



**TENDER NO. T03-2018/19**

# **CONTRACT DOCUMENT**

FOR THE

## **OPERATION OF CELL 4 AT KARWYDERSKRAAL LANDFILL**

(RETURNABLE DOCUMENT)

TENDERER	EnviroServ Waste Management (Pty) Ltd
TENDER AMOUNT (VAT INCLUSIVE)	R44 910 433-53

**NOTE:**

- The Form of Offer and Acceptance (C1.1) is on page 63 of this document (see also Clause F.4.7 on page 14)

**ISSUED BY:**

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**AUGUST 2018**

# OVERBERG DISTRICT MUNICIPALITY

TENDER NO. T03-2018/19

## OPERATION OF CELL 4 AT KARWYDERSKRAAL LANDFILL

### C3.1 Description of the Works

#### CONTENTS

- 1 EMPLOYER'S OBJECTIVES
- 2 OVERVIEW OF THE SERVICE
- 3 GENERAL INTENT
- 4 EXTENT OF THE SERVICE
- 5 LOCATION OF THE SERVICE
- 6 DEFINITIONS

#### 1 EMPLOYER'S OBJECTIVES

The Overberg District Municipality proposes to operate cell 4 of the Karwyderskraal Landfill as well as to compost the chipped garden waste delivered to the facility and to render the service to its clients within the prescribed legislative framework as set out in the landfill permit and applicable National and Provincial legislation.

#### 2 OVERVIEW OF THE SERVICE

The service consists of the operation of cell 4 of Karwyderskraal landfill and include the supply of all labour, plant, tools and other resources required. It also includes the composting of the incoming chipped bush waste and other agricultural fruit or vegetable waste. The Contractor will be responsible for the co-ordination of all vehicles, containers, equipment and staff. This must be done in a manner that will ensure that all operations are carried out in a safe, orderly and efficient manner.

The duration of the contract is the lifespan of Cell 4 consisting of approximately 523,000m<sup>3</sup>. Assuming the current waste volumes received and making provision for growth in waste volumes as well as waste from additional towns in future, that Cell 4 will have sufficient capacity for 8 years. Should diversion from landfill be improved in future or any of the assumptions change significantly, the duration could be affected positively or negatively.

#### 3 GENERAL INTENT

The general intent of this Contract is that the Contractor shall procure all items necessary for the rendering of the service in accordance with the terms of Contract, in a workman-like and expeditious manner.

The Engineer shall have the right to verify that the service is carried out in accordance with this Contract and to approve or reject the quality of service rendered by the Contractor or approved subcontractors.

#### 4 EXTENT OF THE SERVICE

The Service in general includes but is not restricted to the following:

1. Receiving all municipal solid waste delivered to the site and dispose of it through landfilling in accordance with the Licence conditions,
2. Receiving of all chipped bush waste and other fine garden waste and compost it in the demarcated composting area,
3. Receiving all clean builder's rubble and stockpile it for future use as cover material or future treatment thereof,
4. Maintain all infrastructure on site.

## 5 LOCATION OF THE SERVICE

The Service is to be rendered at the Karwyderskraal Landfill.

For a locality map, please refer to the locality sketch in **Addendum A** of Part C3.3.

## 6 DEFINITIONS

Builder's Rubble:	Pieces of masonry, concrete, etc. resulting from construction, repair and demolition activities, without reinforcing steel, uncontaminated with general waste and with a maximum particle size of 300mm.
Bulky Waste:	Items, such as motor car bodies, fridges, etc. whose large size precludes or complicates their handling by normal collection, processing or disposal methods.
Chipped Bush Waste:	Waste derived from Garden Waste and bush clearing (gardens, plots and parks), which has not been mixed with other waste categories. This waste has been mechanically chipped to a maximum size of 50 mm.
Municipal Solid Waste:	Domestic Waste. Solid waste generated by retail stores, offices, in the domestic environment and light industry.
Committee of Control (COC):	Committee consisting of representatives of the local authorities, (COC) the Overberg District Municipality, the Engineer and the respective Contractors. The disposal site will have a COC which will meet to discuss operational matters. The Contractor will be expected to attend these meetings.
Karwyderskraal Monitoring: Committee (KMC)	Committee made up of members of the affected public, regulatory authorities and other interested parties, established in terms of the Licence(s) who, together with the Committee of Control, may assist in the monitoring of landfill operations, identify problems and keep the public informed of activities and developments on the Site.
Compost:	Organic waste, generally derived from Garden Waste that has undergone controlled microbial degradation, to produce a contaminant/nuisance free product of potential value as a soil conditioner.
Landfill Site Operator:	The natural or juristic person, or partnership, or group, appointed by the Employer to undertake the operation and maintenance of the Landfill Site in terms of the Contract Document.
Bush Waste:	Plant clippings, pruning and other discarded material from gardens and plot clearing in the municipal area.
Hazardous Waste:	Waste, other than radioactive waste, which is legally defined as hazardous in the state in which it is generated, transported or disposed of. The definition is based on the chemical reactivity, or toxic, explosive corrosive or other characteristics which cause, or are likely to cause, danger to health or to the environment, whether alone or when in contact with each other.
Industrial Waste:	Non-toxic and non-hazardous solid waste that results from industrial processes and manufacturing.
Recycling:	The recovery any material from the incoming waste, with the intention of re-use or benefit.
Solid Waste:	Useless, unwanted or discarded material with insufficient moisture content to represent free-flowing sludge or to generate free liquid.

Tons:	1 000 kg.
Health Care Waste:	Solid waste originating from education, hospital, health care or research facilities.
Transfer Stations:	A permanent facility which provides the infrastructure which allows for the transfer of small quantities of solid waste into large containers, which when full, are removed and transported to a waste disposal facility. Users of the transfer stations include the Municipality, businesses and general public which is operated in a safe, orderly and user-friendly manner.
Bulk waste Container:	Large, open-topped steel containers with either 30 m <sup>3</sup> or 10 m <sup>3</sup> volume, of standardized design and specification for hook-lift system and are compatible with the dimensions of the transfer station loading bays in the Overstrand.

