CERTIFICATE OF REGISTRATION

In terms of Section 1 of the Schedule Trades and Occupations Bylaws for the eThekwini Municipality

ENVIROSERV WASTE MANAGEMENT (PTY) LTD
(Registration No. 2008/021152/07)

Is hereby authorised to undertake the under mentioned trade, business occupation or calling, issued in accordance with the specified conditions relative to this permit

1. Premises	: 1 Shongweni Dam Road, Shongweni
2. Registered Description	: Portion of Farm Kirkfall 14227, Shongweni
3. Nature of Trade/Occupation	: Waste material salvaging, collecting, sorting, storing, treating, Processing, or recycling or reclaiming.
4. Period of validity	: 6 Months
5. Expiry date	: Within 6 months of date of issue
5.1 Particulars of raw material	: New solid inorganic waste, as per the Ministers Appeal Decision (LSA162340/158911). Existing body of waste. Effluent treatment chemicals. PH treatment materials
6. Process to be carried out	:Transportation, treatment and disposal of solid inorganic waste and associated by products including leachate, landfill gas extraction and the operation of an air quality abatement system.
7. Product of such processes	: Treated and appropriately disposed waste.
7.1 Particulars of plant	: Transportation fleet and material handling equipment. Effluent Treatment Plant, Landfill Gas Extraction and Flaring System, Bio filter Plants, Emergency Standby Generator.

Permit No. ST 3064

Note

1. This certificate must be displayed in a prominent place within the premises at all times.
2. This permission will not relieve you of any obligation to comply with any other law, regulation or authorisations.
3. This permit may be suspended or withdrawn if the terms hereof are not complied with.
4. This permit will cease to be in effect on change of ownership or name of the permit holder.
5. The Municipality may call on you to conduct specialist studies, provide information, report or documentation in connection with the activities undertaken in terms of this Permit at any time should a need arise.

Dr N.I. Gxagxisa
Head: Health
Ethekwini Health Unit

PERMIT CONDITIONS
SCHEDULE TRADES AND OCCUPATIONS BYLAWS

1. GENERAL CONDITIONS

1.1. Non-compliance with the requirements of this permit constitutes an offence. This permit may be suspended or withdrawn or legal action may be instituted against the permit holder if the conditions specified herein are not complied with.

1.2. The site is to be constructed, operated and managed in accordance with relevant National, Provincial and Municipal Legislation and any authorisations or special consent issued in terms thereof.

1.3. No building, plant or works used by a permit holder shall be materially extended, altered or added to and no changes in process, procedures or significant production increases/throughputs that will significantly alter impacts may be undertaken without the prior approval of the permitting authority. In this regard it is recorded that whilst the gas extraction and treatment process has been approved by the DEA, the eThekwini Municipality has not been a party to this authorisation process. Please refer to condition 2.1.2 , 2.1.3, 2.2 and 3 hereof. This permit will cease to be of effect on change of ownership or name of the permit holder.

1.4. No gases, liquids, odours, vapours, dust, smoke, particulates, glare, noise or vibration shall be emitted which in the opinion of the permitting authority could cause a significant environmental impact, health risk or nuisance to the general public or employees of the licensee.

1.5. Where adverse health, environmental impacts or nuisance are created, urgent corrective measures must be taken to contain or minimize the impacts through operational or engineering interventions. Remediation, if required shall be carried out to the satisfaction of the permitting authority and/or any other authorized governmental agencies.

1.6. Any incident which has the potential to create significant health, safety or environmental risk needs to be reported immediately to all relevant authorities.

1.7. The permitting authority reserves the right to set and amend the permit conditions, emission limit values or standards after consultation with the permit holder and taking into consideration

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information submitted, what is technically achievable, and justifiable on health and environmental grounds.

1.8. The permit holder is required to update the existing Environmental Management System (EMS) which gives effect to the principle of continuous improvement.

1.9. Monthly performance review meetings shall be held with the permit authority. The permit may be revoked if significant under-performance is noted.

1.10. On cessation of operations, the permit authority is to be notified and decommissioning of the site and associated plant must be conducted in terms of a rehabilitation plan submitted to and approved by various relevant government agencies (including the Municipality).

1.11 The permit holder indemnifies the permitting authority from any claim, loss or damage arising from the permit holder's operations in relation to this permit.

1.12 The permit holder is obliged to ensure that any contractors/ sub-contractors act in compliance with the relevant terms of this permit and should there be any contravention by such sub-contractors, then the permit holder would be held accountable.

