



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

WESTERN CAPE REGION
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Enquiry: N. Nthungeni
File number: 27/2/1/G221/2/8

City of Cape Town (Wesfleur WWTW)
P O Box 16548
Vlaeberg
8135

Dear Sir/Madam

**APPLICATION FOR WATER USE LICENSE APPLICATION IN TERMS OF
SECTION 40 AND 41 OF THE NATIONAL WATER ACT, 1998 (ACT 36 OF 1998) :
ENGAGING IN CONTROLLED ACTIVITY: VARIES PROPERTIES**

Your Water Use License Application has reference.

Attached please find the original Water Use License number 19/G21B/E2789 dated 15 December 2014 that was issued with regard to the above-mentioned application.

Ensure that all conditions within the License are adhered to.

Please note that Waste Discharge charge system will be implemented by the Responsible Authority or the Department from time to time for all waste discharge water use.

If you need further information, you are welcome to contact this office.

Yours faithfully

HEAD OF PROVINCIAL OPERATIONS: WESTERN CAPE
DATE: 16 January 2015



water & sanitation

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Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Francis Baard Street, Pretoria, Tel: (012) 336-7500 Fax: (012) 323-4472 / (012) 326-2715

LICENCE IN TERMS OF CHAPTER 4 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) (THE ACT)

I, **Anil Bijman Singh**, in my capacity as Director-General (Acting) in the Department of Water and Sanitation and acting under authority of the powers delegated to me by the Minister of Water and Sanitation, hereby authorise the following water uses in respect of this licence.

SIGNED:

DATE: 15/12/18

LICENCE NO: 19/G21B/E2789
FILE NO: 27/2/2/G221/2/8

1. Licensee: City of Cape Town
(Wesfleur Wastewater Treatment Works)
Postal Address: P O Box 16548
VLAEBERG
8135

2. Water Uses

2.1 Section 21 (e) of the Act: Engaging in controlled activity, subject conditions set out in Appendices I and II.

3. Properties in respect of which this licence is issued

Table 1: List of properties with their respective water uses

Properties	Water use activities
Portion 7 of Cape farm 32	Section 21 (e) of the Act
Portion 0 of Cape farm 3	Section 21 (e) of the Act
Portion 1 of Cape farm 2	Section 21 (e) of the Act
Portion 9 of Cape farm 32	Section 21 (e) of the Act
Portion 30 of Cape farm 33	Section 21(e) of the Act

4. Registered owners of the Properties

4.1 City of Cape Town

5. Licence and Review Period

This licence is valid for a period of twenty (20) years from the date of issuance and it may be reviewed every (5) five years.

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6. Definitions

Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) shall bear the same meaning when used in this licence.

"The Department" means the Department of Water and Sanitation.

"The Provincial Head" means the: Head of Provincial Operations Western Cape, Department of Water and Sanitation, Private Bag X16 Sanlamhof, Bellville, 7532.

7. Description of activity

This licence authorises City of Cape Town at Wesfleur Wastewater Treatment Works for the recharging of aquifer with a maximum quantity of two million nine hundred and twenty thousand cubic metres per annum ($2\,920\,000\text{ m}^3/\text{a}$) with domestic wastewater and also to recharge the aquifer with a maximum quantity of two million one hundred and ninety thousand ($2\,190\,000\text{ m}^3/\text{a}$) cubic metres per annum with Industrial wastewater. This licence also authorises the irrigation of grass with a maximum quantity of ($32\,095\text{ m}^3/\text{a}$) thirty two thousand and ninety five cubic metres per annum.

APPENDIX I

General Conditions for the Licence

1. This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998).
2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
3. The Licensee must immediately inform the Provincial Head of any change of name, address, premises and/or legal status.
4. If the property in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Provincial Head within 60 days of the said change taking place.
5. If a Water User Association is established in the area to manage the resource, membership of the Licensee to the Association is compulsory. Rules, regulations and water management stipulation of such association must be adhered to.
6. The Licensee shall be responsible for any water use charges and/or levies imposed by a Responsible Authority.
7. While effect must be given to the Reserve as determined in terms of the Act, where a lower confidence determination of the Reserve has been used in issuance of this licence, the licence conditions may be amended should a higher confidence reserve be conducted.
8. The licence shall not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.
9. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other provisions of the Act, as amended from time to time.
10. The Licensee shall conduct an annual internal audit on compliance with the conditions of this licence. A report on the audit shall be submitted to the Provincial Head within one month of the finalization of the audit.
11. The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. Both these audits may be subjected to external audit.
12. Any incident that causes or may cause water pollution shall be reported to the Provincial Head or a designated representative within 24 hours.