# OVERBERG DISTRICT MUNICIPALITY

TENDER NO. T03-2018/19

## OPERATION OF CELL 4 AT KARWYDERSKRAAL LANDFILL

### C3.2 PROCUREMENT

#### 1 PREFERENTIAL PROCUREMENT PROCEDURES

The works shall be executed in accordance with the conditions attached to preferences granted in accordance with the Preferencing Schedule (MBD 6.1)

#### 2 SCOPE OF MANDATORY SUBCONTRACT WORK

The municipality must apply sub-contracting to advance designated groups for tenders that are in excess of R30 million, in accordance with Regulation 9 of the Preferential Procurement Regulations, 2017.

Therefore, **in the event that the Tender Price is in excess of R30 million**, the successful tenderer must sub-contract a minimum of 30% of the value of the contract to –

- a) an EME or QSE;
- b) an EME or QSE which is at least 51% owned by black people;
- c) an EME or QSE which is at least 51% owned by black people who are youth;
- d) an EME or QSE which is at least 51% owned by black people who are women;
- e) an EME or QSE which is at least 51% owned by black people with disabilities;
- f) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;
- g) a cooperative which is at least 51% owned by black people;
- h) An EME or QSE which is at least 51% owned by black people who are military veterans.

Preference should be given to the designated groups in (b) - (h) above. When sub-contracting to (a) above the successful tenderer must demonstrate why it is not possible to subcontract to the other designated groups.

The Tenderer must provide in **Returnable Schedule 13: Schedule of Sub-Contractors** the full details of each proposed sub-contractor with reference to its compliance with the designated groups listed above and the value of the work that will be conducted by the sub-contractor(s).

The proposed sub-contractor must be registered on the Central Suppliers Database at the time of tender submission.

#### 3 EMPLOYMENT OF LOCAL COMMUNITY LABOUR

The maximum possible number of local workers is to be employed from the currently unemployed persons in the local community. To this end the Contractor is required to give preference to the use of local community labour and limit the use of non-local labour to key personnel only. Local community labour is defined as people who reside in the area of Overberg District Municipality.

Key personnel are defined as supervisors and skilled labourers without whom a specific task cannot be executed. As far as possible these people should impart their management and other skills to individuals within the local workforce who show a keen interest and display a willingness to learn.

A monthly report on employment of local labour in relation to other employees must be submitted for information of the Employer.

# OVERBERG DISTRICT MUNICIPALITY

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## OPERATION OF CELL 4 AT KARWYDERSKRAAL LANDFILL

### C3.3 SERVICE TO BE RENDERED

#### THE OPERATION OF CELL 3 OF THE KARWYDERSKRAAL LANDFILL AND THE COMPOSTING OF CHIPPED BUSH WASTE.

##### 1.1 GENERAL DESCRIPTION OF THE OPERATION

A regional (Class B) landfill site has been developed by the Overberg District Municipality at Karwyderskraal to serve the waste disposal requirements of the Overstrand and Theewaterskloof Municipalities. As a result of the distances between the main wastes generating areas in these two municipalities and the Karwyderskraal regional landfill site, a number of waste transfer stations have been developed throughout the Overstrand and Theewaterskloof Municipal areas. One of the goals of the Overberg DM's Integrated Waste Management Plan (IWMP) is to provide a cost-effective and environmentally sound waste disposal process by sharing resources and promoting the minimization of the quantity of waste to landfill. Waste minimization activities (recycling and chipping of bush waste) are presently being carried out in the Overstrand and Theewaterskloof.

Current investigations will determine whether or not municipal solid waste from the other two local municipalities within the District, i.e. Cape Agulhas and Swellendam, will also be transported to the Karwyderskraal Regional landfill in future.

This Contract is for the supply of all labour, plant, tools, equipment and management necessary to operate the Karwyderskraal Landfill and the composting facility at Karwyderskraal. This must be done in a manner that will ensure that all operations are carried out in a safe, orderly and efficient manner.

##### 1.2 DESCRIPTION OF SITES AND ACCESS

###### 1.2.1 Karwyderskraal Regional Landfill Site

The disposal site is situated at the junction between the D 1254 and Minor Road 6, approximately 3 km from the turn off from the R43. GPS coordinates are S34 20 08.6 E19 09 43.6. The road surface leading to the disposal area is surfaced and the landfill site Operator will provide a suitable gravel road to the working face. Facilities at the waste site include a 22 m weighbridge and control building, a 150 m<sup>2</sup> concrete surface wash bay for road vehicles and waste bins is provided with a water point and litter trap. The landfill site is surrounded by a security fence with gates at the main entrance.

##### 1.3 SITE FACILITIES AVAILABLE

The following facilities may be made available for the Contractor and his staff at no extra charge, subject to successful negotiations with the client and other site personnel involved.

Karwyderskraal Regional Landfill Site:

- Office, Toilets, overnight vehicle storage, limited container storage.

##### 1.4 PLANT

All plant used on the Site shall be suitable for the application and prevailing site conditions, of adequate rated capacity, in good working condition, and shall be so designed and constructed as to cause a minimum of dust, noise and air pollution. The plant shall be operated by properly qualified and experienced operators. In the event of a breakdown occurring, the Contractor shall be capable of calling upon such back-up plant within SEVENTY TWO hours as is necessary to ensure that the operation is not placed in jeopardy.

No plant may be removed from Site without written permission from the Engineer.

