



DEPARTEMENT VAN WATERWESE EN BOSBOU  
DEPARTMENT OF WATER AFFAIRS AND FORESTRY  
LEFAPHA LA METSI LE DIKGWA  
UMNYANGO WEZAMANZI NEZAMAHATHI

RESIDENSIEGEBOU/BUILDING, SCHOEMANSTRAAT 185 SCHOEMAN STREET, PRETORIA



F (012) 326-1780 326-2715 323-4472  
E-

P/B X313  
PRETORIA  
0001



P.Reddy  
(031)306-1367  
16/2/7/T502/D1/Z1

PERMIT NUMBER: 16/2/7/T502/D1/Z1/P264

1997-05-30

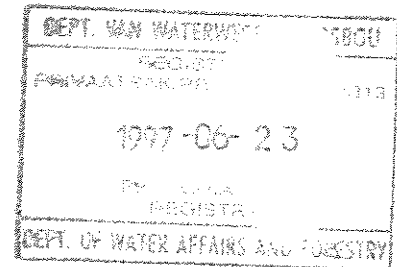
CLASS: G:S:B-

WASTE DISPOSAL SITE: HARDING LANDFILL SITE

LOCATION: REMAINDER OF LOT 9 HARDING TOWNLANDS,  
DISTRICT OF ALFRED

PERMIT HOLDER: HARDING TLC

ADDRESS: P.O. BOX 23, HARDING, 4680



**PERMIT IN TERMS OF SECTION 20 OF THE ENVIRONMENT  
CONSERVATION ACT, 1989 (ACT 73 OF 1989)**

By virtue of the powers delegated to me by the Minister of Water Affairs and Forestry (hereinafter referred to as "the Minister"), I, Tamsanqa Mthunzi Sokutu, in my capacity as Manager: Scientific Services in the Department of Water Affairs and Forestry (hereinafter referred to as "the Department"), hereby, in terms of section 20(1) of the Environment Conservation Act, 1989 (Act 73 of 1989), authorise the abovementioned Permit Holder to establish, further develop and operate the abovementioned waste disposal site, subject to the conditions specified herein.

**PERMIT CONDITIONS**

In this Permit, "Regional Director" means the Regional Director: KwaZulu-Natal of the Department who may be contacted at the address below:

Regional Director: KwaZulu-Natal  
Department of Water Affairs and Forestry  
P.O. Box 1018  
DURBAN  
4000

1997-05-30

## 1. LOCATION

- 1.1 This Permit authorises the establishment, further development and operation of a waste disposal site on the remainder of Lot 9 of Harding Townlands, District of Alfred (hereinafter referred to as "the Site") according to the report 96/058 by Geomeasure Services dated 5 August 1996 (hereinafter referred to as "the Report"), submitted by the Permit Holder.

The boundaries of the Site shall be according to the co-ordinates indicated on the permit application form, submitted by the Permit Holder.

## 2. PERMISSIBLE WASTE

- 2.1 The Site may be used for the disposal of all waste types, excluding those listed in Annexure I and excluding those where specific control has been established in terms of the Nuclear Energy Act, 1993 (Act 131 of 1993). Waste types controlled in terms of the Minerals Act, 1991 (Act 50 of 1991) and the Electricity Act, 1987 (Act 41 of 1987) are also excluded from disposal on the Site unless written permission has been obtained from the Regional Director.
- 2.2 The Permit Holder shall take all reasonable steps to ensure that -
- 2.2.1 no organic or inorganic element or compound which may have a definite acute or chronic negative effect on human health and/or the environment, due to its toxic, physical, chemical or persistent characteristics and which corresponds with the UNEP definition of hazardous waste be disposed of on the Site;
- 2.2.2 no medical waste be disposed of on the Site; and
- 2.2.3 no scheduled pharmaceutical products registered in terms of the Medicines and Related Substances Control Act, 1965 (Act 101 of 1965) or associated containers be disposed of on the Site.

