an impermeable surface.

Washing of vehicles and plant shall be restricted to urgent maintenance requirements only. Adequate wastewater collection facilities shall be provided. The use of detergents for washing shall be restricted to low phosphate and nitrate concentration as well as being a low sudsing type detergent.

2.11.2 GENERAL AESTHETICS

The Contractors shall not deface, paint, damage or mark any natural feature (e.g., rocks, etc.) situated on or around the site for survey or any other purposes unless agreed beforehand with the ER. Any features affected by the Contractors in contravention of this clause shall be restored/rehabilitated to the satisfaction of the ER.

All construction areas must be kept neat and tidy at all times. Different materials and equipment must be kept in designated areas and storing/stockpiling shall be kept orderly.

Lighting must be minimal and cause the least visual impact at night. No light sources, internal or external, should be directly visible. All sources must be shielded so that only the area that needs to be lit is lit. Lighting at the entrance structure must by means of shielded down lighters with only the security area being lit.

2.11.3 MATERIALS HANDLING, USE AND STORAGE

The potential environmental impact of the handling, use, storage, and disposal of materials used during construction shall be minimised.

2.11.3.1 General

Environmental considerations shall be taken into account in the siting of any material storage areas. All manufactured and/or imported material shall be stored within the Contractors' Camp as far as possible and if required out of the rain. All lay down areas outside of the Contractors' Camp must be approved by the ECO and ER.

2.11.3.2 Transportation

The Contractors shall ensure that all suppliers and their delivery drivers are aware of procedures and restrictions (e.g., "No-Go" areas) in terms of this EMP. The Contractors shall ensure that delivery personnel are supervised during offloading by someone with an adequate understanding of the requirements of the specifications.

Materials shall be appropriately secured to ensure safe passage between destinations during transportation. Loads shall have appropriate cover to prevent them spilling from the vehicle during transit. The Contractors shall be responsible for any clean-up resulting from the failure by his employees or suppliers to property secure transported materials.

The contractors are responsible for ensuring that all vehicles are road worthy, drivers are qualified and are made aware of the potential safety issues and enforcement of strict speed limits.

2.11.3.3 Stockpiling

Should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the RE for his approval together with the Contractors' proposed measures for prevention, containment, and rehabilitation against environmental damage. This information should be submitted as part of MS2.

Stockpiles shall be positioned and sloped to create the least visual impact. No stockpiling of materials that could leach out and cause pollution may occur. Stockpile areas are to be approved by the ER. No foreign material generated/deposited during construction shall remain on site. Areas affected by stockpiling shall be reinstated to the satisfaction of the RE.

As dealt with under the dust control section of this document stockpiles may be required to be covered as a dust control measure.

2.11.3.4 Hazardous Substances

All hazardous material / substances (e.g., petrochemicals, oils, etc.) shall be stored on site only under controlled conditions. All hazardous material/substances shall be stored in a secured, appointed area that is fenced and has restricted entry. All storage shall take place using suitable containers to the approval of the ER. Hazard signs/data sheets indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Symbolic safety signs depicting "No Smoking", No Naked Lights" and "Danger" are to be provided and are to conform to the requirements of SABS 1186.

Temporary fuel storage is permitted on site provided that the contractors ensure full compliance with the requirements of the By-law relating to community fire safety – section 39 as amended (Provincial Gazette 5832, February 2002) and as amended (Provincial Gazette 6447, June 2007) which includes inter alia,

- The storage tank may not be on the premises for a period exceeding six months (unless the local authority provides an extension in writing)
- A written application together with a plan must be forwarded to the controlling authority (Fire Department) at least 14 days prior to the erection of the tank and prior written permission must be obtained from the controlling authority for the erection of the tank.
- A permanent or temporary tank must be erected at least 3,5 metres from boundaries, buildings and other flammable substances or combustible materials.
- A permanent or temporary tank must have a bund wall with 110% capacity of the tank's total storage capacity.

Fuel shall be stored in a steel tank maintained by the fuel suppliers and/or Contractors. The tank shall be located in a secure, demarcated area and an adequate bund wall (110% of volume as required above) shall be provided. The floor and wall of the bund area shall be impervious to prevent infiltration of any spilled /

leaked fuel into the soil. The floor of the bund shall be sloped towards an oil trap or sump to enable any spilled fuel to be removed. The sump must have a lock off valve that can only be opened in an emergency.

Should a mini-mobile type trailer tank be used, the tank will be maintained by the fuel suppliers and/or Contractor and is to be kept clean and leak free. The trailer is to be kept on site with a drip tray at all times and is to be removed from site at the end of every day unless kept in a bund area of 110 % of the tank volume or the tank is empty.

A bioremediation product approved by the ECO must be stored on site and near the fuel stores for any emergencies. Once a purpose manufactured hydrocarbon spill remediation product has been used or has been used to treat contaminated materials (soil, rubble etc.) it can be disposed of as per general waste provided this is not in excessive quantities.

Areas for storage of fuels and other flammable materials shall comply with standard fire safety regulations and may require the approval of a fire prevention officer. The contractors must ensure that there is adequate firefighting equipment at the fuel stores and that persons are adequately trained to use this equipment.

Only empty and externally clean drums may be stored on the bare ground. All empty and externally dirty drums shall be sealed and stored in the bunded area. If fuel is dispensed from 200l drums, the proper dispensing equipment shall be used, and the drum shall not be tipped in order to dispense fuel. The dispensing mechanism of the fuel storage tank shall be stored in a waterproof container or within the bund area when not in use.

The location of suitable areas for maintenance and refuelling must be identified by the RE in collaboration with or subject to the final approval of the ECO. The ECO must be involved in the

decision and must provide guidance from an environmental perspective prior to commencement of the proposed action.

MS3: The Contractors shall provide a method statement detailing the hazardous substances / material that are to be used during construction, as well as the storage, handling, and disposal procedures for each substance as well as materials such as rubble soil and water contaminated with hazardous substances. The details of the disposal service providers (if required), supplier and suitable DEA approved disposal sites that will be used by the contractors are to be included.

2.11.3.5 Cement / Concrete Batching

Concrete mixing directly on the ground shall not be allowed unless the area will be hard surface by a road, building slab, impermeable paving or similar as part of building or road footprint. Batching in any other areas shall take place on impermeable surfaces to the satisfaction of the ER.

The large volume concrete batching activities shall be located in an area of low environmental sensitivity to be identified and approved by the RE in collaboration with or subject to the final approval of the ECO. The ECO must be involved in the decision and must provide guidance from an environmental perspective prior to commencement of the proposed action. Cement is a strong alkali and will seriously affect the natural

vegetation on the site should contamination of the soils take place. Such residues are to be removed from the site at the end of the contract period.

All runoff from batching areas shall be strictly controlled, and cement-contaminated water shall be collected, stored, and disposed of at a site approved by the RE. Settling tanks or sumps may also be used provided these do not leak and are impermeable. Once settling has occurred the top two thirds of the contaminated water can be drained into a sewer line with the approval of the Engineer. The remaining material can be stockpiled and removed with general rubble and waste from site.

Cement contaminated water may also be collected and recycled for reuse in batching activities.

Contaminated water storage facilities shall not be allowed to overflow and appropriate protection from rain and flooding shall be implemented.

Small volume batching is permitted provided mortar boards, 250-micron DPC plastic sheeting or similar impervious material is used to prevent contamination with the ground and soil.

Unused cement bags shall be stored out of the rain where runoff won't affect it.

Used (empty) cement bags shall be collected and placed into bins etc on site. Used cement bags shall not be used for any other purpose and shall be disposed of on a regular basis or as instructed via the solid waste management system.

All excess concrete shall be removed from site on completion of concrete works and disposed of.

All excess aggregate shall also be removed.

MS4: The Contractors shall submit a method statement detailing cement storage, concrete batching areas and methods, method of transport of cement and concrete, storage, and disposal of used cement bags, etc.

2.12 TRAFFIC ACCOMMODATION

The Contractors shall be required to ensure that traffic along public roads are accommodated at all times and construction activities and deliveries do not interfere with the public road system. Should there be a need to undertake such work that may impact traffic the contractors will ensure that all the required permissions have been obtained from the traffic authorities in writing. All the required signage and hazard warnings are to be put in place.

Access points to and from site as well as roadways in front of the site are to be kept clean and free from stone, sand, and grit. These areas must be swept regularly by the contributing contractor/s.

Turning circles for construction vehicles must be clearly demarcated and controlled to prevent damage of the natural environment.

Access to the site must be gained at the designated areas. The creation of short-cut paths or temporary vehicular tracks is to be strictly prevented. Construction workers are forbidden access to any private property unless approval has been granted by the ER.