APPENDIX II

Section 21 (e) of the Act: Engaging in a controlled activity; irrigation of any land with waste or water containing waste

1. QUANTITY OF WATER CONTAINING WASTE FOR IRRIGATION

- 1.1 This licence authorises the City of Cape Town to irrigate grass and park, and recharging of groundwater aquifer with wastewater as shown in Table 2.

Table 2: Water use activities

Water Uses	Volume (m ³ /a)	Property Description	Coordinates	
			Start	End
Irrigation of grass and park with treated domestic wastewater	32 095 m ³ /a (3.8 ha)	Portion 7 of the Cape farm 32	S33°36'19.0" E18°28'51.0"	S33°36'28.2" E18°28'59.6"
Recharging of groundwater aquifer with treated domestic wastewater	2 920 000 m ³ /a	Portion 1,9 & 30 of the Cape farm 2,32 & 33	S33°36'41.4" E18°28'40.6"	S33°37'57.7" E18°26'07.2"
Recharging groundwater aquifer with treated industrial wastewater	2 190 000 m ³ /a	Portion 0 of the farm Cape farm 3	S33°38'07.5" E18°24'47.7"	S33°38'31.7" E18°24'45.1"

- 1.2 The quantity of wastewater authorised to be irrigated in terms of this licence must not be exceeded.

2. CROP TYPE AND AREA IRRIGATED

- 2.1 This licence authorises to irrigate a total surface area of three point eight hectares (3.8 ha) of grass on the Portion 7 of the Cape farm 32.

3. QUALITY OF WATER CONTAINING WASTE

- 3.1 The quality of the water waste to irrigate and recharging with must not exceed General effluent standard (GNR 10 991) shown in Table 3.

Table 3: Quality of waste water to irrigate and recharge

Variable	Limit
pH	5.5-9.5
Electrical Conductivity	75 mS/m above intake water
Nitrates (as N)	110 mg/l
Saline Ammonia (as N)	1.0 mg/l
Chemical Oxygen Demand (COD)	75 mg/l after applying chloride correction
Faecal coliforms (counts/100ml)	1000/100 ml
Orthophosphate (as P)	10 mg/l
Suspended solids	25 mg/l

It should be noted that the standards for nitrates, Faecal coliforms and phosphate not been prescribed in GNR no.991 of 1984. Therefore, the limits from the General Authorisation GNR 339 of 2004) for those particular variables where adopted.

4. MONITORING

4.1 Quantity

- 4.1.1 The quantity of water containing waste irrigated must be metered and recorded daily.
- 4.1.2 Monitoring for the quantity of the water containing waste for irrigation must be done at the point where the effluent is piped into the irrigation.
- 4.1.3 Water quantity measuring, recording and integrating devices must be maintained in a sound state of repair and calibrated by a competent person at intervals of not less than two years. Calibration certificates must be available for inspection by the Provincial Head or his/her representative upon request.

4.2 Quality

- 4.2.1 Monitoring points for quality must be at the outlet point of the irrigation where the wastewater will be abstracted for irrigation.
- 4.2.2 The date, time and monitoring point in respect of each sample taken must be recorded together with the results of the analysis.
- 4.2.3 Monitoring points must not be changed prior to notification to and written approval by the Head of Provincial Operation.
- 4.2.4 The samples taken at outlet point of the irrigation dam/pond shall be analysed for the required frequencies shown in Table 4 :

Table 4: Monitoring variables and frequency

Variable	Frequency
pH	Monthly
Electrical Conductivity (EC)	Monthly
Chemical oxygen demand (COD)	Monthly
Faecal Coliforms(as FCU)	Monthly
Ammonia (as N)	Monthly
Nitrate (as N)	Monthly
Ortho-Phosphate (as P)	Monthly
Suspended solids	Monthly

- 4.3 Ground water monitoring must be undertaken as set out in condition 5 of Appendix II.