## 3. CONSTRUCTION

- 3.1 The Site or any portion thereof may only be used for the disposal or storage of permissible waste and/or leachate if the Site or any such portion has been constructed or developed according to condition 3 of this Permit.
- 3.2 Construction and further development within the Site shall be carried out under the supervision of a suitably qualified person proposed by the Permit Holder and approved by the Regional Director.
- 3.3 After construction of the Site or further development within the Site, the Permit Holder shall notify the Regional Director thereof and the person referred to in condition 3.2 shall submit a certificate or alternatively a letter to the Regional Director that the construction of the Site or further development within the Site, as proposed by the Permit Holder and approved by the Regional Director, is in accordance with recognised civil engineering practice before disposal may commence on the Site. The completed construction works of the Site shall be inspected by an official of the Department and the person referred to in condition 3.2. If the Regional Director is satisfied with the construction of the Site or any further development within the Site

and has given written permission, the Permit Holder may use the Site or any further development within the Site for the disposal of waste.

- 3.4 The Permit Holder shall take all reasonable steps, such as suitable zoning and/or written agreements with adjacent landowners, to establish and maintain an unbuilt area or "buffer zone" of 800 metres between the Site and the nearest residential and/or light industrial areas during the operative life of the Site. Heavy industries or industries which may create nuisance conditions may be permitted within the buffer zone in terms of the appropriate legislation.
- 3.5 Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the Site in a legal manner, all runoff water arising on land adjacent to the Site, which could be expected as a result of the estimated maximum precipitation during a period of 24 hours with an average frequency of once in fifty years (hereinafter referred to as the "estimated maximum precipitation"). Such works shall, under the said rainfall event, maintain a freeboard of half a metre.
- 3.6 The Site shall be constructed in accordance with recognised civil engineering practice to ensure that it remains stable.
- 3.7 The maximum height of the Site above ground level shall not exceed 15 metres.
- 3.8 The slope of the sides of the Site shall be constructed in such a manner that little or no erosion occurs.
- 3.9 The Permit Holder shall make provision for adequate sanitation facilities on the Site.

#### 4. ACCESS CONTROL

- 4.1 Weatherproof, durable and legible notices in three official languages applicable in the area, shall be displayed at each entrance to the Site. These notices shall prohibit unauthorised entry and state the hours of operation, the name, address and telephone number of the Permit Holder and the person responsible for the operation of the Site.
- 4.2 The Site shall be fenced and/or secured to reasonably prevent unauthorised entry.
- 4.3 The Permit Holder shall take all reasonable steps to maintain service roads in a condition which ensures unimpeded access to the Site for vehicles transporting waste and to keep the roads free of waste.
- 4.4 The Permit Holder shall ensure that all entrance gates are manned during the hours of operation and locked outside the hours of operation.
- 4.5 The Permit Holder shall ensure effective access control.
- 4.6 The Permit Holder shall take all reasonable steps to prevent the disposal of waste on the Site for which the Site has not been approved.

## 5. OPERATION

- 5.1 If waste is burned on the Site, it shall take place under supervision and in a controlled manner. No smouldering waste shall be left overnight. Ashes and any unburned material shall be covered as often as possible and at least on a weekly basis with a minimum of 150 millimetres of soil or other material approved by the Regional Director.
- 5.2 The Permit Holder shall take all reasonable steps to ensure that the Site is operated in a manner which shall prevent the creation of nuisance conditions or health hazards.
- 5.3 The Permit Holder shall make use of moveable fences to control wind-blown waste.
- 5.4 The Permit Holder shall apply sufficient dust control measures to prevent wind-blown dust from causing nuisance conditions or health hazards.
- 5.5 Waste disposed of on the Site may be reclaimed. The reclamation activity shall not interfere with the daily operational activities of the Site.
- 5.6 The Permit Holder shall keep a record of the volume and nature of the waste materials which are reclaimed and report this on an annual basis to the Regional Director.