MS5: The Contractors shall submit a method statement for approval, detailing how traffic is to be accommodated within the development during construction. Cognisance must be taken of no-go areas within the development.

2.13 WASTE MANAGEMENT

Waste management on site shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed.

As far as possible an intergraded waste management approach must be followed. This includes reducing the creation of waste as far as possible, reusing what can be reused, recycling of recyclable waste and appropriate disposal of whatever waste remains.

The Contractors shall ensure that all site personnel are instructed in the proper disposal of all waste. The site must be subject to a litter clean up at least once per week or as often as required by the ECO or RE.

2.13.1 SOLID WASTE MANAGEMENT

The Contractors shall ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter. Measures shall be taken to reduce the potential for litter and negligent

behaviour with regard to the disposal of all refuse. At all places of work the Contractors shall provide litterbins, containers and refuse collection facilities for later disposal.

Solid waste may be temporarily stored on site in a designated area approved by the RE prior to collection and disposal. The minimum requirement for this area is four ready fence panels covered with shade cloth, one panel to be movable for access and emptying. The structure will have a roof (plastic covered ready fence panel or similar). The floor is to be lined with DPC plastic to prevent ground contamination from leachate such as cement powder residue. If a waste skip is to be used for this purpose it must be kept covered with shade cloth.

Solid waste must be removed as often as required or as instructed by the RE to a licensed waste disposal site. Recyclable waste should be recycled if at all possible. The Contractor must comply with the COCT waste management requirements.

Waste storage containers and litterbins shall be covered, tip-proof, weatherproof and scavenger proof.

No burning, on-site burying or dumping of waste shall occur. Used (empty) cement bags shall be collected and stored in weatherproof containers to prevent windblown cement dust and water contamination. Used cement bags shall not be used for any other purpose and shall be disposed of on a weekly basis via the solid waste management system

All solid waste shall be disposed of offsite at an approved landfill site. The Contractors shall supply the RE with certificates of disposal.

MS6: The Contractors shall submit a method statement detailing a solid waste control system (storage, provision of bins, site clean-up schedule, bin clean-out schedule, etc.) to the RE for approval.

2.13.1.1 Domestic Waste

The Contractors shall provide metal refuse bins to BS 792 or equivalent plastic refuse bins, all with lids, for all buildings. Refuse shall be collected and removed from all facilities regularly or at the request of the ECO. Domestic waste shall be transported to the approved refuse disposal site in covered containers or trucks.

2.13.1.2 Construction Rubble / Waste

Inert construction rubble shall be disposed of at a site approved by the ER. Rubble stockpiles will be kept consolidated and at a reasonable size. Rubble will be removed regularly and/or at the request of the ECO.

2.13.1.3 Scrap Metal

Options for the recycling of scrap metal must be investigated. Scrap metal shall be disposed of offsite.

2.13.1.4 Hazardous Waste

All hazardous waste (including bitumen, etc.) shall be disposed of at a Department of Environmental Affairs and Tourism approved hazardous landfill site. The Contractors shall provide disposal certificates to the RE.

Used oil and grease shall be removed from site to a suitable facility or sold to an approved used oil recycling company.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, or any burying, be allowed.

Unused or rejected tar or bituminous products shall be returned to the supplier's production plant.

Used oil, lubricants, cleaning materials, etc. from the maintenance of vehicles and machinery shall be collected in holding tanks and sent back to the supplier or removed from site by a specialist oil recycling company for disposal at a DEAT approved hazardous waste site.

Once a purpose manufactured hydrocarbon spill remediation product has been used or has been used to treat contaminated materials (soil, rubble etc.) the resulting waste can be disposed of as per general waste provided this is not in excessive quantities.

2.13.1.5 Wastewater

The list below provides some environmentally responsible options in which wastewater can be addressed by the contractors on site. This list is not exhaustive.

- Wastewater from activities such as washing tools batching and similar will be collected in a drum or conservancy tank. This water will then be re-used for batching or for wetting and compacting subbase material during road and parking surfacing.
- An impermeable sump lined with thick DPC plastic will be constructed by the contractors. Wastewater from batching and tool washing will be collected in the sump. The sump will be open to allow the water to evaporate. Care must be taken to ensure that input does not exceed the evaporation rate and that no overflow from the sump occurs, this is of particular importance during the rainy season. Once the sump is dry the remaining material at the bottom of the sump will be disposed of with the general waste and rubble.
- Small volume wastewater collected from washing and other small volume cement work activities will be disposed of on top of the general rubble pile where it will be absorbed. This will be done in such a way as to ensure that there is no run-off from the rubble pile to surrounding areas. The wastewater shall not be of such volume that it will saturate the entire body of rubble or will soak through the rubble pile.

Runoff from fuel depots / workshops / machinery washing areas and water contaminated with petrochemicals and hydrocarbons shall be addressed as indicated in the hazardous waste section of this document.

Water from kitchens, showers, sinks and toilets etc. shall be discharged into a conservancy tank for removal from the site or be plumbed into a sewer line if this is available.

The RE's approval must be obtained by the contractors prior to the discharge of any contaminated water into sewer systems.

MS7: The Contractors shall submit a method statement to the RE detailing how wastewater would be collected from all wastewater generating areas, as well as storage and disposal methods. If the Contractors intends to carry out any on-site wastewater treatment, this should also be included.

2.14 NOISE CONTROL

The Contractors shall endeavour to keep noise generating activities minimum.

The Contractors shall endeavour to, as far as possible, warn any local communities and/or residents that could be disturbed by noise generating activities such as blasting or piling well in advance and shall keep such activities to a minimum.

The Contractors shall be responsible for compliance with the relevant legislation with respect to noise. Construction processes and machinery/vehicles with the lowest noise emission values available must be utilised. A well planned and co-ordinated "fast track" procedure must be implemented to complete the total construction process in the shortest possible time.

All plant, equipment and vehicles are to have effective silencers/mufflers fitted that would otherwise cause a prevent a noise nuisance as per the City of Cape Town's By-law; Relating to Streets, Public Places and Prevention of Noise Nuisances. Exhaust systems are to be in good repair with no holes in the piping.

No sound amplification equipment (hooters, loud music speakers, sirens etc.) is to be used on site except in emergencies. Excessively noisy plant or plant requiring repairs are to be removed from site.

2.15 DUST CONTROL

The control of dust is regulated under the National Dust Control Regulations Government Notice R.827 promulgated on the 1st of November 2013.

The Contractors shall ensure that the generation of dust is minimised and shall implement a dust control programme to maintain a safe working environment, minimise nuisance for surrounding residential areas/dwellings and protect damage to natural vegetation, crops, etc.

Material loads shall be suitably covered and secured during transportation.

Exposed soil and material stockpiles shall be protected against wind erosion and the location of stockpiles shall take into consideration the prevailing wind directions and locations of sensitive receptors.

The RE and Contractors shall ensure the required dust suppression measures which could include, *inter alia*, are instituted:

- Clearing construction area in a phased manner to keep vegetation in place for as long as possible.
- Stopping or reducing vehicular traffic during windy conditions.
- Cessation of specific or all works during high wind conditions. Changing areas of activity to positions that would reduce dust issues.
- Covering of material stockpiles with shade cloth or plastic (Topsoil stockpiles are not to be covered with plastic or shade cloth but hessian or similar to prevent composting occurring).
- Chemical soil binders
- Shade cloth erected on fencing or similar solid barriers
- Straw stabilizing and bale windrows
- Brush pack windrows
- Mulching Water spray vehicles, irrigation, and other damping methods

MS8: The Contractors shall submit a method statement to the RE detailing how potential dust and windblown sand will be monitored and addressed on site. The contractors will consider the recommendations above while bearing in mind that these are not the only available solutions.

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The RE and contractors shall ensure that sufficient funds are available to institute the required measures.

2.16 SOIL EROSION AND SEDIMENTATION CONTROL

2.16.1 DURING CONSTRUCTION

During construction, the Contractors shall protect all areas under construction from erosion by installing necessary temporary and permanent drainage works as soon as possible and by taking any other measures necessary to prevent stormwater from concentrating in streams and scouring slopes, banks, etc to the satisfaction of the RE.

The use of water on the site (especially at concrete batching plants and access road construction where large water bowsers are used) must be carefully monitored to ensure that the start of erosion on steep slope do not take hold.

Any runnels or erosion channels developed during the construction or maintenance period shall be backfilled and compacted and the areas restored to a proper condition.

The necessary compaction of the replaced sand/soil over trenches must be undertaken. The brushwood removed from the excavation should be replaced over the disturbed area to prevent wind and water erosion and facilitate the rehabilitation process.