## 1.5 OPERATION

### 1.5.1 Sources of Waste

The following user groups from both Overstrand and Theewaterskloof Municipalities are expected to dispose of waste at the Landfill

- Municipal Vehicles - clean builder's rubble
- Municipal Vehicles - illegal dumping's (mainly contaminated Builder's rubble)
- Municipal Collection Vehicles - municipal solid waste in the event of that a transfer station is not operational
- Haulage Contractor - municipal solid waste in 30m<sup>3</sup> containers
- Haulage Contractor - chipped bush waste and fine garden waste in 30m<sup>3</sup> containers
- Haulage Contractor - clean builder's rubble in 10m<sup>3</sup> containers
- Haulage Contractor - waste water treatment works sludges in 15m<sup>3</sup> containers
  
- Private vehicles / Contractors - builder's rubble, fruit waste, general waste

All private vehicles or contractors not hauling waste on behalf of a contributing municipality shall register individually with the Overberg District Municipality and will receive monthly invoices for waste disposed at Karwyderskraal landfill.

If any of the Transfer Stations experience operational shut-downs, the waste will be transported by the municipal collection fleet and private vehicles.

### 1.5.2 Waste Quantities

#### 1.5.2.1 General

Karwyderskraal receives waste from the western portion of Overstrand Municipality via the transfer stations at Kleinmond and Hermanus as well as via the public drop-offs at Hawston, Bettys Bay and Voëlklip.

Waste is also received from Theewaterskloof Municipality via transfer stations at Grabouw and Villiersdorp and also via the drop-off at Botrivier. Waste from the Caledon and Riviersonderend areas will also be diverted to Karwyderskraal landfill during the duration of the contract.

The table below provides the weighbridge data for the twelve months of the previous financial year:

Waste Received at Karwyderskraal Landfill in Tons

Waste Received from Overstrand Municipality								
Month	Total Waste Disposed	General Waste	Mixed Waste	Garden Waste	Sludge	Chipped Bush Waste	Clean Builder's Rubble	Fruit Waste
		Disposed	Disposed	Disposed	Disposed	Composted	Used as cover	Composted
Jul-17	2,687	2,036	500	6	145	1,311	2,581	121
Aug-17	3,174	1,820	1,161	-	192	737	2,286	82
Sep-17	3,371	2,192	974	-	206	531	2,896	69
Oct-17	3,425	2,339	822	-	265	675	3,720	32
Nov-17	3,686	2,228	1,144	-	315	437	4,381	115
Dec-17	5,113	2,647	2,172	-	295	425	2,705	55
Jan-18	3,462	2,766	536	-	159	488	747	19
Feb-18	4,598	2,874	1,453	-	271	969	1,925	20
Mar-18	3,821	1,990	1,628	-	203	1,846	2,233	97
Apr-18	3,096	2,121	772	-	203	497	1,609	56
May-18	2,851	1,778	951	-	122	628	1,515	59
Jun-18	4,365	3,666	494	-	206	1,209	3,861	72

Waste Received from Theewaterskloof Municipality								
Month	Total Waste Disposed	General Waste	Mixed Waste	Garden Waste	Sludge	Chipped Bush Waste	Clean Builder's Rubble	Fruit Waste
		Disposed	Disposed	Disposed	Disposed	Composted	Used as cover	Composted
Jul-17	706	706						
Aug-17	798	798						
Sep-17	565	565						
Oct-17	702	702						
Nov-17	535	535						
Dec-17	334	334						
Jan-18	496	496						
Feb-18	501	501						
Mar-18	550	550						
Apr-18	610	610						
May-18	508	508						
Jun-18	1,190	1,190						

### 1.5.3 Operating Hours

The Karwyderskraal Landfill Site is open for the delivery of waste on Monday to Friday including Public Holidays from 08h00 to 18h00, with the last vehicle entering over the weighbridge at 18h00.

### 1.5.4 Use of Site after Hours

The Karwyderskraal landfill site will generally not be opened outside of normal hours. The Contractor shall make provision for emergency operations, which will fall outside of normal hours if requested and motivated by one or more of the contributing Municipalities via the Overberg District Municipality.

### 1.5.5 Contractor's Resources

Note that the Contractor is required to provide all plant, staff, tools, equipment, consumables, fuel, etc for the Operation. He shall ensure that the Engineer is, at all times, in possession of an up-to-date register of all staff, labour, plant and equipment employed.

### 1.5.6 Stockpiles

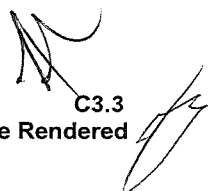
The Contractor shall take all reasonable measures to keep his working areas and stockpiles, clean and orderly. The following shall apply:

- Chipped bush waste stockpile at composting area shall not exceed 500m<sup>2</sup>.
- Uncontaminated builder's rubble will be stockpiled at the designated areas.
- The stockpile of uncontaminated builder's rubble shall not exceed an area of 500 m<sup>2</sup>.

Mechanical equipment must be available from time to time to shape stockpiles and clean up the site.

### 1.5.7 Recycling Rights

The Contractor will not be permitted to recycle material that has been disposed.





## 2 GENERAL DESCRIPTION OF THE KARWYDERSKRAAL LANDFILL OPERATION

### 2.1 THE OPERATION OF THE SITE WILL INCLUDE THE FOLLOWING MAJOR FUNCTIONS:

#### 2.1.1 Access control

For the full duration of the Contract, the Contractor shall provide competent and reliable person(s) to manage access to the site on a full-time basis, during normal working hours.

The Contractor shall be responsible for keeping the entrance to the site in a clean and neat state. This includes the removal of all mud and refuse deposited on the road at the site entrance (particularly during wet weather) and the collecting of all wind-blown or scattered refuse and litter emanating from the waste delivery and disposal operation. This activity must be performed daily.

Access control shall at all times be performed in a responsible and courteous manner, ensuring that only vehicles with waste permitted in accordance with the Licence conditions, are allowed on site.

#### 2.1.2 Operation of weighbridge system and generation of reports

Personnel will be required to inspect the incoming waste and to confirm that it conforms to the General Waste category, according to the Licence. Waste not conforming may not be accepted and the Landfill Manager must be notified of its presence. Details of the waste, as well as the vehicle and owner, must be recorded.