1.13 The holder of the permit must adhere to the duty of care obligations as set out in Section 28 of the National Environmental Management Act 107 of 1998 and failure to comply therewith constitutes a breach.

1.14 Security measures are to be in-place to ensure no unauthorised entry to the site is permitted and no scavenging is permitted.

1.15 An emergency standby generator is to be provided to ensure the continuity of electrical supply to all "essential services". The generator is to be maintained according to manufacturer's specifications.

1.16 Temperature within the waste body must be continually monitored and any abnormal escalation in temperature is to be brought to the attention of the authorities immediately.

1.17 Regarding the Re-commissioning of site to accept waste (as per the Ministers appeal decision):-

1.17.1 A risk assessment must be conducted before the liner is removed so as to identify all possible risks associated with this operation, appropriate mitigatory measures must be put in

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place for identified risks.

1.17.2 A precautionary approach must be adopted during commissioning so as to limit risks and impacts which may arise.

1.17.3 When the liner is pierced/removed, all occupational health and safety processes and procedures must be in place so as to ensure the safeguarding of the health of workers engaged with this task.

1.17.4 As far as is possible, the temporary liner must be removed incrementally and the working area be kept as small as possible.

1.17.5 All personnel engaged with liner removal must be provided with appropriate PPE and personal exposures must be monitored and reported to the Permit Authority.

1.17.6 Should the site re-commissioning increase impacts on communities, this permit may be suspended or withdrawn.

1.17.7 The temporary plastic cover must be removed incrementally and, as far as possible, the smallest working area is to be exposed.

1.17.8 A comprehensive re-commissioning plan covering all operational aspects, including the incremental removal of the temporary plastic cover, must be submitted to the Permit Authority before operations commence.

1.17.9 Should the removal of the temporary cover and/or commencement of activities increase off-site nuisance, health or environmental impacts significantly, then this department may suspend this permit with immediate effect.

2. SPECIFIC REQUIREMENTS

2.1. ENVIRONMENTAL CONTROL /PERFORMANCE

2.1.1. AIR QUALITY

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2.1.1.1. **The permit holder must implement best practicable means to minimise or avoid any impacts arising from H_2S emissions from operations on site.**
It is noted that the National Department of Environmental Affairs is currently developing ambient standards for H_2S and these may be incorporated into the permit once promulgated

2.1.1.2 H_2S emissions to be monitored and managed so as to ensure that no undue nuisance is created to surrounding communities.

2.1.1.3 SO_2 levels as measured in communities (by Enviroserv) must not exceed those stipulated in the NEM: AQA. This is with specific reference to the contribution made by the flare to ambient SO_2 concentrations as it pertains to emissions from the flare operated within the Enviroserv site.

2.1.1.4 C_6H_6 levels, as measured in surrounding communities, must not exceed those stipulated in the NEM: AQA. This with specific reference to emissions arising from the Enviroserv site.

2.1.1.5 A passive monitoring strategy for various pollutants within surrounding communities needs to be discussed and agreed in writing with the Permit Authority within one month of the issue of this permit and implemented. Once the strategy has been agreed, this must be implemented and reported, thereafter, on a monthly basis to the Health Unit.

2.1.2. Reporting on Air Quality abatement systems (Bio-filters, Peacemaker, Flare and associated technology).

Section 2.1.2 relates to the" Trial Phase" installation.

2.1.2.1. An independent expert (Professional Engineer) in the field of Air Quality is to be appointed by the Permit Holder to investigate and report on the following within two months of the issuing of this permit:

2.1.2.1.1. The availability, efficiency and stability of the abatement system; and

2.1.2.1.2. The inclusion of recommendations for minimum emission standards derived so as to ensure the minimisation of impact on communities.

2.1.2.2. The report must include, but not limited to, the consideration of system component downtime and contingency measures during such periods and the effects and control of the following variables:

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2.1.2.2.1. Pressure drop
2.1.2.2.2. Waste gas pre-treatment
2.1.2.2.3. Residence time of the gas
2.1.2.2.4. Reduced Sulphur loading rate
2.1.2.2.5. Water quality and content of the bio-filter media
2.1.2.2.6. pH of the bio-filter media
2.1.2.2.7. Temperature of bio filter bed
2.1.2.2.8. Sulphate Content
2.1.2.2.9. Oxygen Content

Any recommendations arising from this study must be implemented as soon as is practicable.