Stabilisation of cleared areas to prevent and control erosion and/or sedimentation shall be actively managed. The method of stabilisation shall be determined in consultation with the ER. Consideration and provision shall be made for the following methods (or combination thereof): brush cut packing, mulch or chip cover, straw stabilising, watering, planting/sodding, soil binders and anti-erosion compounds, mechanical cover or packing structures (including the use of geofabric, log/pole fencing, etc.).

Traffic and movement over stabilised areas shall be restricted and controlled, and damage to stabilised areas shall be repaired and maintained to the satisfaction of the RE.

In areas where construction activities have been completed and where no further disturbance would take place, rehabilitation and re-vegetation should commence as soon as possible.

MS9: The Contractors shall submit a method statement to the RE detailing how soil erosion and sedimentation control will be implemented, methods to be used and rehabilitation of disturbed areas.

2.16.2 STORMWATER CONTROL

The contractors shall take reasonable measures to control the erosive effects of storm water runoff. The contractors shall use silt screens to prevent overland flowing water from causing erosion.

Point source discharge of storm water must be prevented on slopes as this will lead to erosion of the unstable slope with loss of vegetation and resultant deep donga erosion. The proposed storm water outlet (into the

canal on the sites northern boundary) must be constructed in such a manner as to ensure no soil or bank erosion takes place.

The use of straw/korog bales as filters, which are placed across the flow of overland stormwater flows, shall be used as an erosion protection measures. The ploughing-in of straw offers limited protection against storm water runoff-induced erosion and shall be used as an erosion protection measure. The Contractors shall be liable for any damage to downstream property caused by the diversion of overland storm water flows.

Drip trays shall be used for all pumps, generators, etc. in order to prevent water contamination as a result of fuel spills or leaks.

2.17 WORK HOURS

Construction related activities should comply with all relevant building regulations. In this regard activities on site should be restricted to between 07h00 and 18h00 during weekdays and 08h00 and 13h00 on Saturdays. No work should take place on Sundays or public holidays.

Hours of work on the site shall be limited to that accepted by the local authority. Should construction be required outside of these times written permission is to be obtained from the local municipality.

2.18 PROTECTION OF NATURAL & CULTURAL FEATURES & SYSTEMS

2.18.1 PROTECTION OF NATURAL VEGETATION REQUIREMENTS

An endangered plant, *Lampranthus debilis,* is located on the Stage 1 site, refer to figure 1 & 4. A search and rescue operation for the *L. debilis* will be undertaken prior to clearing commencing on the stage 1 site by a suitably experience horticulturist. This must be carried out with input and oversight from a qualified botanical specialist. Any individual plants found will either be translocated, or cuttings will be taken for propagation and replanting into the proposed wetland areas The seed bank, which must include the topsoil of all known patches where the endangered *Lampranthus debilis* occurred prior to the burns, should be translocated, and incorporated into the redeveloped, seasonally wet areas, of Klein Zeekoevlei. If required a suitably experience horticultural professional will be appointed to oversee and provide input into this process.

Altered drainage lines, corridors and wetland buffer areas must be planted with indigenous species.

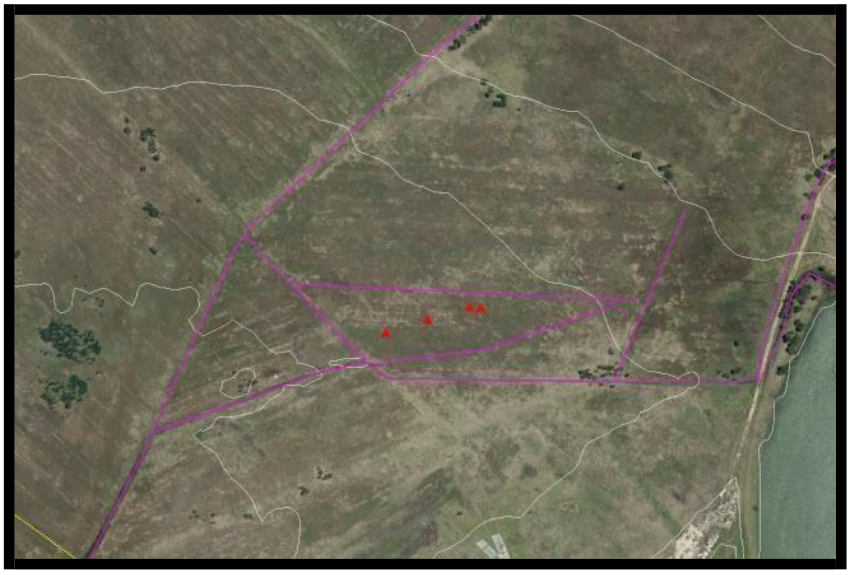


Figure. 4: The remnant population of the endangered *Lampranthus debilis* (red triangles) situated to the west of Zeekoevlei Dam between the 16 m (upper) and 14 m (lower) contours. The purple lines indicate artificial drainage lines of varying condition.



Figure. 5: A photographic example of *Lampranthus debilis (N. Helm)*.

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The Contractors shall be responsible for informing all employees about the need to prevent any harmful effects on natural vegetation on or around the construction site as a result of their activities.

Clearing of natural vegetation within planned public open space areas to be rehabilitated or that are demarcated shall be kept to a minimum. Where disturbance has occurred within the public open space this will be rehabilitated with indigenous species propagated from the site or plants known from the site but obtained from a suitable source.

All" No – Go" areas must be clearly fenced off with temporary fencing prior to any machinery moving onto site. Machinery operators and contractors should be briefed about the constraints before commencing work on site.

2.18.2 PROTECTION OF FAUNA REQUIREMENTS

The Contractors shall ensure that no hunting, trapping, shooting, poisoning or otherwise disturbance of any fauna takes place.

The feeding of any wild animals is prohibited. No food or food products will be stored in such away so as to attract scavengers.

The use of pesticides is prohibited unless approved by the ER.

No domestic pets are permitted on site during construction.

The Western Cape Raptor Research Programme Co-ordinated should be consulted for advice on when to remove large trees in which raptors may nest (this should not happen during the breeding season).

A faunal specialist will be appointed to undertake a search and rescue operation of the site prior to the construction phase commencing in phase 2. If any species of significance are found these will be relocated under the guidance of the relevant specialist.

2.18.3 PROTECTION OF HERITAGE AND CULTURAL FEATURES REQUIREMENTS

If any archaeological remains (including but not limited to fossil bones and fossil shells, coins, indigenous and/or colonial ceramics, any articles of value or antiquity, stone artefacts and bone remains, structures and other built features, rock art and rock engravings) are discovered during construction they must immediately be reported to HWC and must not be disturbed further until the necessary approval has been obtained from HWC.

Should any human remains/burial or archaeological material be disturbed, exposed, or uncovered during construction, these should immediately be reported to the South African Heritage Resources Agency (021 462 4502) and Heritage Western Cape (021 483 9685). The ECO and RE are also to be informed. An archaeologist will be required to remove the remains at the expense of the developer.

There is a possibility of permanent impacts to buried historical material taking place in the vicinity of homestead and outbuildings if services renewal or earthmoving is to take place here. An archaeologist must be appointed to conduct trail excavations or monitoring should major interventions take place.

Any finds of stone foundations hidden must be reported to an archaeologist, then evaluated prior to a way forward being determined.

The ruins of the historic homestead and outbuildings have become a liability for the owner in terms of vagrancy, safety, and general social misdemeanour. The property owner wishes to demolish what is left of the homestead and outbuildings which today are no more than a shell and deemed to be unsafe and unsalvageable by a professional engineer. The homestead was the key heritage indicator on which hinged the significance of the gardens, the ponds, the furrows, the access road, and trees. That noted the ruins of the homestead and outbuildings are not conservable as the damage is extensive and the unfired bricks with which they have been built are degenerating with every winter rain. Please refer to Annexure 7F (ii) of the FEIR for a copy of the final comment from Heritage Western Cape confirming that the development may proceed.

The Contractors may not, without a permit issued by the relevant heritage resources authority, destroy damage, excavate, alter, deface, or otherwise disturb archaeological material.

2.18.4 PROTECTION, REMEDIATION & INCORPORATION OF AQUATIC FEATURES

There are a large number of aquatic features on the greater Sitari Fields property. The ER and Applicant will ensure that all the required designs, drawings and planning take into consideration

the requirements below thereby making provisions at the time of planning for the various requirements.

The rehabilitation of the wetlands as discussed below must be started as soon as development on the site is commenced. This is considered a key visual mitigation measure, the positive character of which will balance some of the negative impacts.