One weighbridge has been installed and commissioned. This system is used to record the mass of all waste loads delivered to site. The weighbridge is equipped with a computer, as well as the necessary software to enable the capture of details of vehicles, loads, dates etc. The Contractor will operate the computer and record all waste entering the site (e.g. category, account details, vehicle details etc.) as well as all material leaving the site, i.e. compost. Every vehicle off-loading waste at this disposal facility shall receive on exit a written confirmation of the waste type and waste weight.

The calibration of the weighbridge will be done regularly by the Weighbridge supplier/installer for the employer's account.

In order to ensure that no data is lost as a result of damage to the weighbridge computers or fire in the Weighbridge control building, the Contractor will be expected to make daily backup files of all data. These data are to be saved onto suitable computer media, which are to be stored in a safe place, in the Manager's office and off-site.

Apart from the Contractor's responsibility to make backup of daily transactions, the Employer will, at regular intervals, draw data from the computers for processing of invoices to the various site users.

The Contractor shall supply his own computer and associated equipment for his administrative functions, if required.

#### 2.1.3 Voice and Data Communication

The Contractor shall apply for and maintain for the duration of the Contract, Voice and Data communication at the Site at his own costs.

#### 2.1.4 Maintenance of access roads and controlling of traffic within the site

The Contractor shall construct and maintain site roads to the disposal area on site, as and when required during the Contract Period. The roads must be:

- Usable in both wet and dry conditions.
- Comfortably able to accommodate two large passing vehicles.
- Sufficiently smooth and even without potholes to enable large loaded vehicles to travel at 20 km/h, without damage or discomfort.
- All gradients shall be flatter than 1 in 10.
- Watered during dry weather for dust suppression and have sufficient surface drainage for wet weather.

Clear and easily understandable speed limit, traffic control and direction signs shall be provided from the Site entrance to the off-loading point at the working face as part of this contract by the Contractor.

### 2.1.5 Waste deposition and compaction

Waste deposition will be conducted in adherence with proven sanitary landfill principles (as per "Minimum Requirements for Waste Disposal by Landfill, 1998") of spreading, compacting and daily covering of waste. To achieve this, a single daily cell shall be constructed, compacted and enclosed by cover material on each operating day. This daily cell will be contained within the waste cell. In order to expose as little waste as possible to rainfall and the environment and to afford the best compaction, daily cells will be as narrow as is practical. The size of the daily cell will be determined by the mass of waste and number of vehicles to be accommodated during the day.

In order to protect the liner system, where applicable, during the placement of the first layer of waste, a 1 m thick pioneering layer of waste must be end-tipped and flattened, and a road pioneered on the stone drainage layer. No waste collection vehicles or waste compaction plant may come into direct contact with the liner system.

Waste disposal is then to progress in a series of well-managed terraces, minimizing the risk of water infiltration, erosion and fires, with operations screened on all sides by the screening berms built with soil or waste and progressively filled behind with waste.

Uncontaminated building rubble received is to be stockpiled for future crushing, but the finer portion received could also be used as cover material or for the construction of site roads, berms, etc.

Berms shall be constructed by obtaining selected soil from excavations, approved borrow areas or stockpiles or suitable builder's rubble. They shall be constructed by end-tipping material, dozing and compacting it in layers, to form durable embankments of good, regular appearance with a typical cross-section to minimize erosion.

Waste shall be deposited at the toe of the daily cell and worked upwards by spreading and compacted **by using a landfill compactor** of minimum operating weight of 23 tons to an average density of at least 900 kg/m<sup>3</sup>. Once compacted, the height of a strip will not exceed 2.5 m in any situation. The preferred average height is 2.0 m. This may however vary towards the outer edge of the final landform, since the daily cell depths will have to be adjusted to meet the final landform shape.

In order to maximize compaction effort, the slope of the working face shall be at an angle of approximately 1 in 3 to enable the plant to spread and compact the waste deposited at the toe of the cell, upwards upon the working face.

The actual compaction density achieved shall be calculated annually by dividing the mass of waste disposed by the airspace consumed, determined by means of a topographical survey, for the Employer's account.

The upper horizontal surface of a daily cell shall be finished such that it has a fall of at least 1:50 and not greater than 1:10, towards the working face, thus making it possible for the floor of the following lift, to drain away from the working face.

Cover material obtained from the stockpile shall be deposited above the daily cell at the top of the ramp so as to enable exposed compacted refuse to be covered as soon as required and not necessarily only at the end of the operating day.

At the end of an operating day the entire waste surface area shall be enclosed by cover material having an average compacted thickness of 150 mm above the mean surface to the compacted waste.

Space must be available at the working face to enable vehicles to man oeuvre and reverse without causing excessive congestion. A minimum cell width determined by the number of vehicles disposing simultaneously must be maintained to enable vehicles to work alongside each other, while the waste is compacted.

Animal carcasses are to be disposed of at the toe of the working face. The carcass must be covered immediately by disposing the next load of waste onto the carcasses. The Contractor shall pay special attention to ensuring that the whole carcass is covered, with no protrusions of feet/hooves, tails, heads/horns etc. Notwithstanding the above, stricter regulations may be enforced by the Municipal Health Department of the District Municipality.

Spoilt foodstuffs of condemned products may be disposed of on the landfill by the method of Safe Disposal. The foodstuff must be disposed of at the toe of the working face where after it must immediately be destroyed beneath the compactor and covered by disposing the next load of waste onto the foodstuff. Extreme care should be taken that none of these foods are salvaged by any of the vehicle drivers or operating staff. Notwithstanding the above, stricter regulations may be enforced by the Municipal Health Department of the District Municipality.

Whale carcasses and the mass stranding of marine mammals are to be disposed as per the instruction of the Municipal Health Department of the District Municipality.

No tyres may be accepted at the landfill.

Sludges from treatment works are to be disposed of at the toe of the working face and then covered by disposing the following waste loads on top of it, completely covering the sludges.

The Contractor shall reduce the volume of items of bulky waste, as far as is practical, by the use of his/her plant.