2.1.3. Development and submission of a detailed sampling regime in relation to the Air Quality Abatement and Treatment Systems (trial phase installation)

2.1.3.1. In the above regard, an independent specialist is required to be appointed to develop and submit, for approval, a detailed sampling and analytical plan in relation to the air quality abatement systems. This will include, but will not be limited to, equipment used, calibration, technology used, analytical/reference methods and reporting systems. A full emissions analysis of the gas composition before and after treatment must be done as part of the Specialist report and submitted at three (3) month intervals during the duration of the permit to the Permit Authority.

2.1.3.2. The service provider must engage with the Health Unit in order to ensure that all aspects are adequately addressed during the development of the terms of reference for this study. This report is to be submitted within a period of 2 months from permit issuance.

2.1.4 Gas extraction wells and associated pipework.

All extraction wells and associated pipework must be maintained so as to ensure optimal efficiency as per design specifications. In this regard, such systems must be inspected daily and any defects detected must be immediately corrected.

2.2. **FLARE MANAGEMENT (TRIAL PHASE INSTALLATION)**

The permit holder must:

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2.2.1. Submit a daily report on Land Fill Gas (LFG) H_2S concentrations values before the biofilters, after the biofilter and after the peacemaker or before the flare to the Health Unit.
The calculations of SO_2 emission concentrations, including the calculation methodology used to derive the value, must also be included.
The sampling for the H_2S should occur twice a day with samples taken in the morning and another sampling in the afternoon e.g. at 06H00 and 18H00. This reporting regime may change subject to the recommendations from the study noted in item 2.1.3

2.2.2. Ensure correct and optimum operation and maintenance of the flaring system (as per the specialist study under 2.1.2). The availability and efficiency of the flare must be reported weekly.

2.2.3. Provide a flashback protection system to prevent ignition within the LFG extraction system.

3. AIR QUALITY ABATEMENT SYSTEMS, MONITORING AND REPORTING REQUIREMENTS (PERMANENT INSTALLATION)

3.1. The proposed permanent air quality abatement systems design, positioning, efficiency, stack height and related matters must be approved by both the National DEA as well as the Local Authority.

3.2. The abovementioned design must incorporate the development of a continuous monitoring strategy which must include, but not be limited to, the parameters mentioned below. The results thereof must be submitted to the Permitting Authority weekly:

3.2.1. Flow rate;
3.2.2. Oxygen concentration;
3.2.3. Combustion temperature;
3.2.4. Methane %;
3.2.5. Carbon dioxide;
3.2.6. Continuous burn, run time;
3.2.7. Hydrogen sulphide;
3.2.8. Monitoring and analysis equipment must be operated and maintained in accordance with the manufacturer's guidelines, so that all monitoring results accurately reflect any emission, discharging and environmental parameters. All monitoring and analysis must be conducted in accordance with a documented protocol devised by a suitably qualified specialist. This protocol must be submitted to this department for approval.

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3.3. **Ambient Air Quality Monitoring and Meteorological Reporting**

3.3.1. A monitoring protocol for continuous and non- continuous monitoring must be developed and include the pollutants to be monitored, frequencies, methodologies and the like. This protocol must be discussed, agreed and be submitted to the permitting authority within 1 month of the inception of this permit.

3.3.2. The existing ambient air quality instruments must be calibrated against an approved reference method bi-annually. Copies of calibration certificates to be submitted to the Permitting Authority.

3.3.3. Continuous and non-continuous ambient air quality monitoring (on and off site) must be maintained.

3.3.4. The Permit holder must report to the Health Unit on a weekly basis, notwithstanding this comment, real time access to data from the monitors must be provided to 3 users within the local authority.

3.3.5. The meteorological data instrumentation must be correctly sited (height and position)

3.3.6. The Permit holder is to ensure adequate quality control and assurance of data. Reasonable data availability must be achieved.

3.4. **Plan for transitional phase of the air quality abatement equipment from trial/permanent**

A plan on how this transitional phase is to be managed must be submitted to the Health Unit one month prior to such activities taking place.

4. DISPOSAL OF WASTE

4.1. Only waste which complies with the Ministers Appeal decision may be accepted on site for treatment and disposal.

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4.2. Maintain a correct CDR (Co-disposal ratio) as stipulated on Waste Management License.

4.3. No trenching of waste during landfilling must occur.

4.4. Chemical pre- treatment of waste must be done prior to landfilling, to adjust pH (as per the Minister's Appeal Decision) and reduce odour. Caution must be exercised to ensure, treatment is not above accepted pH levels.