What appears to be a substantial subsurface flow of water was identified upslope of the dam (Figure. 2). The excavation of trial pits, during December 2011, located a band of shale aligned from northwest to southeast, upslope of the large dam. When pierced, this band discharged a strong flow of iron-rich water, which has since continued to flow unchecked. Should groundwater flow be confirmed at the time of the works are set to commence in the area the following will be undertaken.

The brown box line around the blue arrow in figure 2, indicates the buffer area of 60m around this exposed ground water flow area. No work may take place in this area until a Water Use Licence has been obtained. Further Specialist input from a freshwater ecologist (to be appointed by the Client) will also be required to be obtained. Work will continue in line with the Water Use Licence conditions and the specialist inputs obtained.

This specialist input must provide information and detail as to how to landscape the area and how this is to be carried out in this area and adding any additional mitigation measures required. It is however likely (not finalised at the time of drafting this EMP) that this water flow will be redirected to other parts of the site. Should this be the case additional freshwater specialist input will be required as stated however this will guide the process of redirecting the ground water flow. The contractors and RE must notify the ECO

timeously to ensure that this input can be arranged. All conditions of the Water Use Licence must be considered and upheld. It must further be noted that specific engineering techniques may be required.

2.18.4.1 Works in the Moddergatspruit

Works in the Moddergatspruit will only take place during the dryer months of the year.

All contractors will consider the downstream effect of their activities and as far as reasonably possible will ensure that these are kept to a minimum.

Additional care will be taken by the contractors and their subcontractors to ensure that plant carrying out work have no leaks and are clean from pollutants such as oil and fuels. The contractors will inspect all plant on a daily basis before undertaking any works in the river. No refuelling of plant will take place in the river.

Should there be water flow in the river during the works the contractors are required to make use of silt traps downstream of their activities. These will be in one of two forms:

- Straw bales (not rye or oats) positioned in the area of flow. These are to be placed in such a way as to slow down and/or 'filter' the water and cause the water to deposit its suspended sediment load.

- Stilt traps created from bidum and droppers. The bidum supported by the droppers will effectively perform the same function as the straw bales above. The contractors will clear any waste resulting from their works in the river or in close proximity to the river on a daily basis.

Under no circumstances will waste water from tool washing, batching or similar activities be permitted to enter the river. Contractors will take the necessary steps to ensure this during their works. Clean uncontaminated water from dewatering operations or storm water may be pumped into the rivers at the discretion of the ER. Should this be required the water will pass through a filter to remove sediment, and it will also be ensured by the contractors that the pumping does not cause erosion to occur.

Where any bank reshaping is required, the contractors will make sure that any reshaping is done to the satisfaction of the RE. The RE will as far as possible make sure that the reshaping considers the need to prevent erosion.

Should any erosion be caused as a result of the contractors' activities in the river this will be repaired and made good the satisfaction of the RE.

Any incidents that are of environmental concern must be reported by the contractors to the RE immediately.

2.18.4.2 Remediate the Klein Zeekoevlei Wetland

The Klein Zeekoevlei wetland area will be remediated into a multi-habitat and multi-purpose wetland system of approximately 22 ha in area. Filling in the existing drains will rapidly preclude growth of the agricultural grasses and restore a more expansive wetland character. In order to do this, the flow of groundwater water to the vlei will need to be confirmed and if present isolated and restored. This could be achieved by removal of the two dams and the channelling of their water sources, via cut-off drains or similar method, to a canal system encircling the vlei area. This canal system would provide, in effect, both

a buffer and a physical (access) barrier around the wetland. The location of an isolated flow of groundwater into the large dam confirms the feasibility of this proposal.

Stormwater flows from the future development will also be channelled to this canal system. Water will be fed to the various components of the 22 ha vlei by several means, these dependent on water requirements. The canal system will provide a 3.5 ha semi-natural water barrier edge to the wetland, obviating the need for fences. Access and services to the wetland will be achieved via routes integrated with the Eskom servitude.

The two small wetlands to the south-west of the site, after allowing for loss of area following the roadside stormwater and services upgrade, should be integrated into the stormwater retention pond area for the site, i.e., adjacent to the main drain from the site southwards.

The proposed Klein Zeekoevlei wetland will include internal treatment devices to process stormwater prior to the water being used in other areas of the wetland. Water quality treatment devices will also be installed in the canal system and in the stormwater system elsewhere on the property.

Overflow or outflow from the vlei wetland system will be routed southwest wards and offsite beneath the N2.

2.18.4.3 Other Aquatic Features

Additional ponds and aquatic features will be created within the Eskom servitude, creating an east-west eco-corridor through the entire site. All access to the wetland will be via the Eskom corridor – into which service roads will need to be provided to each of the electricity pylons.

The eastern (north to south) corridor of wetlands will be retained to form an ecological corridor that will link the Moddergat River to the restored Klein Zeekoevlei wetland, via the Eskom servitude, that spans the property from east to west, as well as back into the downstream Moddergat River via the stormwater management system.

The “Remediation of the Klein Zeekoevlei Wetland: Concept Wetland Design” Report has been included as Annexure 7C (ii) of the FEIR. It must be noted that this document is purely a guideline document, at this stage, which will be updated and workshopped should the development be approved, and various on-site work can be undertaken.

Other ponds, canals and water features will be created throughout the site as part of the stormwater management system.

2.18.3 VISUAL IMPACT MITIGATION

The rehabilitation of the wetlands must be started as soon as development on the site is commenced. This is considered a key visual mitigation measure, the positive character of which will balance some of the negative impacts.

The approved architectural guidelines will be enforced and implemented at all times.

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It is essential that light spillage and pollution be kept to an absolute minimum. To this end all external lighting must be shielded in such a way that only the area that is meant to be lit is actually lit, and light is not allowed to spill into the surrounding landscape.

The aim is to have no naked light sources, i.e., the light bulbs themselves, visible from outside the site. Only reflected light should be visible away from the site. This is especially true of any security lighting that may be installed. Where necessary, the security lighting should be connected to motion sensors so that the lights are not permanently lit. (Note that lights with translucent shields are considered to be direct sources of light and should also not be used where they are directly visible away from the site.)

All fencing along the outer boundaries of the site is to be visually permeable. Steel palisade and weldmesh offerings are considered acceptable. Steel columns are to be used in favour of masonry columns along the N2 edge as these will have a lower visual impact.

Razor wire should not be used. Where security measures are necessary, visually unobtrusive solutions must be found.

No buildings in the development are to exceed 12m in height as measured parallel to the existing ground level before any excavation, or in the case of the area covered by the dam and its wall, the reinstated ground level once the dam has been removed. The housing is to conform to the height restrictions in the architectural guidelines.

The Architectural guidelines will be adhered to at all times.

The design of buildings that do not use the entire height permitted by the guidelines is to be encouraged.

The use of plinths to raise buildings in such a way as to maximise views must not be allowed. Variation in the height of the roofs will aid in breaking up the perceived density of the development.

In general colours and textures must be chosen for their ability to blend into the surrounding environment with light earth-tones being predominant.

Variation of colours, textures and finishes should be used to break up the apparent density of the development.

2.19 EMERGENCY PROCEDURES

2.19.1 FIRE CONTROL/PREVENTION

The Contractors shall take all reasonable steps to avoid increasing the risk of fire through activities on site.

The Contractors shall ensure that basic fire-fighting equipment is available at all construction areas and facilities.

Smoking shall not be permitted in those areas where it is a fire hazard. Such areas shall include the workshop and fuel storage areas and any areas where the vegetation or other material is such as to make

liable the rapid spread of an initial flame. A fire extinguisher of the appropriate type must be present when welding or other “hot” activities are undertaken.

In terms of the Atmospheric Pollution Act, burning is not permitted as a disposal method.

The Contractors shall appoint a fire officer who shall be responsible for ensuring immediate and appropriate action in the event of a fire. The Contractors shall ensure that all site personnel are aware of the procedure to be followed in the event of a fire.

Any work that requires the use of fire or open flame may only take place at a designated area approved by the RE and must be supervised at all times. Serviced fire-fighting equipment shall be available.

It is recommended that, if cooking is to take place on site, purpose made gas cookers be considered before the use of cooking fires.

No fires are to be made on site, unless situated in a designated and demarcated area approved by the RE away from high-risk areas and in a contained fireplace (not on the bare ground). Fire extinguisher will be in this area at all times. Under no circumstances is the fire to be left unattended or will there be more than one fire on site at any time. The contractors will also consider the prevailing weather conditions. Wood and branches will not be harvested from site as fuel.

2.19.2 FUEL, CHEMICAL, HARMFUL AND HAZARDOUS MATERIALS

The contractors shall ensure that his employees are aware of the procedure to be followed for dealing with spills and leaks, which shall include notifying the engineer, RE and ECO. The Contractors shall ensure that the necessary materials (e.g., chemcap, spill-sorb, drizzat pads, enretech and peat moss) and equipment for dealing with spills and leaks are available on site at all times. The source of the spillage shall be isolated. The Contractors shall contain the spillage using sand berms, sandbags, pre-made booms, sawdust, or absorbent materials.