A wet weather cell on the main disposal site shall be kept available which has a surface of course well drained material, such as builder's rubble and coarse ash, which can be used as the disposal area when conditions become too wet in other areas.

All plant and vehicles must be parked in a neat and orderly fashion, during the after hour periods.

The Contractor will be expected to provide and make use of movable litter fences in order to prevent wind-blown litter from leaving the working area. These fences must be kept in a good state of repair and be available for deployment at all times. They must be of such a construction as to be efficient in moderate to high winds.

#### **2.1.6 Provision and placement of cover material**

Sources of cover material include:

- Material stockpiled from previous excavations.
- Chipped garden waste not used for composting
- Soil brought to the site
- Fine or Crushed Builder's Rubble

Sufficient material for the covering of waste on a daily basis must be made available by the Contractor. Furthermore, a strategically placed emergency stockpile of cover material, sufficient for one week of operation, should always be maintained.

#### **2.1.7 Control of nuisance**

The Contractor shall take all reasonable measures to operate the Site so as to reduce and, where possible, prevent nuisances, such as:

- Odour (by applying sanitary landfill procedures for compaction and covering, as well as the removal and treatment of leachate exposed to the atmosphere).
- Dust (by means of watering).
- Flies and rodents (by applying sanitary landfill procedures of compaction and covering, as well as by placing fly bait at the working face, composting area etc).

- Noise (by ensuring that all plant silencers, etc are in good working order) and by limiting the operations to the prescribed hours.
- Windblown litter (by applying sanitary landfill procedures of compaction and covering, as well as using litter catch fences where required and picking up the litter which has been scattered in the area).
- No scavenging shall be allowed on the working face. The removal from the work face of sharp steel objects which could cause punctures to waste collection vehicle tyres as well as tyres disposed of with the general waste, is however a requirement.

#### **2.1.8 Washing the wheels of vehicles leaving the site**

The Contractor will be responsible for washing the wheels of vehicles leaving the site to prevent mud from being deposited on the entrance road and public roads, if and when applicable. The nature of the equipment required to achieve this, will be left to the discretion of the Contractor, provided that the desired result is achieved.

#### **2.1.9 Maintenance of site drainage system**

The Contractor shall prevent undue contact between waste and storm water, so as to minimize the volume of contaminated run-off and leachate.

All water that has been in contact with waste will be considered to be contaminated. Water, with which contaminated water comes into contact, will also be considered to be contaminated.

#### **2.1.10 Record keeping**

The Contractor shall maintain detailed daily records of the following aspects and these shall be available for inspection by the Engineer at all times:

- Quantity of cover placed
- Quantities of waste handled (including mass, category, origin and registration detail of each vehicle)
- Daily position of depositing on site
- Complaints lodged
- Accidents
- Site Protocol Violations
- Breakdowns and stoppages
- Weather conditions including minimum and maximum temperature and rainfall
- Site Diary to record unusual incidents

The supply of consumables for record keeping, invoices and the operation of the weighbridge, is the responsibility of the Contractor.

#### **2.1.11 Reporting**

The Contractor shall report monthly before the 3<sup>rd</sup> or the first workday thereafter on the records kept as stipulated in 2.1.10 above and keep these records and reports available for site meetings and site audits by the regulating authority.

Any non-compliance with regard to the Waste Management Licence or any South African legislation shall immediately be reported to the Employer.

### **2.2 MAINTENANCE OF THE SITE**

The Contractor shall maintain all aspects of the Site, inclusive of all infrastructure, in order to ensure its smooth and efficient operation and to prevent undue deterioration of any item. The Contractor shall bear all maintenance costs other than the costs of materials required as a result of normal wear and tear. These will, subject to prior approval by the Engineer, be borne by the Employer.

Should it at any stage be evident that a large repair has resulted because the Contractor did not take action at an earlier stage, and that the Contractor has no good reason for not having taken earlier action, the cost of that repair will be for the Contractor's account? In maintaining the site the Contractor will be expected to perform maintenance work on his/her own initiative and without first being instructed to do so by the Engineer. Should the Contractor be unsure of the course of action to be taken, the Engineer shall be notified timeously.

Included in the Maintenance of the Site are:

(a) Buildings

The Contractor shall be responsible for the upkeep of the buildings and structures used by him. This will include, but not be limited to the following:

- repair of any damage of deterioration to any of the buildings, other than normal wear and tear maintenance;
- general housekeeping to ensure that the buildings inside and outside as well as the areas surrounding them are kept clean and neat;
- upkeep and maintenance of gardens and landscaped areas;
- ensuring clean and hygienic conditions in all toilets, showers and washbasins;
- Maintenance of all doors.

On termination of the Contract, all buildings shall be left in a thoroughly clean and sound condition, to the satisfaction of the Engineer.

(b) Access road

The Contractor shall be responsible for the maintenance of all temporary and permanent access road (i.e. those roads within the site boundary to provide access to the working face).

- Unsurfaced roads: This work will include the watering of the surface to prevent dust nuisance, the grading and filling in of pot-holes from time to time, the resurfacing of the road with selected graded material or building rubble free from reinforcing and with particle size less than 300 mm as well as any other repair work to ensure that access to the working area is provided in a safe and usable condition, to the satisfaction of the Engineer. All roads shall be to an all-weather standard.
- Surfaced roads: This work will include keeping the road free of all litter, mud etc. as well as ensuring that storm water facilities are not blocked.

(c) Berms and storm water drainage channels

The Contractor shall be responsible for keeping all berms and storm water channels in good condition and blockage free, so that they will be adequately perform their intended function. Silt accumulating in the storm water drains shall be removed on a regular basis. Where required, temporary berms and storm water drainage channels shall be provided by the Contractor to ensure the safe and sound operation of the waste disposal site. Such berms and channel are only to be constructed after consultation with the Engineer, in order to ensure that it will not interfere with the long term development plan for the Site.