## 6. MONITORING

- 6.1 The monitoring borehole downslope of the Site shall be maintained by the Permit Holder according to the Report, to the satisfaction of the Regional Director so that unobstructed sampling, as required in terms of this Permit, can be undertaken.
- 6.2 The Permit Holder shall establish a second borehole at a later stage of the Site's development, as recommended in the Report. The location of this borehole shall be determined in consultation with the Regional Director.
- 6.3 Monitoring boreholes shall be equipped with lockable caps. The Department reserves the right to take water samples at any time and to analyse these samples or have them analysed.
- 6.4 Surface water monitoring shall be performed in all stormwater drains on and adjacent to the Site at locations selected in conjunction with the Regional Director and at a frequency as determined by the Regional Director.
- 6.5 Background monitoring
  - 6.5.1 Samples taken from the borehole, prior to the disposal of waste on the Site, shall be used for purposes of background monitoring. These results shall be reported with each monitoring occasion as set out in conditions 6.6 to 6.9 for comparison.
- 6.6 Detection monitoring
  - 6.6.1 Monitoring shall be conducted within 3 days of 15 January and 15 July of each year for the water quality variables listed in paragraph (a) of Annexure III and annually within 3 days of 15 July for the variables listed in paragraph (b) of Annexure III.

6.7 Investigative monitoring

6.7.1 If, in the opinion of the Regional Director, a water quality variable listed under the detection monitoring programme, as referred to in condition 6.6, shows an increasing trend, the Permit Holder shall initiate a monthly monitoring programme for the water quality variables listed in Annexure II.

6.8 Post-closure monitoring

6.8.1 Ground water monitoring by the Permit Holder, in accordance with condition 6.6 or 6.7, shall commence immediately upon closure of the Site and be maintained for a period of 30 years, or such lesser period as may be determined by the Regional Director.

6.9 Further investigations

6.9.1 If, in the opinion of the Regional Director, ground water, surface water and/or air pollution have occurred or possibly may occur, the Permit Holder shall conduct the necessary investigations and implement additional monitoring and rehabilitation measures to the satisfaction of the Regional Director.

**7. METHODS OF ANALYSIS**

7.1 The Permit Holder shall carry out all tests in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), referred to in the Standards Act, 1982 (Act 30 of 1982), to analyse the samples taken under the monitoring programmes specified in condition 6.

7.2 The Permit Holder shall only use another method of analyses if written proof that the method is equivalent to the SABS method, is submitted to the Regional Director.

**8. RECORDING**

8.1 The Permit Holder shall keep a record of and update all the information referred to in Annexure IV on an annual basis.

8.2 The Permit Holder shall record all borehole data and chemical analysis in the format depicted in Annexure V.

**9. REPORTING**

9.1 The information required in terms of conditions 6.1 to 6.9 shall be submitted to the Regional Director within a period of 30 days following the analysis of the said samples. The information required in terms of condition 8.1 shall be submitted to the Regional Director within a period of one year from the date of issuing of this Permit and annually thereafter.

## 10. REHABILITATION AND CLOSURE OF THE SITE

- 10.1 The Permit Holder shall, at least 60 days prior to the intended closure of the Site, notify the Regional Director by registered mail of such closure and submit final rehabilitation plans for his approval.
- 10.2 Immediately following the cessation of operations with the intention to close the Site, the surface of the Site shall be covered in such a way that -
- 10.2.1 the formation of pools due to rain is prevented;
- 10.2.2 free surface runoff of rain-water is ensured; and
- 10.2.3 no objects or materials which may hamper the rehabilitation of the Site are present.
- 10.3 The Permit Holder shall rehabilitate the Site in accordance with a rehabilitation plan which shall be submitted by the Permit Holder and which shall be to the satisfaction of the Regional Director.

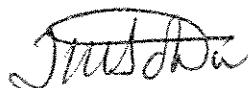
## 11. LEASING AND ALIENATION OF THE SITE

- 11.1 Should the Permit Holder want to alienate or lease the Site, he shall notify the Regional Director in writing of such an intention at least 60 days prior to the said transaction.