5. GROUNDWATER MONITORING

- 5.1 The Licensee must continue implementing the current groundwater monitoring network which set as an early warning system to detect any pollution caused by irrigation and recharging with wastewater of Wesfluer WWTWs.
- 5.2 Monitoring boreholes in the monitoring network in condition 5.1 in Appendix II shall be clearly marked, numbered, and must be equipped with lockable caps and results to be submitted to the Provincial Operator. The Department reserves the right to sample monitoring boreholes at any time and to analyse these samples, or to have samples taken and analysed

- 5.3 The quality of the resource must be monitored by taking samples every six month at groundwater monitoring points as described in condition 5.1 in Appendix II (it is recommended to be done in April and October as it is the beginning and end of the rainy season. Each sample shall be analysed for the variables and at frequencies, as shown in Table 5 in Appendix II and/ or any other variable as may be required from time to time by the Provincial Head.

Table 5: Variables to be monitored and Monitoring Frequency.

Variables	Monitoring Frequency
Sodium (mg/l)	Quarterly
Magnesium (mg/l)	Quarterly
Calcium (mg/l)	Quarterly
Chloride (mg/l)	Quarterly
Sulphate (mg/l)	Quarterly
Nitrate (mg/l)	Quarterly
Fluoride (mg/l)	Quarterly

- 5.4 The date, time and monitoring point in respect of each sample taken shall be recorded together with the results of the analysis.
- 5.5 The Licensee must insure that monitoring boreholes that are no longer functional be replaced. Piezometers with proper construction would be acceptable.
- 5.6 If there are no monitoring boreholes around the perimeter of the areas where irrigation is taking place, we would request that a number of boreholes of piezometers be installed. The Licensee must include the boreholes up gradient and down gradient of the wastewater works, which must include the following:
- 5.6.1 The Licensee must ensure that any geological logs of the new boreholes must be recorded and submitted to the Provincial Head.
- 5.6.2 Monitoring boreholes upgradient of the coastal basin ponds should be monitored to detect flow reversal that can be caused by cone of depression as a result of over abstraction.
- 5.6.3 Water level must be measured at least monthly and recorded.
- 5.6.4 The data for monitoring be kept in a safe place and made available to the Provincial Head on an annual basis.
- 5.6.5 The updated monitoring network and programme must be submitted to Provincial Head within 90 days of the issuance of the licence.
- 5.6.6 If the sludge is going to be stored in the property temporarily or permanent it must be stored in a properly lined area.
- 5.6.7 The recommendation provided on the report titled "The Atlantis Water Resource Management Scheme: 30 years of Artificial groundwater Recharge" must be adhere to.

6. GENERAL IRRIGATION PRACTICES

- 6.1 Irrigation shall be practiced in accordance with the guidelines prescribed in the document titled "*Guide: Permissible Utilisation and Disposal of Treated Sewage Effluent*", issued by the former Department of Health under reference 11/2/5/3 and dated 30 May 1978, or in accordance with any relevant regulations promulgated under section 26 of the Act.

- 6.2. Irrigation with waste must be practiced in a systematic manner and precautions must be taken so as to prevent -

- 6.2.1 Water logging and pooling of waste in any location
- 6.2.2 Pollution of underground water or surface water due to seepage or otherwise
- 6.2.3 Fly breeding, public health hazard, odour or secondary pollution
- 6.2.4 Runoff from the irrigation area because of wet weather or any other conditions whatsoever and
- 6.2.5 The site of the irrigation area shall be adequately fenced to prevent the entry of animals and unauthorised persons.

- 6.3 Notices manufactured of durable weatherproof material prohibiting unauthorised entry and warning against the use of water containing waste for drinking and washing purposes shall be displayed at prominent places along the fence and at entrance gates. Such notices shall be worded in the official languages applicable in the area.