(d) Fences, gates and entrance

The Contractor shall monitor the fences and gates of the perimeter area and report any damage to the Employer. All bushes and trees that grow on the line of the security fence are to be removed and the roots killed.

(e) Weighbridge

The Contractor shall be responsible for the care (upkeep but not regular maintenance and adjustment of the weighbridge and associated computer equipment) of the weighbridge and peripherals and any damage caused by misuse or negligence shall be made good by the Contractor at his/her own cost. The Contractor shall supply all consumables for the operation of the weighbridges, associated computer equipment and peripherals.

## 2.3 WASTE MINIMISATION

The reduction in the amount of waste being sent to landfill is in line with the Waste Act. Reduction of waste to landfill saves on transport, development and environmental costs. Accordingly, all means to improve and achieve higher levels of waste diversion will continued to be actively pursued by all the contributing municipalities. For this reason the quantity of waste delivered to the landfill cannot be guaranteed.

## 2.4 COSTS TO BE BORNE BY THE CONTRACTOR

The following costs will be borne by the Contractor:

- Cost of providing sureties, insurance of plant, public liability insurance, unemployment insurance, the cost of compliance with the requirements of the Workmen's Compensation Act and the Occupational Health and Safety Act, complying with statutes and by-laws etc. and the costs of continuing to meet these obligations.
- Costs of providing, establishing, commissioning and maintaining adequate facilities, plant, tools, labour and equipment on the Site to enable the Operation of all the facilities to proceed in terms of the Contract and shall include the costs of furniture, tools, equipment, storage facilities, communications, security and access facilities, sanitation, the wages of staff and transport costs incurred in connection with such staff. It is a condition of this contract that no staff member may be remunerated at a rate less than the applicable local minimum wage.
- Costs for the control of nuisances, maintaining the Site in a neat and clean condition and for dealing with complaints.
- Costs of care and maintenance of the Site including scattered waste and litter, all buildings and structures, access roads, entrance road, berms and storm water drainage channels, fences, gates and weighbridges.
- Costs of the Contractor's company and head office overhead costs and costs of all other obligations that are not recovered on the basis of the units of waste disposed of.
- Cost of dealing with other contractor's on site.
- Costs of removal from the Site of all items established and for making good to the satisfaction of the Engineer at the conclusion of the Contract.
- Cost of maintaining of access roads to the disposal area, the control of traffic on the Site, the supply and erection of traffic control/direction/safety/warning signs within the site and the provision of assistance to vehicles that become stuck on Site.
- Costs of maintaining cut-off berms and storm water drains and dealing with storm water, contaminated runoff and leachate.
- Costs of providing 24 hr communications and contact for the Landfill Operator.
- Costs of municipal services utilised at the Site, including the cost of removal of leachate.
- Costs of 24hr security to protect the infrastructure and equipment on site.
- Costs of handling, spreading and compacting the waste and of constructing cells on the existing footprint, including a wet weather cell, and for dealing with bulky waste, animal carcasses and safe disposal as required.
- Costs of access control at the gate and the keeping of detailed daily records.

- Costs of all consumables for the keeping of detailed records and the operation of the Site (including the supply of the printers and standby equipment).
- Costs of acquiring on site, stockpiling, spreading and compacting cover material, including the final shaping of the natural landform.

### 3 MEASUREMENT AND PAYMENT

#### 3.1 Basic Principles and Method of Measurement

The Contract has been so structured as to provide for a contract period commencing when the available airspace of cell 3 has been depleted, or 30 June 2019, whichever comes first. Current indications are that Cell 3 will reach capacity in March 2019.

The duration of the contract shall be linked to the available airspace of Cell 4.

Variability in the waste quantities can, however, be expected due to peak loads during holiday periods and improvements in the quantity of recycled material.

The Contractor shall be paid monthly based on the actual number of tons registered at the weighbridge at the landfill site, excluding the tons of chipped bush waste, garden or other compostable waste and clean builder's rubble. Regular audits on the measuring system may be carried out by, or on behalf of, the Employer, the Financial Managers or the Local Councils.

#### 3.2 Scheduled items

##### 3.2.1 Contractual requirements

The unit of measurement shall be the month (mnth).

The Tendered rate shall include full compensation for, inter alia, costs of providing sureties, insurance of plant, public liability insurance, unemployment insurance, the cost of compliance with the requirements of the Workmen's Compensation Act, complying with statutes and by-laws etc., the costs of continuing to meet these obligations and any other costs of a time-related nature.

##### 3.2.2 Disposal of General Waste

The unit of measurement shall be per tons as recorded and weighed at the weighbridge of the Landfill Site.

The Tendered rate shall include full compensation for, inter alia, the following:

- Costs of providing, establishing, commissioning and maintaining adequate facilities, plant, tools, labour and equipment to enable the Operation to proceed in terms of the Contract and shall include the costs of furniture, tools, equipment, storage facilities, communications, security and access facilities, sanitation, the wages of supervisory staff and transport costs incurred in connection with such staff.
- Costs for the control of nuisances
- Costs of the Contractor's company and head office overhead costs and costs of all other obligations.
- Costs of keeping all detailed daily records.
- Costs of all consumables for the operation and the keeping of detailed records.
- Costs of dealing with reasonable complaints from members of the public.
- Costs of complying with specifications.

##### 3.2.3 Full-scale operation after working hours

The unit of measurement shall be the hour (hr) of after hour work approved by the Engineer. The tendered rate shall include full compensation for all those items set out under clause 3.2.2 except that the costs for the first 60 hrs of such work shall be carried by the Contractor.

## 4 THE COMPOSTING OF CHIPPED BUSH WASTE AT THE REGIONAL LANDFILL SITE AT KARWYDERSKRAAL

### 4.1 GENERAL DESCRIPTION OF THE OPERATION – COMPOSTING

Members of the general public, garden services and the Municipality are being encouraged to use the transfer stations to drop-off clean garden and bush waste at designated positions within the transfer stations in the contributing Municipalities where the bush waste is temporarily stockpiled before being fed into a mechanical chipper (or chippers). The chips, with a maximum dimension of 50mm in any direction, are then loaded into 30 m<sup>3</sup> containers and transported to the Karwyderskraal landfill by the Municipality's external Contractor.