4.5. Odour from landfilling must be reduced by daily compacting and covering of waste.

4.6. Identified hot spot areas must not be used for landfilling.

4.7. The Permit holder must submit to the Health unit the daily inventories of all waste accepted at the landfill, this must include, but not limited to, source of waste, tonnage, treatment method and the like. This report is to be submitted monthly.

4.8. Brine from the Effluent Treatment Plant must be disposed of only after microencapsulation has been done and tested for moisture content.

4.9. Microencapsulation is to be conducted as per the Shongweni Management Plan.

4.10. No contaminated storm water is to be recirculated into the waste body.

4.11. No leachate is to be recirculated to the waste body.

4.12. Any treated contaminated storm water disposed of at the Southern Waste Water Treatment works must comply with conditions as stipulated by the eThekwini Water and Sanitation Unit.

5. WATER QUALITY MONITORING

Water Quality Monitoring as per the Waste Management Licence must be conducted and the Health Unit must receive copies of these reports.

5.1. Leachate Management

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5.1.1. Liquid management systems must be designed, managed and operated such that no negative impact is created to the environment.

5.1.2. Leachate must be disposed of at an approved disposal site and safe disposal certificates must be submitted to the department on a weekly basis.

5.1.3. Storage of leachate on site must be limited to prevent odour build-up.

5.1.4 A safety data sheet of all chemicals used for the treatment of leachate must be kept on site and updated regularly. The hard copy must be easily accessible to all employees.

5.1.5 Any requirements set out by relevant State departments as they pertain to leachate must be complied with in full.

5.1.6 Effluent treatment plant operations must ensure that noise levels do not exceed the applicable noise standards.

5.1.7 Effluent treatment and disposal are to be such that adequate freeboard is maintained in dams and tanks to comply with the Waste Management Licence.

5.1.8 The permit holder must report on a monthly basis the leachate generated (volumes) and must include temperature, pH, BOD, COD, TOC, phenols, total sulphur, sulphates, sulphites, sulphides and thiosulphates.

5.1.9 The permit holder must have in place a contingency plan to cater for periods of high precipitation so as to ensure no uncontrolled leachate discharges into the environment.

5.1.10 The Permit Holder is required to submit a Monthly report to the Health Unit regarding the volumes of leachate generated onsite and the management and disposal thereof including the certificates of safe disposal.

6 COMPLAINTS MANAGEMENT

Any complaints logged to the permit holder's complaints line must be submitted to the Health Unit within 24 hours of receipt. The Permit Holder must furthermore:

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6.1 Consolidate all complaints into a monthly report which is to be submitted to the Health Unit.

6.2 Investigate operations at the time of receiving the complaint, prevailing meteorological conditions and where possible investigate the complaint received. The findings of these investigations must be captured on the complaints log.

6.3 The Permit Holder must furthermore interrogate and report to the Health Unit on the complaints logged via the Upper Highway Air website.

7 OCCUPATIONAL HEALTH AND SAFETY

7.1 A full Occupational Health and Safety Programme must be maintained in terms of the Occupational Health and Safety Act and Regulations.

7.2 Risk Assessment

An Occupational Hygiene Risk Assessment Report must be conducted, before any temporary liner is removed to identify all potential stressors arising in or from the work place. The Report is to be submitted to the Permitting Authority.

7.3 Quantification of Stressors

All stressors identified in the Risk Assessment above which may be at levels of concern are to be quantified by an approved inspection authority (AIA) or results of such quantification verified by an AIA.

7.4 Control

The Permit Holder is to document (with time frames) control strategies for any stressor or condition identified above as being at levels of concern.

7.5 Training

All employees exposed to work place hazards/stresses must be adequately and comprehensively informed and trained as per the requirements of the Occupational Health and Safety Act.

7.6 Re-Evaluation

Stressors and training needs are to be re-evaluated on a periodic basis as determined by the Occupational Health and Safety Act.

7.7 Surveillance

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A medical/biological monitoring protocol must be established, implemented and overseen by an Occupational Medical Practitioner. (See reporting requirements). The Permitting Authority must be informed immediately of any adverse health impacts or trends that are identified by the Occupational Health program.