## 12. GENERAL

- 12.1 The Permit Holder shall within a period of 60 days from the date of issuing of this Permit apply for the rezoning of the Site for waste disposal purposes. Should the Permit Holder be unsuccessful in rezoning the Site for waste disposal purposes within a period of 2 years from the date of issuing of this Permit, a written motivation shall be provided to the Regional Director defining the reasons why the application for rezoning failed. The Regional Director shall then take an appropriate decision regarding the future of the Site.
- 12.2 This Permit shall not be transferable.
- 12.3 This Permit shall not be construed as exempting the Permit Holder from compliance with the provisions of the Health Act, 1977 (Act 63 of 1977), the Water Act, 1956 (Act 54 of 1956) or any other applicable act, ordinance, regulation or by-law.

1997-05-30



MANAGER: SCIENTIFIC SERVICES  
p.p. MINISTER OF WATER AFFAIRS AND FORESTRY

DATE: 30 MAY 1997

1997-05-30

ANNEXURE IWASTE WHICH SHALL NOT BE ACCEPTED ON THE SITE

1. Waste considered to be dangerous by virtue of their fire hazard. That is all waste with a closed cup flashpoint  $<61^{\circ}\text{C}$ .
2. Any waste with a substance which is a Group A and/or Group B carcinogen. Group A carcinogens have been clinical and epidemiological proven in humans. Group B carcinogens have been proven without doubt in laboratory animals.
3. Any waste with a substance at a concentration greater than 1% which is a Group C and/or Group D carcinogen. Group C carcinogens have shown limited evidence in animals. Group D carcinogen - the available data is inadequate and doubtful.
4. Any waste with a substance which is a Mutagen.
5. Any infectious waste, unless it has been incinerated at  $800^{\circ}\text{C}$  or higher for at least 1 second. Infectious waste is waste which is generated during the diagnosis, treatment or immunisation of humans or animals; in the research pertaining to this; in the manufacturing or testing of biological agents - including blood, blood products and contaminated blood products, cultures, pathological wastes, sharps, human and animal anatomical wastes and isolation waste that contain or may contain infectious substances.
6. Any waste with a substance with a  $\text{LD}_{50}$  for acute oral toxicity smaller and equals to 5000 mg/kg. The  $\text{LD}_{50}$  for acute oral toxicity shall be as defined in SABS 0228:1995.
7. Any waste with a substance with a  $\text{LD}_{50}$  for acute dermal toxicity smaller and equals to 2000 mg/kg. The  $\text{LD}_{50}$  for acute dermal toxicity shall be as defined in SABS 0228:1995.
8. Any waste with a substance with a  $\text{LC}_{50}$  for acute toxicity on inhalation smaller and equals to 10 mg/l. The  $\text{LC}_{50}$  for acute toxicity on inhalation shall be as defined in SABS 0228:1995.
9. Any waste with a substance with a  $\text{LC}_{50}$  (96hr) for acute ecotoxicity smaller and equals to 1000 mg/l.
10. All waste with a pH less than 6 or greater than 12.
11. All materials which fall in Class 1(explosives), Class 2(compressed gases) and Class 7(radioactive materials), as specified in SABS 0228:1995.
12. Any waste containing a substance listed in SABS 0228:1995, unless prior written approval has been granted by the Regional Director.
13. Any waste which is difficult to analyse and classify, paints, paint sludge or laboratory chemicals.

1997-05-30

ANNEXURE IIWATER QUALITY VARIABLES REQUIRED FOR BACKGROUND MONITORING  
AND INVESTIGATIVE MONITORING : CONDITIONS 6.5 and 6.7

Alkalinity (P.AIk)	Free & saline ammonia as N ( $\text{NH}_4\text{-N}$ )
Calcium (Ca)	Boron (B)
Chromium (hexavalent) ( $\text{Cr}^{6+}$ )	Magnesium (Mg)
Chromium (Total) (Cr)	Cadmium (Cd)
Chemical oxygen demand (COD)	Chloride (Cl)
Cyanide (CN)	Mercury (Hg)
Lead (Pb)	pH
Nitrate (as N) ( $\text{NO}_3\text{-N}$ )	Sodium (Na)
Phenolic compounds (Phen)	Electrical conductivity (EC)
Potassium (K)	Sulphate ( $\text{SO}_4$ )
Total dissolved solids (TDS)	