7. PIPELINES

- 7.1 Pipelines used for the conveyance of waste shall be painted in a conspicuous colour or manufactured of a coloured material distinctly different from the colour of the pipelines in which drinking water is flowing to avoid the possibility of any cross-connections of the different pipelines.
- 7.2 All stop-valves and taps on the pipelines conveying the effluent shall be of a type that can be opened and closed by means of a loose wrench. This wrench shall be in the safekeeping of a responsible member of the staff to prevent unauthorised use thereof.
- 7.3 Notices manufactured of a durable weatherproof material warning against the use of water containing waste for drinking and washing purposes shall be displayed at prominent places where the waste is being reused and at all taps. Such notices shall be worded in the official languages applicable in the area.

8. METHODS OF SAMPLING AND ANALYSIS

- 8.1 Sampling and analysis for all results shall be carried out in accordance with methods prescribed by and obtainable from the South African National Standards (SANS), in terms of the Standards Act, 1982 (Act 30 of 1982), or any other method approved in writing by the Provincial Head.
- 8.2 The methods of analysis shall not be changed without prior notification to, and written approval by the Provincial Head.
- 8.3 Sample analysis must be conducted by a recognized analytical laboratory, accredited to analyze the relevant constituents in the wastewater, or approved by the Provincial Head to perform the analyses.

9. STORMWATER

- 9.1 Storm water leaving the Licensee's premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas of a combination thereof which is produced, used, stored dumped or spilled on the premises.
- 9.2 Increased runoff due to vegetation clearance and soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the streams.

- 9.3 The Licensee must ensure that no stormwater will ingress into the wastewater system and that no wastewater ingress into the stormwater system.
- 9.4 Wastewater impoundments must be designed, constructed and managed to ensure that there is sufficient capacity to contain the 1:50 year flood event, with a minimum of 0.8 m freeboard. Freeboard will be defined as the difference between the water level and the crest of the overflow.
- 9.5 Wastewater systems must be properly maintained on a continuous basis.
- 9.6 Stormwater must be diverted from the impoundments and roads and shall be managed in such a manner as to disperse runoff and to prevent the concentration of the stormwater flow.
- 9.7 Cut-off drains must be provided around the WWTWs to prevent storm-water ingress into the surrounding of the works. These drains shall be designed to contain the maximum runoff, which could be expected over a period of 24 hours with a frequency of once in every 20 years.
- 9.8 The Licensee shall conduct regular inspections upstream to ensure that stormwater does not ingress into the wastewater system.

10. SLUDGE MANAGEMENT

- 10.1 Sewage sludge from the drying beds and other solid sewage waste, for instance grit and screenings, shall be handled, stored, transported, utilized or disposed of in such a manner as not to cause any odour, flies, health hazard, secondary pollution or other nuisance.
- 10.2 Sewage sludge or any other solid sewage waste may be alienated for utilisation or disposal thereof, only in terms of a written agreement and provided that the responsibility for complying with the requirements contained in this Licensee is accepted by the Licensee and such other party, jointly and separately.
- 10.3 The areas used to compost dry Sludge should be lined with appropriate geo-liners to prevent ground water contamination.
- 10.4 Sludge emanating from the treatment process must be quantified, analysed, dealt with according to the requirements of chapter 5 of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) and the Guideline for the Utilisation and Disposal of wastewater sludge (volume 1-5), dated March 2006 and any updates thereafter, to the satisfaction of by the Provincial Head.

11. OPERATION AND MAINTENANCE

- 11.1 The sewage purification works shall be supervised and controlled by a suitably qualified and experienced employee of the Licensee who shall have under his control an adequate number of operators who have been classified in terms of Regulation 2834 in terms of section 26 of the National Water Act, 1998 (Act 36 of 1998), or any update thereto to ensure proper functioning of the works and processes at all times.
- 11.2 The Licensee must ensure that Suitable qualified and experienced mechanical and electrical artisans shall be available to be called in for inspection and maintenance of the works.

- 11.3 No intractable or toxic waste must be allowed to find its way into the WWTWs and /or be discharged with the final effluent. The Licensee must take all steps possible to prevent discharge of any substance into the WWTWs, which could have a deleterious effect on the operation of works and/or final waste.
- 11.4 No abattoir waste such as blood or paunch content, or any other waste, which may deleteriously affect the efficient functioning of the works or effluence, must be received in the WWTWs.