Treatment and remediation of the spill areas shall be undertaken to the reasonable satisfaction of the Engineer and ECO.

The Contractors shall submit his emergency procedure (to be detailed in MS8) to the RE prior to bringing on site any such substances.

All spills or accidents involving such materials are to be recorded by the contractors/DEO. The Contractors/DEO is responsible to ensure that these records are submitted to the ECO.

The clean-up of spills and any damage caused by the spill shall be for the Contractors’ account.

MS10: The Contractors shall submit to the RE for approval an emergency procedures plan that will detail responses to both fire emergencies as well as emergencies relating to hazardous substances as set out by this EMP. This method statement shall in no way override, replace, void, or offer any exemption from any relevant legislation nor the requirements of the Occupational Health and Safety Act. The MS will include details regarding pre-determined, safe escape routes from the site as well as pre-arranged safe assembly as well as all relevant emergency numbers.

2.20 SITE CLEAN UP AND REHABILITATION

2.20.1 SITE CLEAN UP

The Contractors shall ensure that all temporary structures, equipment, materials, waste, and facilities used for construction activities are decommissioned and removed upon completion of the project. The Contractors shall clear and clean the construction site to the satisfaction of the RE upon completion of the project.

2.20.2 REHABILITATION OF DISTURBED AREAS

The contractors will be required to rehabilitate any no-go areas disturbed as a result of his activities on site to the satisfaction of RE. Expenses incurred in rehabilitating the site shall be for the Contractors' account.

Where necessary, rehabilitation activities must take into account the seasons and timing to ensure the greatest chance of plant survival. The contractors are to ensure the establishment of any plants that were used during rehabilitation activities for a period of up to three months after planting. Should there be a high mortality rate within this period the contractors will be responsible for replacing the plants.

Altered drainage lines, corridors and wetland buffer areas must be planted with indigenous species. Where possible preferably from specimens collected during the search and rescue.

The Contractors will be responsible for any costs resulting from rehabilitation required due to noncompliance with this EMP.

No construction equipment, vehicles or unauthorised personnel shall be allowed onto areas that have been rehabilitated.

Should re-vegetation be deemed to be required, only locally indigenous plants will be used for rehabilitation unless a short-term stabilizing vegetation cover is required such as Teff or Wheat (not Oats or Rye due to their invasive tendencies).

Where possible a suitable mulch should be used by the landscape contractor in areas that are revegetated. Please refer to item 2.22.2 for mulch requirements.

It may be necessary to obtain specialist (Botanical, Freshwater Ecologist, Horticultural etc.) input prior to undertaking the required rehabilitation.

2.21 ALIEN VEGETATION CLEARING

Initial clearing of alien vegetation will be required to be undertaken by the contractors or a subcontractors approved by the ER.

Bulldozing or using plant to removed alien vegetation may only be undertaken in areas that will form part of the construction footprint.

2.21.1 GENERAL REQUIREMENTS

The Contractors shall ensure that cognisance is taken of the possibility of increased fire risk due to cleared alien vegetation and spread of alien vegetation seeds released when mature vegetation is chopped down.

The contractors must ensure the safe, effective disposal of removed vegetation. This is particularly important in terms of stormwater management.

Cleared plant material must be removed from site and appropriately disposed of at a suitable licensed waste or landfill facility.

Burning of cleared vegetation shall not be undertaken unless approved by the RE and the relevant permits and permissions are obtained and provided to the ER. Cognisance must be taken of air pollution legislation as well as legislation relating to fire management and By- Laws.

2.21.2 GENERAL ERADICATION GUIDELINES

Development areas under construction shall be kept clear of alien vegetation. If any alien vegetation clearing is required within no-go areas, this shall not take place without the written approval of the RE and shall be undertaken by the landscaping contractor under supervision of the ECO. Special care shall be taken to protect indigenous vegetation in no- go areas from trampling, herbicide drift, etc.

The use of herbicides is encouraged. Cutting without the use of herbicide treatment may stimulate regrowth. Vehicle driven brush cutting, grading, and bulldozing will not be permitted for alien clearing except within the development footprint.

All trees and saplings need to be cut down at ankle height or lower where possible and herbicides with appropriate dye agent applied immediately after cutting.

Eradication must start in the least infested areas and from highest lying areas.

Herbicides shall not be applied when conditions are windy, so as to avoid spray drift. No herbicides should be applied when rain is forecast within two days.

Protective clothing and masks must be worn at all times during application of herbicides.

Colour dyes must be used with the herbicides to clearly mark areas that have been treated.

Herbicide drift onto other plants must be avoided and care must be taken not to trample indigenous vegetation or stack alien vegetation on top of it. Unused herbicides and empty herbicide containers shall not be disposed of on site.

2.22 LANDSCAPING

2.22.1 GENERAL

The client/Employer or RE will ensure that the master landscape plan ensure that this is submitted to the Council for approval.

The approved Landscaping guidelines (Annexure 8) must be implemented by the RE.

The budget for the landscaping, which will be considerable, needs to be ring-fenced so that it is not absorbed into the overall budget should there be cost over-runs in the construction of the infrastructure.

The planting of the tree lines and orchard areas is considered a key mitigation measure and must be implemented in full as soon as construction of each phase is started. It must be remembered that the full mitigation potential of these measures will only be realized once the planting has had time to mature and initially the planting will only have a limited mitigating effect.

Annexure 7 provides a suitable recommended list of plant species that may be used for formal landscaping areas. Kikuyu Grass although present in the area may not be used for landscaping purposes. Buffalo Grass (Stenotaphrum secundatum) or one of the other grasses listed in Annexure 7 may be used. In addition to the plants listed in annexure 7 the following will also be considered suitable for use on the site.

- Small trees: *Euclea racemosa, Maytenus oleoides, Olea europaea* subsp. *africana, Pterocelastrus tricuspidatus* and *Salix mucronata*
- Shrubs: *Cliffortia heterophylla, Diospyros glabra, Halleria lucida, Myrsine africana, Searsia (= Rhus) angustifolia, S. glauca, S. mucronata,* and *Salvia africana- caerulea.*
- B*ulbs (Geophytes): Chasmanthe aethiopica and Zantedeschia aethiopica*

The RE will ensure that the landscaping plans are approved by the local authority. All landscaping will be to the satisfaction of the RE and in accordance with the approved landscape plans and associated documents such as the Landscaping guidelines (Annexure

8). Landscaping shall take place as soon as possible after completion of construction works. The timing of re-vegetation shall take cognisance of maintenance requirements and provision shall be made for any irrigation requirements.

No construction equipment, vehicles or unauthorised personnel shall be allowed onto areas that have been landscaped re-vegetated.

2.22.2 MULCH

Mulch shall be used in all areas where landscaping is to take place. Mulch may be obtained from all areas where vegetation is cleared.

Mulch shall be free of alien seed.

Where possible indigenous plant material cleared from the site shall be reduced by either mechanical mean (chipper) or by hand-axing to pieces no longer than 100mm.

No harvesting of mulch vegetation outside of construction areas shall be allowed.

Every effort shall be taken to ensure the retention of as much seed as possible in mulch made from indigenous vegetation and mulches shall be collected in such a manner that the loss of seed is restricted.

Bush-cut mulch shall be stored for as short a time-period as possible, and seed released from stockpiles shall be collected for use in re-vegetation.

Compost from an organic source may be used as mulch during re-vegetation but must be approved by the ER. Compost shall be well decayed, friable, and free from weed seeds.

Weed free, half-composted material, such as mulled bark, may be used as an additive to extend indigenous mulch. As far as possible, no more than 50% compost shall be used under these circumstances.

Wood chips (including bark), which are half composted and have not been treated with preservatives can also be used as mulch during re-vegetation. Chips shall be no longer than 50 mm in length or breadth and the RE shall approve the source of the chips.

2.22.3 FERTILIZER

The use, storage and handling of fertiliser shall be strictly controlled. There must be a minimum use of fertiliser on the site. Only organic fertilisers and sprays shall be used on site. (e.g., Bio grow products) Fertilisers shall be suitably stored in sealed containers in areas approved by the ER.

Care shall be taken when using fertilisers near no-go areas, watercourses, dams, and other sensitive natural areas.

Soil shall be well watered and moist before any fertiliser is applied.

2.22.4 LANDSCAPING GROUND SURFACE PREPARATION

The RE will ensure during the planning phase that all landscaping will be done in accordance with the Environmental Approval and will be indigenous and water wise. The Council approved landscaping plans are to be implemented accordingly.