1997-05-30

ANNEXURE IIIWATER QUALITY VARIABLES REQUIRED FOR DETECTION  
MONITORING: CONDITION 6.6

- (a) Alkalinity (P.Alk)  
Chemical oxygen demand (COD)  
pH  
Total dissolved solids (TDS)  
Chlorides (Cl)  
Nitrate ( $\text{NO}_3\text{-N}$ )  
Potassium (K)
- (b) Annually for electrical conductivity (EC), calcium (Ca), magnesium (Mg), sodium (Na), sulphate ( $\text{SO}_4$ ) and fluoride (F).

1997-05-30



4.(a) Indicate the method of disposal of waste (\*). Landbuilding  Landfilling

(b) Indicate the present dimensions of the site in metres.  
 Height/depth .....  
 Length .....  
 Breadth .....

5. Indicate the applicable waste types and quantities salvaged during the year (\*)

No salvaging undertaken

Type	Quantity (m <sup>3</sup> )	Type	Quantity (m <sup>3</sup> )
<input type="checkbox"/> Paper/wood fibre .....	.....	<input type="checkbox"/> Rubber .....	.....
<input type="checkbox"/> Plastics .....	.....	<input type="checkbox"/> Textiles .....	.....
<input type="checkbox"/> Glass .....	.....	<input type="checkbox"/> Iron .....	.....
<input type="checkbox"/> Copper .....	.....	<input type="checkbox"/> Aluminium .....	.....
<input type="checkbox"/> Zinc .....	.....	<input type="checkbox"/> Lead .....	.....
<input type="checkbox"/> Phosphogypsum .....	.....	<input type="checkbox"/> Fly-ash .....	.....
<input type="checkbox"/> Waste for composting .....	.....	<input type="checkbox"/> Food residues .....	.....
<input type="checkbox"/> Flammable gases .....	.....	Other .....	.....
Other .....	.....	Other .....	.....
Other .....	.....	Other .....	.....

6. Indicate the types, sources and approximate quantities of available covering material (\*).

Type	Sources	Quantity m <sup>3</sup>
<input type="checkbox"/> Soil .....	.....	.....
<input type="checkbox"/> Sand .....	.....	.....
<input type="checkbox"/> Ash .....	.....	.....
<input type="checkbox"/> Gravel .....	.....	.....
<input type="checkbox"/> Clay .....	.....	.....
<input type="checkbox"/> Building rubble.....	.....	.....
Other (specify) .....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

\* Indicate with an X

Signature .....

Capacity.....

Place..... Date.....

1997-05-30

ANNEXURE V

FORM TO BE USED FOR CHEMICAL INFORMATION: CONDITIONS 6 AND 8

Name of site : ..... Borehole/observation-point name/number .....

Sampling date [y y y y m m d d] Time [ ] h [ ] Method : Bail [ ] Pump [ ]

Time after start of pump [ ] h [ ] Depth of sample [ ] m

Date of analysis [y y y y m m d d] Laboratory [ ]

General chemistry

pH [ ] EC [ ] mS/m TDS [ ] mg/l
Ca [ ] mg/l Mg [ ] mg/l Na [ ] mg/l
K [ ] mg/l P.Alk [ ] mg/l Cl [ ] mg/l
SO4 [ ] mg/l NO3-N [ ] mg/l F [ ] mg/l
As [ ] mg/l B [ ] mg/l Cd [ ] mg/l
CN [ ] mg/l Cr [ ] mg/l Cu [ ] mg/l
Mn [ ] mg/l Pb [ ] mg/l COD [ ] mg/l
Phen. [ ] mg/l S- [ ] mg/l TOC [ ] mg/l
PO4 [ ] mg/l NH4-N [ ] mg/l TOX [ ] mg/l
Ba [ ] mg/l Hg [ ] mg/l Cr6+ [ ] mg/l