This Contract provides for the supply of all labour, plant, tools, equipment and management necessary to receive the chipped bush waste and fine garden waste cuttings and to compost it in windrows in the demarcated composting area at the landfill. This must be done in a manner that will ensure that all operations are carried out in a safe, orderly and efficient manner and in accordance with the Licence conditions.

### 4.2 PLANT

All plant used on the Site shall be suitable for the application and prevailing site conditions, of adequate rated capacity, in good working conditions, and shall be so designed and constructed as to cause a minimum of dust, noise and air pollution. The plant shall be operated by properly qualified and experienced operators. In the event of a breakdown occurring, the Contractor shall be capable of calling upon such back-up or replacement plant within seventy two hours as is necessary to ensure that the operation is not placed in jeopardy. It is the Contractor's choice whether to use a windrow compost turner or a Front End Loader to aerate the compost.

### 4.3 OPERATION

#### 4.3.1 Site Staff

##### 4.3.1.1 Compost Operator

The Contractor must ensure that there is always one full time operator located at the composting area, who instructs, guides and manages the off-loading of chipped bush waste and ensure that the garden waste bush waste is free of contaminants. This person must be available at all times during the operating hours of the landfill.

#### 4.3.2 Control of nuisances

The Contractor shall take all reasonable measures to operate the Site so as to reduce and, where possible, prevent nuisances, such as:

- Dust (by ensuring that unnecessary airborne material is not generated during operations).
- Air pollution (by ensuring that plant is in optimal working condition).
- Noise (by ensuring that all plant silencers, etc are in good working order and by limiting the operations to the prescribed hours).

#### 4.3.3 Record keeping

The Contractor shall maintain detailed daily records of the following aspects and these shall be available for inspection by the Engineer at all times:

- Quantities of bush waste handled.
- Complaints lodged.
- Accidents.
- Breakdowns and stoppages.
- General weather conditions (e.g. Temperature, rainfall, and wind direction).
- Quantities of Compost made
- Quantities of Compost sold

The supply of consumables for record keeping is the responsibility of the Contractor.



Mechanical equipment must be available from time to time to shape stockpiles and clean up the site.

#### **4.4 MEASUREMENT AND PAYMENT**

##### **4.4.1 Basic Principles and Method of Measurement**

The Contractor shall be paid monthly based on the volume of chipped waste or agricultural fruit or vegetable waste received for composting.

##### **4.4.2 Scheduled items**

###### **4.4.2.1 Composting of bush waste**

The unit of measurement shall be the mass, in tons, of chipped bush waste or agricultural fruit or vegetable waste received over the weighbridge at Karwyderskraal.

The Tendered rate shall include full compensation for all resources required for stockpiling, managing of stockpiles and composting and satisfying all requirements and obligations as specified.

The tendered rate shall also allow for 10 tons of compost per month to be made available free of charge at the composting facility pro rata to the quantities of chipped bush waste delivered in the previous month by the contributing municipalities. Compost not utilized by the municipalities during the month in question will revert back to the Contractor.

#### **5 THE CHARACTERISATION OF WASTE**

##### **5.1 GENERAL DESCRIPTION OF THE OPERATION – CHARACTERISATION**

The Contractor will conduct waste characterisation exercises on waste received from sources as determined by the Municipality's Solid Waste Manager. A waste characterisation exercise will be conducted over five working days and the waste will be characterised in 15 to 20 categories as determined by the Municipality's Solid Waste Manager. Approximately 20 labourers will be required for the duration of the exercise as well as the following equipment and personal protection equipment:

- 30 dust masks
- 25 pairs of Nitrile gloves
- box (100) latex gloves (small)
- box (100) latex gloves (large)
- 120 plastic aprons
- 500 black refuse bags
- 100 clear refuse bags
- brooms
- mops
- 2 spades
- litres of disinfectant
- 20 buckets
- or 2 scales
- 1 tarpaulin sheet to work on or alternatively 5 tables
- Stationary

###### **5.1.1 Record keeping**

The Contractor shall maintain detailed records of the following aspects of waste characterization and these shall be available for inspection by the Engineer at all times:

- Origin of samples
- Weight of samples taken
- Weight of each fraction (material type) in sample (up to 20 types)
- Calibration certificate of scale(s)

## 5.2 MEASUREMENT AND PAYMENT

### 5.2.1 Basic Principles and Method of Measurement

The Contractor shall be paid per characterization exercise as and when it is requested by the Employer.