Prior to re-vegetation, the Contractors shall ensure that the area is clear of any building materials, residues, and other foreign debris.

All visible weeds shall be removed from the area before replacing topsoil where required.

Compacted soil shall be ripped along the contour and hand trimmed. Topsoil shall then be spread evenly over the surface if required.

The final prepared ground surface shall be furrowed to follow the natural contours of the land and not smooth.

2.22.5 PLANTS/TREES

The handling, maintenance and planting of plants / trees shall be undertaken under supervision of the appointed landscape architect / horticulturist.

The Contractors shall ensure that each plant / tree is handled and packed in the approved manner for that species or variety, and that all necessary precautions are taken to ensure that the plants arrive on site in a proper condition for successful growth.

Plants shall be protected from wind during transportation.

No plants or plants with exposed roots shall be subjected to prolonged exposure to drying winds and sun or subjected to water logging or force-feeding at any time after purchase.

The Contractors shall ensure that the plants are in a good condition and free from plant diseases and pests. The Contractors shall immediately remove plants containing any diseases and/ or pests from site.

All plants supplied by the Contractors shall be healthy, well formed, and well rooted. Roots shall not show any evidence of having been restricted or deformed at any time. The potting materials used shall be weed free. There shall be sufficient topsoil around each plant to prevent desiccation of the root system.

2.22.7 TIMING

Re-vegetation of disturbed construction areas shall take place as soon as possible after construction work is completed.

As much as is possible, re-vegetation shall take place at the start of the winter rains to maximise water availability and minimise the need for watering.

If re-vegetation takes place during the dry season, irrigation of planted areas may be necessary.

2.22.8 ESTABLISHMENT OF VEGETATION

2.22.8.1 Irrigation

The Contractors shall be responsible for maintaining the desired level of irrigation necessary to maintain vigorous and healthy growth, as advised by the appointed landscaping contractors / horticulturist.

Water used for the irrigation of re-vegetated areas shall be free from pollutants that will have a detrimental effect on the plants.

Where hydro-seeding is undertaken, the commencement of watering may be postponed until seeds have germinated and growth begins.

Where an irrigation system is required, the Contractors shall be responsible for its installation prior to seeding or planting. The Contractors shall supply all required water as well as all equipment as required by the approved method statement.

Every effort shall be made to avoid irrigation overspray into no-go areas and other areas with natural vegetation as well as hard surfaced areas where the water is wasted.

2.22.8.2 Weed, Diseases and Pest Control

The Contractors shall be responsible for ensuring that all re-vegetated areas remain free of all alien and indigenous weed species during the contract and establishment period.

Weeding, removal methods and storage of this material shall be undertaken in such a manner that prevents the re-infestation of the cleaned areas.

All dead plant material shall be removed immediately as it may become a fire hazard.

The Contractors shall ensure that all plants are disease and pest free. Any methods used to control any diseases and/or pests, including the use of herbicides and pesticides, must be approved by the ER.

2.23 NON-COMPLIANCE

2.23.1 PROCEDURES

The Contractors shall comply with the environmental specifications and requirements on an on-going basis and any failure on his part to do so will entitle the RE to impose a penalty.

In the event of non-compliance, the following recommended process shall be followed:

The RE shall issue a notice of non-compliance to the Contractors, stating the nature and magnitude of the contravention. A copy shall be provided to the ECO.

The Contractors shall act to correct the non-conformance within 24 hours of receipt of the notice, or within a period that may be specified within the notice.

The Contractors shall provide the RE with a written statement describing the actions to be taken to discontinue the non-conformance, the actions taken to mitigate its effects and the expected results of the actions. A copy shall be provided to the ECO.

In the case of the Contractors failing to remedy the situation within the predetermined time frame, the RE shall impose a monetary penalty based on the conditions of contract.

In the case of non-compliance giving rise to physical environmental damage or destruction, the RE shall be entitled to undertake or to cause to be undertaken such remedial works as may be required to make good such damage and to recover from the Contractors the full costs incurred in doing so.

In the event of a dispute, difference of opinion, etc. between any parties in regard to or arising out of interpretation of the conditions of the EMP, disagreement regarding the implementation or method of implementation of conditions of the EMP, etc. any party shall be entitled to require that the issue be referred to specialists for determination.

The RE shall at all times have the right to stop work and/or certain activities on site in the case of noncompliance or failure to implement remediation measures.

2.23.2 OFFENCES AND PENALTIES

Any avoidable non-compliance with the conditions of the EMP shall be considered sufficient ground for the imposition of a penalty.

Possible offences, which should result in the issuing of a contractual penalty, include, but are not limited to:

- Unauthorised entrance into no-go areas.
- Catching and killing of wild animals.
- Unauthorised damage to natural vegetation.
- Unauthorised camp establishment (including stockpiling, storage, etc.).
- Hydrocarbons / hazardous material: negligent spills / leaks and insufficient storage.
- Ablution facilities: non-use, insufficient facilities, insufficient maintenance.
- Late method statements or failure to submit method statements.
- Insufficient solid waste management (including clean-up of litter, unauthorised dumping etc.
- Erosion due to negligence / non-performance.
- Excessive cement / concrete spillage / contamination'
- Insufficient fire control and unauthorised fires.
- Non-induction of staff.

PENALTIES

Penalties will be issued for the transgressions listed below. Penalties may be issued per incident at the discretion of the RE and to a maximum as indicated below. Such penalties will be issued in addition to any remedial costs incurred as a result of non-compliance with the Environmental Specifications. The RE will inform the Contractors of the contravention and the amount of the penalty and will deduct the amount from monies due under the Contract. Penalties will be paid 30 days after being issued. Penalties will not accumulate until the end of the project. The ER will ensure all penalties are paid within the required time frame.

Monies received may be held in a separate account or similar and may be transferred to the relevant organisation as indicated on a yearly basis The money will be donated to an environmental organisation

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nominated by the ER. This organisation, if possible, should be active within the local area or near to the development.

A	Any persons, vehicles, plant, or thing related to the Contractors operations within the designated boundaries of a "no-go" area	R2,000 – R5,000
B	Any vehicle driving in excess of designated speed limits	R500 – R1,000
C	Any vehicle being driven, and items of plant or materials being parked or stored outside the demarcated boundaries of the site	R1,000 - R2,000
D	Persons walking outside the demarcated boundaries of the site	R250 - R500
E	Persons collecting firewood outside the demarcated boundaries of the site	R25 - R50
F	Persistent and un-repaired oil leaks from machinery. The use of inappropriate methods of refuelling such as the use of a funnel rather than a pump	R1,500 – R5,000
G	Litter on site	R500 – R2000
H	Deliberate lighting of illegal fires on site	R2,500 - R5,000
I	The eating of meals on site outside the defined eating area. Individual not making use of the ablution facilities	R500 - R1,000 site
J	Dust or excess noise on or emanating from site	R500 - R1,000
K	Any person, vehicle, item of plant, or anything related to the Contractors operations causing a public nuisance	R1,000 - R2,000
L	Staff not making use of toilet facilities but rather other areas of site	R250 – R500
M	Improper storage of materials on site	R1,500 – R3,000
N	Failure to notify RE / ECO of activities or impacts that may affect the environment	R2,000 – R5,000
O	Any other contravention of a EMP specification or any condition of an environmental nature or instruction from ER.	Variable Up to R10000

Penalties for the activities detailed below, will be imposed by the RE on the Contractors and/or his Subcontractor/s.

For each subsequent similar offence, the penalty may, at the discretion of the ER, be doubled in value to a maximum value of R100, 000-00.

NOTE

Where the Contractors inflicts non-repairable damage upon the environment or fails to comply with any of the environmental specifications, he shall be liable to pay a penalty over and above any other contractual consequence. {In terms of the Conventional Penalties Act (1962) a creditor is not entitled to recover both the penalty and damages. Accordingly, where a Contractors causes

damage, the Employer can either enforce a penalty or make the Contractors make good the damage, but not both.}

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ii. The Contractors is deemed NOT to have complied with this Specification if:

a) within the boundaries of the site, site extensions and haul/ access roads there is evidence of contravention of the Specification
b) environmental damage ensues due to negligence
c) the Contractors fails to comply with corrective or other instructions issued by the Engineer within a specific time iii.. Payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.

iv. The following penalties are suggested for transgressions:

a. Erosion A penalty equivalent in value to the cost of rehabilitation plus 20%
b. Oil spills A penalty equivalent in value to the cost of clean-up operation plus 20%
c. Damage to indigenous vegetation A penalty equivalent in value to the cost of restoration plus 20%.
d. Damage to sensitive environments A penalty equivalent in value to the cost of restoration plus 20%.
e. Damage to cultural sites A penalty to a maximum of R 100 000 shall be paid for any damage to any cultural/ historical sites
f. Damage to trees A penalty to a maximum of R100 000 shall paid for each tree removed without prior permission, or a maximum of R5 000 for damage to any tree, which is to be retained on site.
g. Penalties for removing or damaging trees that were appropriately marked and demarcated by the landscape architect.