12. PUMP STATIONS

- 12.1 The Licensee must develop and implement a scheduled monitoring and maintenance plan for all wastewater pump stations and manholes under its control.
- 12.2 All pump stations must have an emergency containment facility with sufficient capacity to ensure untreated effluent retention up to a 24-hour period.

13. MANHOLES

- 13.1 The Licensee must ensure that:
 - 13.1.1 Manholes are covered at all times with a suitable cover that cannot be removed by unauthorised persons;
 - 13.1.2 Manhole covers of a material that is less prone to theft are used.
 - 13.1.3 No new WWTWs lines and manholes are constructed in the 1:100 year flood line and
 - 13.1.4 Existing WWTWs lines and manholes situated within the 1:100 year flood lines are sealed adequately to ensure minimal ingress of water during any rainfall event.

14. MALFUNCTIONS/ABNORMAL CONDITIONS

- 14.1 Accurate and up-to-date records must be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records must be available for inspection by the Provincial Head upon request.
- 14.2 The records shall be tabulated under the following headings with a full explanation of all the contributory circumstances:
 - 14.2.1 Operating errors
 - 14.2.2 Mechanical failures (including design, installation or maintenance)
 - 14.2.3 Environmental factors (e.g. floods)
 - 14.2.4 Loss of supply services (e.g. power failure)
 - 14.2.5 Other causes
- 14.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Provincial Head, from the occurrence or detection of any incident referred above, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Provincial Head of measures taken to:
 - 14.3.1 Correct the impacts resulting from the incident;
 - 14.3.2 Prevent the incident from causing any further impacts; and
 - 14.3.3 Prevent a recurrence of a similar incident.

- 14.4 The Licensee must notify by the Provincial Head within 24 hours of the occurrence or potential occurrence of any incident which has the potential to cause, or has caused water and environmental pollution, health risks or which is a contravention of the licence conditions

15. CONTINGENCY PLANS AND INCIDENT REPORTING

- 15.1 The Licensee must develop and implement an Emergency and Contingency Plan.
- 15.2 The Licensee must implement and promote an environmental call and reporting centre where the following can be reported:
- 15.2.1 Illegal disposals of waste and/or littering;
 - 15.2.2 Broken, ruptured or leaking pipelines wasting potable water;
 - 15.2.3 Open or leaking taps on the property of the Licensee;
 - 15.2.4 Open manholes;
 - 15.2.5 Leaking or broken sewerage lines and pipes;
 - 15.2.6 Overflowing manholes and pump stations;
 - 15.2.7 Possible offenders of any environmental regulations, by-laws and/or ordinances; and
 - 15.2.8 Any other aspect that might hamper the effective management of the water resources.
- 15.3 The Licensee must compile an environmental call and reporting centre protocol, that must be included in the Plan, and which will investigate every complaint within 24 hours of it being reported.
- 15.4 The Licensee must rectify all valid issues reported within 7 days of the issue being reported to the Licensee. All incidents shall be recorded in an incident register which will include reasons for non-rectification of issues raised
- 15.5 Statistical summary of malfunctions and incidents shall be included in the Annual Report

16. ACCESS CONTROL, FENCING AND NOTICES

- 16.1 The sites of the WWTWs must be adequately fenced to prevent entry of animals and unauthorised persons.
- 16.2 Strict access procedures must be followed in order to gain access to WWTWs property. Access must be limited to authorised employees of the Licensee and their Contractors only.
- 16.3 Notices manufactured of durable weatherproof material prohibiting unauthorised entry and warning against the use of water containing waste for drinking and washing purposes must be displayed at prominent places along all fences and at entrance gates. Such notices must be worded in the official languages applicable in the area.

17. REPORTING

- 17.1 The Licensee must compile an annual Wastewater Management Report including Management Plans that must be submitted during July, annually; indicating compliance with the conditions of this licence, the corrective measures to address non-compliance, as well as the results of the monitoring programmes.
- 17.3 Information and data must also be submitted in a digital format as required by the Provincial Head in the prescribed format to be included in the regional database.

[END OF LICENCE]