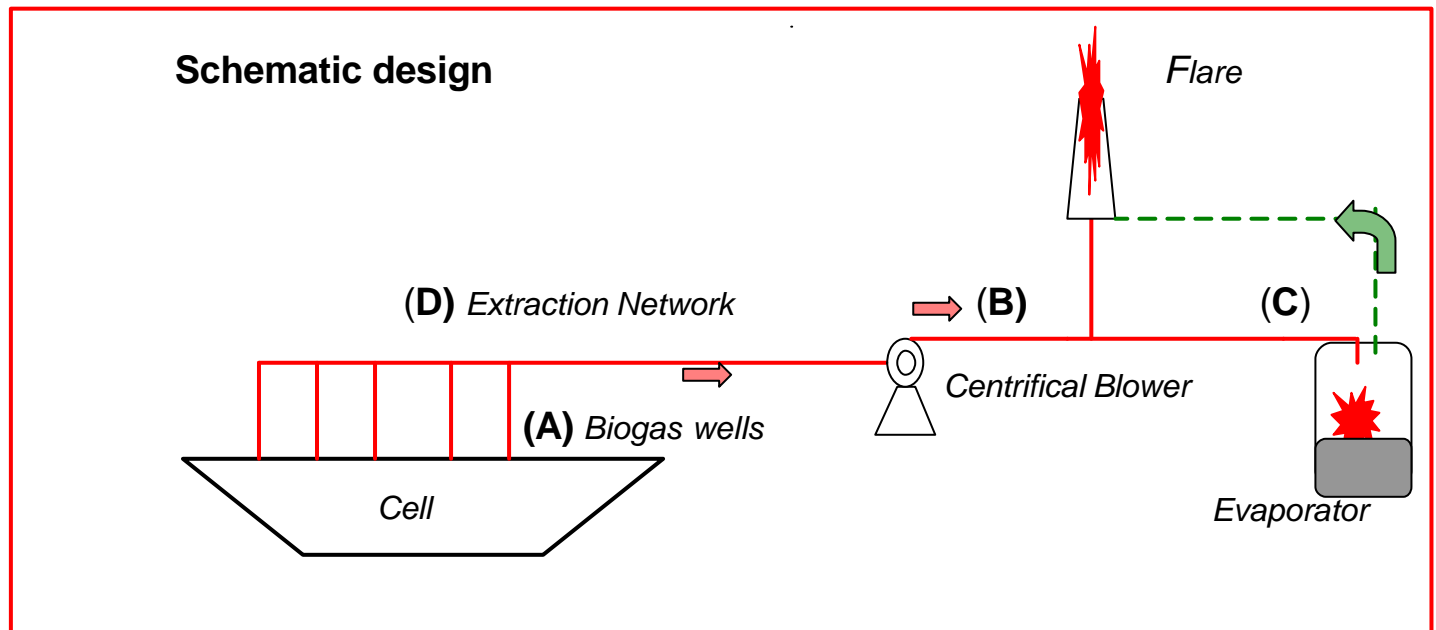


## MONITORING & VERIFICATION PLAN

SASA conducts routine monitoring of the active LFG extraction system and associated equipment. This monitoring is done to ensure optimal performance of the system.

Below is a schematic representation of table representing the primary components of the routine monitoring activities performed by SASA's technicians.



- **In refuse Biogas wells (A)** – The gas extraction wells are monitored daily in order to assess the gas flow and the concentration of the landfill gas ( $\text{CH}_4$ ,  $\text{CO}_2$ ,  $\text{O}_2$ ). The optimum operational parameter being a minimum of 45% methane and a maximum of 3% oxygen.

The measurements are made with a portable gas meter. Adjustments to the individual well vaccums are made based on this monitoring.

- **Flare (B)** - The gas flow is also measured prior to the flare. There is an in-line temperature gauge to measure the combustion temperature of the flare. (The minimum operating value is 1300 ° F ; the set point of 1650° F being considered optimal).
- **Evaporator (C)** - A totalising meter installed prior to the evaporator flow provides the actual gas flow.

In addition, the landfill gas concentration is also measured prior to the evaporator unit. To measure the performance of the unit there is a steam temperature control device with a maximum set point of 200° F and a device to control the maximum and minimum leachate level.

- **Well and pipe integrity (D)** - A visual inspection is conducted of above ground piping and wells heads to ensure its integrity.

This operational data will serve as the basis for verification of emission reductions. All data collected is kept on-site in the monitoring database.

The total flow measurements taken before the flare and evaporator allow for accurate calculation of actual emission reductions.

In addition to the gas monitoring described above, the following items will also be monitored as part of the operation procedures :

- Landfill volume consumed :

Annual topographic surveys are conducted to determine the consumed and remaining landfill volume. This data will be compared with the landfill phasing assumptions used in the LFG production model.

- Waste input :

All waste entering the site is weighed on calibrated scales. The annual waste input will be compared with the assumed input used in the model.

- Waste composition

Waste accepted at the SASA landfill must be classified according to its composition. This will enable review of the model assumptions. This information is maintained onsite. This will enable review of the model assumptions concerning waste types and associated carbon content.