Girth of trunk (1m above ground level)	Replacement value per tree
0 – 15 mm	R100.00
16 – 30 mm	R200.00
31 – 50 mm	R500.00
51 – 75 mm	R1 000.00
76 – 100 mm	R2 500.00
101 – 150 mm	R5 000.00
150 – 300 mm	R10 000.00
Larger than 300 mm	R15 000.00 to R100 000.00

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SECTION 3

OPERATIONAL PHASE OF THE EMP

3.1 SECTION AIMS

Section 3 of the Environmental Management Programme (EMP) is required to address the protection and on-going management of the natural resources both on and off the site during the operational stages of the development. The overarching goal is to ensure that undue or reasonably avoidable impacts of the proposed development are avoided and that positive impacts of the development are enhanced. This section of the document has been compiled to fulfil such requirements.

This will ensure that the greater objective of Integrated Environmental Management (IEM) which aims to promote Sustainable Development and that underpins Environmental Process in South Africa will be upheld throughout the project. The controls set out in this EMP are to ensure that the recommendations made in the Environmental Impact Report regarding the development have and are being implemented.

This section (section 3) of the EMP document is an open-ended one, to allow for information gained during the monitoring of the activities on site to inform any changes to section 3 of the EMP. The document must be read in conjunction with the Environmental Assessment Report, with special reference to the specialist studies and recommendations. It is intended as a working document to guide the HOA/POA to manage activities on site on an ongoing basis in an environmentally sustainable manner.

Section 3 of EMP includes environmental goals objectives, management actions, monitoring requirements, and criteria for monitoring and remedial actions where actions are ineffective.

3.2 ASSUMPTIONS AND LIMITATIONS

Section 3 of this EMP has been compiled during the undertaking of the required amendment application of the project. The management strategies in this section of the report have been made, based on the assumption that the mitigation measures recommended by the specialists have been made conditions of approval in the Environmental Authorisation, should approval be granted. This section of the EMP may have to be amended following on any approvals made, to ensure that all the recommendations are captured as management strategies, as well as any other conditions that may be made.

3.3 RELEVANT LEGISLATION

The following is a list of the legislation that may be pertinent to the development and its long-term management. All activities on site must ensure compliance with the provisions of the various legislation, as applicable.

- The Constitution of the republic of South Africa (Act 108 of 1996)
- National Environmental Management Amendment Act (Act 62 of 2008) (NEMA)
- National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)
- National Environmental Management Waste Act (No 59 of 2008)
- Natural Heritage Resources Act 1999 (Act 25 of 1999)
- National Water Act 1998 (Act 36 of 1998)
- Conservation of Agricultural Resources Act, 1983 (Act No. 43 OF 1983)
- The Land Use Planning Ordinance (Ordinance 15 of 1985)
- Local Municipal By-Laws

3.4 REVIEW OF SECTION 3 OF THE EMP

It is envisaged that a set review schedule of this operational section of the EMP will not be required. However, should a review be required by DEA&DP or where a review has been recommended by a specialist/consultant or at the wish of the HOA/POA. A review shall be carried out and implemented once approved by DEA&DP.

It is recommended that any review of section 3 of this document be undertaken by an independent environmental consultant. All costs related to the review will be for the HOA/POA account.

3.5 RECORD KEEPING

The HOA are to keep, *inter alia*, the following records:

- Routine implementation and maintenance schedules, budgets
- Any Monitoring Reports
- Environmental complaints received and responses made (by residents, neighbours, or authorities)
- Minutes of meetings (trustees' meetings or where applicable environmental sub- committee meetings)
- Audit reports and reviews of the OEMP
- Changes to the OEMP

- Records should be kept with all the documentation of the HOA. These must be made available for review on request, based on adequate motivation.

3.6 NON-COMPLIANCE

Allegations of non-compliance by members of the public, stakeholders, residents, visitors to the development and Authorities, must be reported to the OM for investigation. All such allegations should be recorded in written format, together with the findings of the investigation.

These records must be stored for consideration during the audit process. All acts of non- compliance must be reported to the Operations Manager. The action to remediate acts of non- compliance must be identified in consultation with a suitable specialist and/or environmental consultant and a cost attached to this. The individual responsible for the act of non-compliance must be financially responsible for the remediation of any damage to the environment. The instruction to remediate must come from the Operations Manager.

3.7 FUNDING

The cost for the initial operational Phase audit must be provided by the applicant. There after all costs are for the HOA's account.

3.8 OPERATIONAL MANAGEMENT GOALS

Under this item the EMP sets the procedures for the development to achieve its operational environmental policy and goals. It also describes the various management activities that can achieve these objectives, together with the monitoring and target criteria.

The following have been set as Management Goals to ensure responsible and environmentally sustainable long-term management of the site:

GOAL 1: Stormwater Management

To ensure the constructed stormwater system is maintain and to prevent negative impacts.

GOAL 2: Sustainable Water Use

To ensure responsible and sustainable use of water not only within the Development but through the education of the public as well.

GOAL 3: Waste Management

To minimise and manage waste indoors as well as outdoors, and to manage garden refuse.

GOAL 4: General and Landscaping Maintenance

To ensure that open spaces and community facilities are maintained

GOAL 5: Vleis, Canals and Wetland Management

To ensure that canals and wetland areas are properly managed.

GOAL 6: Individual House or Building Construction

To ensure that building construction not being undertaken by the developer but rather new property owners will conform to the environmental requirements of the broader development.

GOAL 1	**STORMWATER MANAGEMENT**

OBJECTIVE **TO ENSURE THE CONSTRUCTED STORMWATER SYSTEM IS MAINTAIN AND TO PREVENT NEGATIVE IMPACTS**
RISKS ✞ Polluting of the stormwater system and subsequent receiving systems. ✞ Blockage of the system resulting in poor drainage and possible flooding.

ACTION

- Residents must report problems with the stormwater systems so that these can be addressed.
- As far as possible property owners must be educated to ensure that no materials, fluids, or substances are allowed to enter the stormwater system that could have a detrimental effect on the flora, fauna and aquatic life in water courses and dams.
- Protective screens and grates should be cleaned prior to winter rains.
- Residents are to ensure that they do not impede or block the flow of stormwater.
- As part of a regular newsletter, tips, recommendations, or informative points can be included to educate residents.
- No domestic (kitchens, sheds etc.) drainage apart from storm water drainage may be allowed to be connected to the stormwater system.
- No residues from cleaning of hard surface or any other form of contaminated water shall be allowed to enter the storm water system.
- Stormwater retention ponds and dams may be maintained from time to time in order to ensure their ongoing effectiveness and functioning. This may include but not limited to the repairs to pipes and headwalls, sensitively cutting back of vegetation that may be preventing proper functioning, removing excess silt that has accumulated in the dams or ponds. All works will be governed by the principals set out in this document.
-

MONITORING

- General visual monitoring by HOA.

TARGETS / CRITERIA

- A clean well-functioning stormwater system.

REMEDIAL ACTION

- HOA to follow up reports of stormwater system issues reported by residents or body corporate.
- Additional litter traps are to be installed in problem areas.
- Where possible, HOA to implement penalties as part of their constitution.

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GOAL 2	SUSTAINABLE WATER USE

OBJECTIVE

A) TO ENSURE RESPONSIBLE AND SUSTAINABLE USE OF WATER WITHIN THE DEVELOPMENT.

B) EDUCATION OF THE PUBLIC AND WATER SAVING MEASURES TO BE IMPLEMENTED

RISKS

- Irresponsible use of water
- Wastage of water
- Reduction of Water Resources

ACTION

- Water gardens and landscaped areas before 10h00 and after 16h00 and not in between.
- As far as possible ensure that the water restrictions as imposed from time to time and the local authority By-Laws are adhered to.
- Water gardens and landscaped areas a maximum of four times per week.
- A water awareness programme should, where possible, be implemented within the development.
- The POA is to ensure that infrastructure such as irrigation systems are operating correctly and not damaged.

TARGETS / CRITERIA

- Resident awareness of water conservation measures.
- Minimal water wastage within the development

REMEDIAL ACTION

- A set of penalties should, if possible, also be imposed by the HOA via the HOA constitution.
- Ongoing matters of water wastage by residents to be reported to the local authorities.