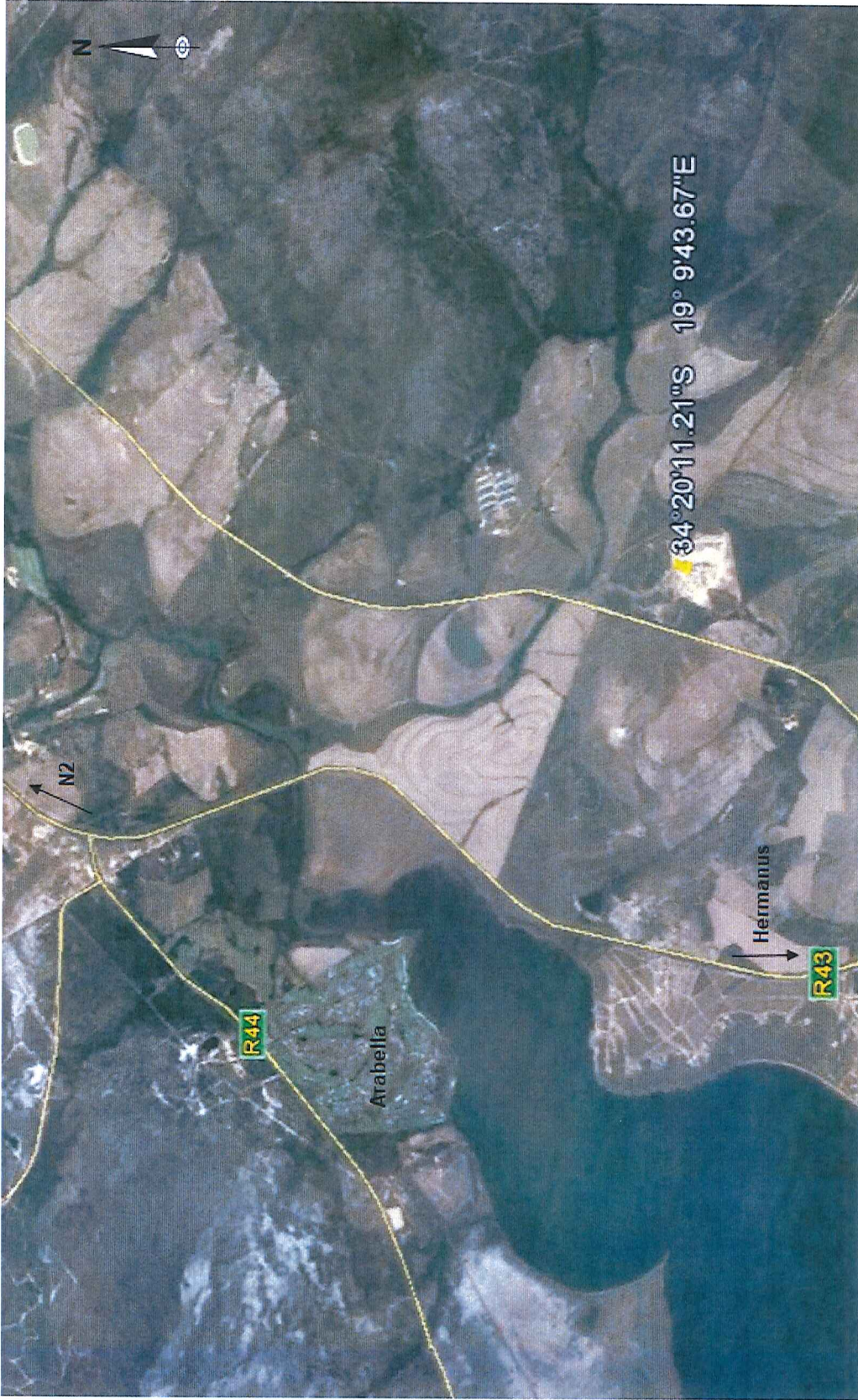
### 5.2.2 Scheduled items


#### 5.2.2.1 Waste Characterization

The unit of measurement shall be per exercise.

The Tendered rate shall include full compensation for the following:

- Costs of labour for the five working days required for a characterisation exercise
- Costs of providing initial training to labourers with respect to waste characterisation
- Costs of all equipment and consumables required for a characterisation exercise
- Costs of record keeping of the relevant data
- Costs of transferring the separated samples to the workface of the landfill



CLIENT:	OVERBERG DISTRICT MUNICIPALITY	DESIGNED:	WV	WV
PROJECT:	CONSTRUCTION OF CELL 4 – KARWYDESKRAAL LANDFILL	DRAWN:	WV	WV
DRW. TITLE:	Locality Plan	CHECKED:	JP	JP
		DATE:	MARCH 2018	
		SCALE:	MTS	
 <b>JPCE (PTY) LTD</b> Specialist Consulting Engineers P.O. Box 931, Boshart, 7561 Tel: 021 9826570 Fax: 021 981 0869 email: info@jpce.co.za		<b>ADDENDUM A</b>		




**OVERBERG DISTRICT MUNICIPALITY**

**TENDER NO. T03-2018/19**

**OPERATION OF CELL 4 AT KARWYDERSKRAAL LANDFILL**

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**C3.4 MANAGEMENT**

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**CONTENTS**

1. FULL-TIME MANAGEMENT
2. CONTRACTOR'S RESPONSIBILITY IN TERMS OF THE OHS ACT
3. MANAGEMENT MEETINGS
4. DAILY RECORDS
5. PAYMENT CERTIFICATES
6. PROOF OF COMPLIANCE WITH THE LAW

**1. FULL-TIME MANAGEMENT**

The Contractor shall provide a full-time Landfill Manager to manage all aspects of the landfill operation. The Landfill Manager must be contactable 24 hours per day in the event of any emergencies or serious problems that may arise, but does not have to be on site during operating hours.

**2. CONTRACTOR'S RESPONSIBILITY IN TERMS OF THE OHS ACT**

The Contractor shall be responsible for complying with the Occupational Health and Safety Act, Act 85 of 1993.

**3. MANAGEMENT MEETINGS**

The Committee of Control (COC) will meet on a monthly basis (or more frequently if required) to discuss all and any matters relating to the operation of the Site and to up-date and review the overall plan of operation. Decisions made, minutes and agreed upon at these meetings will be binding on the parties. It is however to be noted that decisions may need to be approved by Council. A meeting schedule will be drawn up at the commencement of the Contract.

The Karwyderskraal Monitoring Committee (KMC), on which the COC also serves, will meet annually.

External auditing in accordance with the Licence conditions will be undertaken by external auditors appointed by the Employer.

Quarterly internal audits will be performed by the Employer during which time the Contractor's Landfill Manager and Operator will be required to accompany the Employer's representative during the inspection.

**4. DAILY RECORDS**

The Contractor shall maintain a site diary in a log book to be kept on Site.

**5. PAYMENT CERTIFICATES**

The Contractor shall substantiate claims for payment with the relevant invoices in order to expedite verification and certification by the Engineer.

**6. PROOF OF COMPLIANCE WITH THE LAW**

The Contractor shall provide proof of compliance with any relevant legislation for verification by the Engineer as necessary.