7.8 A full Occupational Health and Safety report must be submitted to the Health Unit bi-annually.

8 EMERGENCY PREPAREDNESS AND ABNORMAL OPERATING CONDITIONS

8.1 **Permit Holders Actions Required in Event of an Incident**

Section 30 of the National Environmental Management Act 107 of 1998 (as amended by the National Environmental Management Amendment Act 30 of 2013) defines an incident as "*an unexpected sudden and uncontrolled release of a hazardous substance, including from a major emission, fire or explosion, that causes, has caused or may cause significant harm to the environment, human life or property.*"

8.2 In the event of an incident, Section 30(3) of the National Environmental Management Act requires the Permit Holder forthwith, after knowledge of the incident, to report such incident to the Emergency Call Centre (031-361 0000). Should such incidences pose a significant health risk or nuisance, notification of the incident is to be immediate. The report must include:

8.2.1 The nature of the incident;
8.2.2 Any risks posed by the incident to public health, safety and property;
8.2.3 The toxicity of substances released;
8.2.4 Any steps that should be taken in order to minimize the effects of the pollution on the public health and the environment.

Furthermore, the Permit Holder must:-

8.2.5 Take all reasonable measures to contain and minimize the effects of the incident on the environment, and manage risks to health, safety and property;
8.2.6 Undertake clean up procedures;
8.2.7 Remedy the effects of the pollution;
8.2.8 Assess the immediate and long-term effects of the incident on the environment and public health.

8.1 **Incident reporting**

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Within 14 days of an incident, the Permit Holder must submit a further detailed report with the following information:

8.1.1 The nature of the incident;
8.1.2 Substances involved, quantities released, toxicity data;
8.1.3 Initial measures taken to minimize impacts;
8.1.4 Detailed description of causes of the incident;
8.1.5 Measures taken and proposed to prevent a recurrence.

8.2 The Permit Holder shall formulate and maintain an internal emergency preparedness plan for acute pollution. All risks identified in the plan must be systematically managed using one of the following approaches:

8.2.1 Environmental Management procedures; and/or

8.2.2 A contingency plan to reduce the probability of an incident or minimize the impact of the incident through an efficient and effective emergency response. This should include, as a minimum, a description of responsible personnel, their expertise, contact numbers, response procedures, staff training programmes and personal protective equipment. A list of material and equipment used in the event of acute pollution for containment, cleanup, response or prevention must be available for inspection.

Exercise drills to train staff in their response to acute pollution scenarios shall be conducted at least on an annual basis. The Permit Authority shall be informed of the date and time of such exercise drills.

9 WASTE TRANSPORTATION

9.1 All vehicles used for transporting waste/ leachate must be road worthy, purpose designed and approved in terms of relevant legislation.

9.2 The vehicle or containers used for conveying liquid waste shall be so constructed as to obviate any spillages or negative impact during transportation.

9.3 All vehicles, skips, hoppers etc., to clearly display the permit holder's name.

9.4 Approved pre-planned procedures must be implemented in the event of transportation accident and spillages and submitted in the Health Unit.

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9.5 A Certificate of safe disposal must be issued to all clients.

9.6 All vehicle washing/ cleansing must be undertaken at the approved/ dedicated wash bay and the wash bay be maintained in a clean condition.

10 ENVIRONMENTAL NOISE

10.1 The permit holder's local contribution in terms of environmental noise shall not exceed the noise levels as detailed in SANS 10103; 2008 measured at the nearest residential dwelling.

10.2 The permit holder may be required to undertake environmental noise measurements in terms of the relevant legislation and codes of practices – SANS 10103:2008 and report thereon to the permitting authority.

10.3 Acute noise complaints are to be investigated and reported to the authority on a monthly basis.

11 REPORTING SYSTEMS

11.1 The permit holder is required to submit reports as detailed in sections:-

a) 1.8, 1.9, 1.10, 1.17.5, 1.17.8;
b) 2.1.1.4, 2.1.2, 2.1.3;
c) 2.2.1, 2.2.2;
d) 3.1, 3.2, 3.3, 3.4;
e) 4.7;
f) 5, 5.1.2, 5.1.8, 5.10; 5.1.10;
g) 6.1, 6.3'
h) 7.2, 7.8;
i) 10.2, 10.3

12 SPECIFIC REQUIREMENTS OF HEAD: FIRE & EMERGENCY SERVICES

Ensure fire and emergency equipment is serviced annually.

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13 SPECIFIC REQUIREMENTS OF THE HEAD: WATER AND SANITATION

No objection to the proposed activity, subject to:

13.1 complying with standards applicable for the disposal of treated contaminated storm water to an approved municipal facility;

13.2 meeting the requirements and conditions of the trade Effluent Permit as issued to EnviroServ.

Head: Health

Date: 27-09-2018

Dr N.I. Gxagxisa