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GOAL 3	WASTE MANAGEMENT

OBJECTIVE

A) TO MANAGE GARDEN REFUSE

B) TO MINIMISE AND MANAGE WASTE OUTDOORS

C) TO MINIMISE AND MANAGE WASTE INDOORS

RISKS

- Irresponsible waste management
- Attraction of pests into the area
- Unsightliness and smell associated with poor management of outdoor waste

ACTION

- The reduction, reuse and recycle approach should be considered to waste management:
  - Households to reduce waste produced
  - Re-use resources wherever possible
  - Recycle appropriately
- Educate residents as far as possible about the need for proper waste management as well as the available systems to manage this.
- Opportunities may be provided on site to facilitate the collection of recyclable waste products such as paper, glass, and tin at central points, for collection by relevant organisations.
- All indoor waste not suitable for recycling is to be placed in outdoor bins for collection by the local authority as part of their regular collection system
- Bins must have lids to prevent scavengers and disbursement of refuse by wind
- Bins must be kept within the grounds of individual complexes until collection time. Bins must then be placed in the area designated by the HOA for collection of waste.
- No burying or burning of waste may take place on site. No waste of any type may be dumped on any road or verge or in any open space.
- All garden refuse is to be removed to an approved waste disposal site in the greater area. This is the responsibility of the individual complex or homeowner/resident.
- Garden waste from the common areas on the Development must be removed to an approved waste disposal site. The HOA should facilitate the collection of litter in POS areas within the development.

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- No garden clippings or any other waste or refuse material may be dumped within the development.
- All paints, oils or any other chemicals must be disposed of at a licensed landfill site.
- The fouling of any road with any substance by any person is prohibited.
- Abluting anywhere on the Development except in a toilet is a health as well as an environmental risk and is therefore forbidden.
- The Moddergatspruit will as far as possible be inspected for waste on a regular basis and the waste removed.

MONITORING

- General visual monitoring should be undertaken by the HOA.
- Records of any steps taken by the HOA to address reports of dumping or poor waste management within the Development.

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TARGETS / CRITERIA

- No incidences of polluting, dumping or similar occurring on the Estate.
- Recycling to be undertaken.
- Waste to be effectively managed on the Estate.

REMEDIAL ACTION

- A set of penalties should, if possible, be imposed by the HOA via the HOA constitution.
- Where possible, improve / increase recycling opportunities.
- Increase the intensity of the public awareness campaign.
- Increase the frequency of litter clean ups in POS and similar areas
- Report offenders caught dumping to the local law enforcement authorities.

GOAL 4	GENERAL AND LANDSCAPE MAINTENANCE

OBJECTIVE

TO MANAGE GARDEN REFUSE

RISKS

- Negative aesthetic perceptions due to poor maintenance.
- Drop in property values
- Disrepair and damage due to poor maintenance.

ACTION

- The POA is responsible for funding and ensuring sufficient funds for maintenance activities.
- All communal facilities must be maintained. Maintenance requirements must be brought to the attention of the POA.
- All POS area will be regularly monitored for Invasive Alien Vegetation. Where this is noted, it will be cleared in accordance with section 2.21 of the EMP. This will be on going.
- The POA is to produce a maintenance schedule. This is to include general and landscaping maintenance and alien vegetation clearing.
- Landscaped and POS areas are to be kept free from alien vegetation. Clearing of alien vegetation is to be carried out in line with the methodologies set out in section 2.21 of this document.
- Only plants from Annexure 7 may be used for inter-planting or additional planting within the development.
- In accordance with goal 3 the waste in the landscape areas must be collected regularly. The POA will be responsible for the general cleanliness of these areas in terms of litter and incidental waste. These areas will be inspected.
- Any landscape maintenance contractors must operate within the bounds of this EMP. The POA is to ensure this via contractual agreements.
- Any other required maintenance required will be bound by the specifications set out in this EMP. The POA is to ensure this via contractual agreements.
- No landscaping or any other activities to take place in the remaining portion of the property, until construction has commenced in the area.
- All POS areas are to be monitored for signs of erosion by the OM.
- The POA will draft a set of rules governing the access and use of POS and communal areas.

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MONITORING

- General visual monitoring should be undertaken by the HOA.
- Proof of maintenance having been carried out.
- Copies of contractual agreements with appointed contractors

TARGETS / CRITERIA

- Well maintained and functioning development.

REMEDIAL ACTION

- HOA to impose contractual penalties from contractors that do not comply with the EMP.
- Revision of the maintenance schedule.
- Allocation of additional budget.
- A set of penalties should, if possible, be used to encourage compliance with the environmental requirements of the development.
- Increase of educational campaigns.

GOAL 5	VLEIS, CANALS & WETLAND MANAGEMENT

OBJECTIVE

TO ENSURE THESE FEATURES ARE CORRECTLY MANAGED ON AN ON-GOING BASIS AND CONTINUE TO FUNTION CORRECTLY.

RISKS

- Pollution due to poor management.
- Environmental Degradation due to poor management.

ACTION

- Any areas that are intended to be of limited or no access must be managed as such by the POA with assess being restricted accordingly.
- The POA will regularly monitor all of these areas for Invasive Alien Vegetation (including invasive alien Aquatic plants). Where this is noted, it will be cleared in accordance with section 2.21 of the EMP. This will be on going.
- These areas will be inspected for waste. In accordance with goal 3 the waste any waste noted in these areas must be collected and properly disposed of. The POA will be responsible for the general cleanliness of these areas in terms of litter and incidental waste.
- Over time it is possible that canals and detention ponds can silt up. In these cases, the POA may make arrangements for certain problem areas to be cleared or dredged of siltation. This will be done in consultation with a freshwater ecologist. All works will be subject to the requirements of section 2 of the EMP.
- Should as a result of a flood event or similar unexpected event there need tio be repairs carried out to any canals or stormwater drainage outflows or related issues the POA must arrange for repairs to be carried out. This will be done in consultation with a freshwater ecologist. All works will be subject to the requirements of section 2 of the EMP.
- Residents, occupiers, and users of the estate are to be educated and informed about the wetland areas, canals, and related features. The benefits and importance of these should be communicated.
- No polluting, dumping, or disposal of any materials, wastes or similar shall be permitted within these areas.
- No dogs will be permitted to access the wetland areas. Should the POA allow dog walking this will be on condition of the use of a lead.
- No Harvesting of plants or plant materials will be permitted within these areas.

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MONITORING • General visual monitoring by POA.
TARGETS / CRITERIA • A clean well-functioning ecological aquatic system.
REMEDIAL ACTION • POA to follow up reports of miss-use reported by residents or body corporate. • Where possible, POA to implement penalties as part of their constitution for miss-use. • A specialist freshwater ecologist or similar will be consulted. • Water sampling and monitoring program may be established.

GOAL 6	INDIVIDUAL HOUSE OR BUILDING CONSTRUCTION

OBJECTIVE ***TO ENSURE THAT BUILDING CONSTRUCTION NOT BEING UNDERTAKEN BY THE DEVELOPER BUT RATHER NEW PROPERTY OWNERS WILL CONFORM TO THE ENVIRONMENTAL REQUIREMENTS OF THE BROADER DEVELOPMENT***
RISKS ✞ Requirements of the boards EMP not being implemented by individuals building on their properties. ✞ Environmental degradation due to requirements not being communicated to new homeowners.

ACTION

- The POA will ensure all new homeowners will be provided with a copy of the approved Architectural and Landscaping guidelines, approved plant list as well as the individual building CEMP for homeowners (Annexures 7, 8 and 9).
- Processes for plan and landscaping approval will be clearly explained to new owners by the POA.
- All property owners building their homes will be required to implement and adhere to the individual building CEMP for homeowners.
- Compliance will be monitored by the POA or their appointed representative. The POA will keep suitable records of the information provided to the homeowners, implementation and enforcement of the CEMP, approval of plans and landscaping by the POA.
- All plans must also be approved by the relevant authorities.

MONITORING

- General visual and compliance monitoring to be undertaken by the POA.

TARGETS / CRITERIA

- A compliant home building process with minimised risk to the environment.

REMEDIAL ACTION

- Notify local planning authorities.
- Report on going or severe non-compliance to Department of Environmental Affairs and Development Planning.
- Improve communication and education of homeowners.

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ACKNOWLEDGEMENT OF CONSTRUCTION MANUAL

I, _____ (Developer, Owner, Contractor, Sub-Contractor), hereby acknowledge that I have received the Construction & Operational Manual i.r.o.

ERF _____ and declare that I have read and understood the full contents Of the Manual before commencement of any contractual activities.

_____ _____

Developer/Owner Date

_____ _____

Contractor Date

_____ _____

Sub-Contractor Date

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